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Research Topic

Cannabinoids

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Overview of Terms

Associated with Your Search Topic

116 Relevant Results for
Diseases

Disease/Symptom	Cumulative Knowledge	Article Count
Multiple Sclerosis	39	9
Stroke: Attenuation/Recovery	32	3
Cancers: All	30	25
Pain	23	4
Stroke	20	1
Tourette Syndrome	20	2
Inflammatory Bowel Diseases	15	5
Glioblastoma Multiforme	14	4
Inflammation	14	10
Breast Cancer	12	7
Amyotrophic Lateral Sclerosis	11	7
Neurodegenerative Diseases	11	8
Astrocytoma	10	4
Brain Inflammation	10	7
Glioma	10	7
Insomnia	10	1
Obsessive-Compulsive Disorder	10	1
Sleep Disorders	10	1
Stroke: Ischemic	10	1
Parkinson's Disease	8	5
Colitis	7	4
Endocannabinoid System	7	7
Glioblastoma	7	3
Lymphoma	7	3

Skin Cancer	6	4
Acne	5	1
Chronic Pain	5	5
Colon Cancer	5	3
Dry Skin	5	1
Epilepsy	5	4
Huntington Disease	5	3
Obesity	5	3
Alzheimer's Disease	4	4
Brain Cancer	4	2
Brain: Microglial Activation	4	3
Lipopolysaccharide-Induced Toxicity	4	3
Lung Cancer	4	4
Aging	3	2
Amyotrophic lateral sclerosis (ALS)	3	2
Astrocytoma: Grade IV	3	1
Gliomas	3	2
Melanoma	3	2
Prostate Cancer	3	3
Schizophrenia	3	2
Aging: Brain	2	1
Bladder Cancer	2	1
Bladder Dysfunction	2	1
Brain Edema	2	1
Brain Ischemia	2	1
Breast Cancer: Metastatic	2	1
Cachexia	2	2
Cancer Metastasis	2	2

Cancer: Pain	2	2
Chemotherapy-Induced Nausea	2	2
Colon Cancer: Prevention	2	1
Depression	2	1
Emesis	2	1
HIV Infections	2	2
Inflammation: Neutrophil-Mediated	2	1
Insulin Resistance	2	1
Liver Cancer	2	1
Memory Disorders	2	1
Metabolic Diseases	2	1
Metabolic Syndrome X	2	1
Morphine Tolerance/Dependence	2	1
Muscle Spasticity	2	1
Neonatal Stroke	2	1
Nonalcoholic fatty liver disease (NAFLD)	2	1
Pancreatic Cancer	2	2
Rhabdomyosarcoma	2	1
Seizures	2	1
Staphylococcus aureus: Methicillin-resistant (MRSA)	2	2
Thyroid Cancer	2	1
Traumatic Brain Injury	2	1
Tremor	2	1
Vomiting	2	1
AIDS	1	1
Acquired Immunodeficiency Syndrome	1	1
Acute Myeloid Leukemia	1	1
Acute T cell Leukemias	1	1

Alcohol Toxicity	1	1
Anorexia	1	1
Appetite Disorders	1	1
Asthma	1	1
Brain: Oxidative Stress	1	1
Breast Cancer: Triple Negative	1	1
Cachexia: Cancer	1	1
Cancers: Drug Resistant	1	1
Cancers: Multi-Drug Resistant	1	1
Candida Infection	1	1
Carcinoma: Non-Small-Cell Lung	1	1
Dementia	1	1
Diabetes Mellitus: Type 1: Prevention	1	1
Diabetes Mellitus: Type 2	1	1
Encephalomyelitis	1	1
Endocannabinoid Disorders	1	1
Epileptic Seizures	1	1
Gastric Cancer	1	1
Gastrointestinal Diseases	1	1
Gastrointestinal Inflammation	1	1
Glaucoma	1	1
Headache	1	1
Hepatitis C	1	1
Herpes Simplex Virus Type 2	1	1
Immune Disorders	1	1
Influenza	1	1
Leishmaniasis	1	1
Leukemia	1	1

Leukemia: T-cell acute Lymphoblastic	1	1
Neuropathic Pain	1	1
Oral Cancer	1	1
Peripheral Neuropathies	1	1
Prostate: PSA Doubling	1	1
Pseudomonas aeruginosa	1	1
Psoriasis	1	1
Urinary Bladder Diseases	1	1

52 Relevant Results for Pharmacological Actions

Pharmacological Action Name	Cumulative Knowledge	Article Count
Neuroprotective Agents	72	31
Apoptotic	57	40
Antiproliferative	49	32
Anti-Inflammatory Agents	46	25
Analgesics	33	13
Angiogenesis Inhibitors	20	7
Antineoplastic Agents	17	14
Anti-metastatic	11	9
Vascular Endothelial Growth Factor Inhibitors	10	1
Tumor Necrosis Factor (TNF) Alpha Inhibitor	8	5
Antioxidants	7	5
Anti-Tumor	6	4
Cell cycle arrest	6	5
P38 Mitogen-Activated Protein Kinase Modulator	6	2
Anticarcinogenic Agents	5	4
Anti-Angiogenic	4	4
Anticonvulsants	4	3

Autophagy Up-regulation	4	3
Cannabinoid Receptor Antagonist/Inverse Agonist	4	2
Nitric Oxide Inhibitor	4	2
Vascular Endothelial Growth Factor Regulator	4	2
Chemopreventive	3	2
Chemosensitizer	3	2
Immunomodulatory	3	3
Neurogenesis	3	2
Anti-Bacterial Agents	2	2
Antidepressive Agents	2	1
Antispasmodic	2	1
Calcium Channel Blockers	2	1
Chemotherapeutic	2	1
Glycine Agents	2	1
Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor	2	1
Hepatoprotective	2	1
Hypoglycemic Agents	2	1
Immunosuppressive Agents	2	2
Interleukin-1 beta downregulation	2	1
Interleukin-10 downregulation	2	1
Matrix metalloproteinase-2 (MMP-2) inhibitor	2	1
Neuritogenic	2	1
Superoxide Dismutase Up-regulation	2	1
Vascular Endothelial Growth Factor A Inhibitor	2	1
Vasodilator Agents	2	1
Anti-Androgen	1	1
Antifungal Agents	1	1
Antihypertensive Agents	1	1

Appetite Stimulants	1	1
Caspase-3 Activation	1	1
Cyclooxygenase Inhibitors	1	1
Gastrointestinal Agents	1	1
Gastroprotective	1	1
Neuroimmunomodulation	1	1
Vanilloid Receptor-1 Modulator	1	1

11 Relevant Results for Substances

Substance Name	Cumulative Knowledge	Article Count
Cannabis	102	38
Delta-tetrahydrocannabinol (THC)	68	32
Cannabidiol	31	21
Cannabinoids: Synthetic	19	11
Endocannabinoids	14	12
Anandamide	8	4
Marijuana	3	1
Flavonoids	1	1
Hemp Seed	1	1
Lignans	1	1
Polyphenols	1	1

31 Relevant Results for Keywords

Keyword Name	Cumulative Knowledge	Article Count
Cannabinoid Receptors	30	20
Gene Expression Regulation	16	3
Significant Treatment Outcome	12	2

Dose Response	11	5
Natural Substances Versus Drugs	11	2
Risk Reduction	11	2
Selective Cytotoxicity	8	3
Plant Extracts	7	4
Altered Protein Expression	5	1
Natural Substance/Drug Synergy	4	4
Phytotherapy	3	2
Tissue Inhibitors of Metalloproteinases (TIMPs)	3	1
Chemothapeutic Synergy: Paclitaxel	2	1
Chemotherapeutic Synergy: Cisplatin	2	1
Chemotherapeutic Synergy: Doxorubicin	2	1
Disease Regression	2	1
Natural Substance Synergy	2	1
Neural Stem Cells	2	1
Neuro-repair	2	1
Selective Antiproliferation	2	1
Synthetic Cannabinoids	2	1
Beta Cell Protection	1	1
Diseases that are Linked	1	1
Drug Synergy	1	1
Drug: Paclitaxel	1	1
Endogenous Canabinoid System	1	1
Gamma Irradiation	1	1
Higher Dose Better Than Lower Dose	1	1
Immunocannabinoid System	1	1
Lymphokine-activated Killer Cells	1	1
Radiation Synergy	1	1

1 Relevant Result for Problem Substances

Problem Substance Name	Cumulative Knowledge	Article Count
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)	1	1

View the Evidence.
149 Research Articles in Total.

Category : Diseases

AIDS (AC 1) (CK 1)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review

Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)

Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)

Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)

Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Acne (AC 1) (CK 5)

Phytocannabinoids could be efficient and safe novel treatments in the management of cutaneous inflammations.

Pubmed Data : Exp Dermatol. 2016 Apr 20. Epub 2016 Apr 20. PMID: 27094344

Article Published Date : Apr 19, 2016

Authors : Attila Oláh, Arnold Markovics, Judit Szabó-Papp, Pálma Tímea Szabó, Colin Stott, Christos C Zouboulis, Tamás Bíró

Study Type : Human In Vitro
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acne : CK(327) : AC(53) , Dry Skin : CK(104) : AC(17)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Acquired Immunodeficiency Syndrome (AC 1) (CK 1)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: 11854771

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

Acute Myeloid Leukemia (AC 1) (CK 1)

Cannabidiol and cannabidiol-dimethylheptyl and exposure of the cells to gamma irradiation markedly enhanced apoptosis, reaching values of 93 and 95%.

Pubmed Data : Leuk Lymphoma. 2003 Oct ;44(10):1767-73. PMID: **14692532**

Article Published Date : Sep 30, 2003

Authors : Ruth Gallily, Tal Even-Chena, Galia Katzavian, Dan Lehmann, Arie Dagan, Raphael Mechoulam

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acute Myeloid Leukemia : CK(95) : AC(47)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Caspase-3 Activation : CK(91) : AC(66)
Additional Keywords : Dose Response : CK(1054) : AC(407) , Gamma Irradiation : CK(9) : AC(6) , Radiation Synergy : CK(12) : AC(2)

Acute T cell Leukemias (AC 1) (CK 1)

CB2 receptor activation signals apoptosis via a ceramide-dependent stimulation of the mitochondrial intrinsic pathway.

Pubmed Data : Exp Cell Res. 2006 Jul 1 ;312(11):2121-31. Epub 2006 Apr 19. PMID: **16624285**

Article Published Date : Jun 30, 2006

Authors : Blanca Herrera, Arkaitz Carracedo, María Diez-Zaera, Teresa Gómez del Pulgar, Manuel Guzmán, Guillermo Velasco

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Acute T cell Leukemias : CK(18) : AC(16)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Aging (AC 2) (CK 3)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59), Neuroprotective Agents : CK(2264) : AC(1069)

The current article provides an overview of the potential of cannabinoids in the treatment of late-onset Alzheimer's disease.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):597-606. Epub 2015 Apr 17. PMID: **25788394**

Article Published Date : May 31, 2015

Authors : Aia Ahmed, M A van der Marck, Gah van den Elsen, Mgm Olde Rikkert

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Alzheimer's Disease : CK(1287) : AC(379)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Aging: Brain (AC 1) (CK 2)

Cannabinoids attenuate the effects of aging upon

neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59), Neuroprotective Agents : CK(2264) : AC(1069)

Alcohol Toxicity (AC 1) (CK 1)

Cannabis and cannabinoids can protect the gastric mucosa against noxious challenge.

Pubmed Data : Asian Pac J Trop Med. 2016 May ;9(5):413-9. Epub 2016 Apr 15. PMID: **27261847**

Article Published Date : Apr 30, 2016

Authors : Omar Abdel-Salam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Alcohol Toxicity : CK(319) : AC(125)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antioxidants : CK(7304) : AC(2677), Gastrointestinal Agents : CK(266) : AC(40), Gastroprotective : CK(153) : AC(72)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)
Problem Substances : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) : CK(1905) : AC(215)

Alzheimer's Disease (AC 4) (CK 4)

A review of phytochemicals and their neuroprotective effects in the treatment of dementia.

Pubmed Data : Molecules. 2016 ;21(4). Epub 2016 Apr 21. PMID: **27110749**

Article Published Date : Dec 31, 2015

Authors : Rosaliana Libro, Sabrina Giacoppo, Thangavelu Soundara Rajan, Placido Bramanti, Emanuela Mazzon

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Flavonoids : CK(1215) : AC(379), Polyphenols : CK(930) : AC(334)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Dementia : CK(571) : AC(79)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

Cannabinoids may provide a safer alternative treatment option for the management of agitation and aggression in AD.

Pubmed Data : Curr Alzheimer Res. 2016 May 2. Epub 2016 May 2. PMID: **27137221**

Article Published Date : May 01, 2016

Authors : Celina S Liu, Myuri Ruthirakuhan, Sarah A Chau, Nathan Herrmann, André F Carvalho, Krista L Lanctôt

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Alzheimer's Disease : CK(1287) : AC(379)

The current article provides an overview of the potential of cannabinoids in the treatment of late-onset Alzheimer's disease.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):597-606. Epub 2015 Apr 17. PMID: **25788394**

Article Published Date : May 31, 2015

Authors : Aia Ahmed, M A van der Marck, Gah van den Elsen, Mgm Olde Rikkert

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434) , Alzheimer's Disease : CK(1287) : AC(379)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Amyotrophic Lateral Sclerosis (AC 7) (CK 11)

A cannabinoid CB2 receptor selective compound, delays disease progression in a mouse model of amyotrophic lateral sclerosis.

Pubmed Data : Eur J Pharmacol. 2006 Aug 7;542(1-3):100-5. Epub 2006 May 20. PMID: **16781706**

Article Published Date : Aug 07, 2006

Authors : Kathline Kim, Dan H Moore, Alexandros Makriyannis, Mary E Abood

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Agents modulating cannabinoid receptors or endocannabinoid tone provide promising therapeutic opportunities in the treatment of inflammatory

neurodegenerative disorders of the CNS.

Pubmed Data : Exp Neurol. 2010 Jul ;224(1):92-102. Epub 2010 Mar 29. PMID: **20353778**

Article Published Date : Jun 30, 2010

Authors : Silvia Rossi, Giorgio Bernardi, Diego Centonze

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinol may have therapeutic value in ameliorating symptoms in ALS.

Pubmed Data : Amyotroph Lateral Scler Other Motor Neuron Disord. 2005 Sep;6(3):182-4. PMID: **16183560**

Article Published Date : Sep 01, 2005

Authors : Patrick Weydt, Soyon Hong, Anke Witting, Thomas Möller, Nephi Stella, Michel Kliot

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)

Cannabis contains a number of compounds which may have therapeutic value in delaying the progression of ALS.

Pubmed Data : Amyotroph Lateral Scler Other Motor Neuron Disord. 2004 Mar;5(1):33-9. PMID: **15204022**

Article Published Date : Mar 01, 2004

Authors : Chandrasekaran Raman, Sean D McAllister, Gulrukh Rizvi, Sonal G Patel, Dan H Moore, Mary E Abood

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabis has potential therapeutic value in the treatment of amyotrophic lateral sclerosis.

Pubmed Data : Am J Hosp Palliat Care. 2010 Aug;27(5):347-56. Epub 2010 May 3. PMID: **20439484**

Article Published Date : Aug 01, 2010

Authors : Gregory T Carter, Mary E Abood, Sunil K Aggarwal, Michael D Weiss

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Antineoplastic Agents : CK(1158) : AC(639), Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

The CB2 cannabinoid agonist AM-1241 prolongs survival (56%) in a transgenic mouse model of amyotrophic lateral sclerosis when initiated at symptom onset.

Pubmed Data : Curr Eye Res. 2005 Jul;30(7):583-91. PMID: **17241118**

Article Published Date : Jul 01, 2005

Authors : Jennifer L Shoemaker, Kathryn A Seely, Ronald L Reed, John P Crow, Paul L Prather

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

The endocannabinoid system may play a valuable role in the development of treatment options for amyotrophic lateral sclerosis.

Pubmed Data : Curr Pharm Des. 2008;14(23):2306-16. PMID: **18781981**

Article Published Date : Jan 01, 2008

Authors : Lynsey G Bilsland, Linda Greensmith

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Endocannabinoid Disorders : CK(15) : AC(9), Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Diseases that are Linked : CK(2325) : AC(303)

Amyotrophic lateral sclerosis (ALS)

(AC 2) (CK 3)

Cannabis may provide support as a novel disease-modifying therapy in ALS.

Pubmed Data : CNS Neurosci Ther. 2014 Sep ;20(9):809-15. Epub 2014 Apr 7. PMID: 24703394

Article Published Date : Aug 31, 2014

Authors : Miguel Moreno-Martet, Francisco Espejo-Porras, Javier Fernández-Ruiz, Eva de Lago

Study Type : Transgenic Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic lateral sclerosis (ALS) : CK(566) : AC(140)

This review discusses the potential of cannabinoid therapeutics as disease-modifying or symptom control agents for slowing disease progression in MS and ALS.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:213-31. PMID: 26408162

Article Published Date : Dec 31, 2014

Authors : Gareth Pryce, David Baker

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Amyotrophic lateral sclerosis (ALS) : CK(566) : AC(140) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Anorexia (AC 1) (CK 1)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: 18286801

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Appetite Disorders (AC 1) (CK 1)

Cannabis may have a therapeutic role for appetite disorders.

Pubmed Data : Phytother Res. 2011 Jan 7. Epub 2011 Jan 7. PMID: 21213357

Article Published Date : Jan 07, 2011

Authors : Jonathan A Farrimond, Marion S Mercier, Benjamin J Whalley, Claire M Williams

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Appetite Disorders : CK(114) : AC(19)

Asthma (AC 1) (CK 1)

The possible role of cannabimimetic fatty acid derivatives in the pathological consequences of cancer and inflammation are examined.

Pubmed Data : Chem Phys Lipids. 2000 Nov ;108(1-2):191-209. PMID: 11106791

Article Published Date : Oct 31, 2000

Authors : L De Petrocellis, D Melck, T Bisogno, V Di Marzo

Study Type : Review
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)

Diseases : Asthma : CK(1146) : AC(188) , Cachexia : CK(77) : AC(25) , Cancers: All : CK(14469) : AC(4575), Chronic Pain : CK(183) : AC(29) , Inflammation : CK(2918) : AC(856)

Astrocytoma (AC 4) (CK 10)

CB1 receptor immunoreactivity was significantly lower while CB2 receptor immunoreactivity was significantly greater in the membranes of glioblastoma multiforme and astrocytoma.

Pubmed Data : Neurochem Int. 2010 May-Jun;56(6-7):829-33. Epub 2010 Mar 20. PMID: **20307616**

Article Published Date : Apr 30, 2010

Authors : Maider López De Jesús, Cristina Hostalot, Jesús M Garibi, Joan Sallés, J Javier Meana, Luis F Callado

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Glioblastoma : CK(181) : AC(81)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit glioma (brain cancer) through the down-regulation of Tissue Inhibitors of Metalloproteinases (TIMPs).

Pubmed Data : Neuropharmacology. 2008 Jan;54(1):235-43. Epub 2007 Jul 1. PMID: **17675107**

Article Published Date : Jan 01, 2008

Authors : Cristina Blázquez, Arkaitz Carracedo, María Salazar, Mar Lorente, Ainara Egia, Luis González-Feria, Amador Haro, Guillermo Velasco, Manuel Guzmán

Study Type : Human: Case Report, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Marijuana : CK(1741) : AC(399)
Diseases : Astrocytoma : CK(12) : AC(6) , Astrocytoma: Grade IV : CK(3) : AC(1) , Brain Cancer : CK(450) : AC(179), Glioma : CK(174) : AC(84)
Additional Keywords : Tissue Inhibitors of Metalloproteinases (TIMPs) : CK(3) : AC(1)

High concentrations of cannabinoids are preferable for

efficacious treatment of malignant astrocytomas.

Pubmed Data : PLoS One. 2010 ;5(1):e8702. Epub 2010 Jan 14. PMID: **20090845**

Article Published Date : Dec 31, 2009

Authors : Eiron Cudaback, William Marrs, Thomas Moeller, Nephi Stella

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Astrocytoma : CK(12) : AC(6) , Brain Cancer : CK(450) : AC(179)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

The proapoptotic effect of cannabinoids on tumor cells is mediated by a ceramide dependent upregulation of the stress protein p8.

Pubmed Data : Cancer Cell. 2006 Apr ;9(4):301-12. PMID: **16616335**

Article Published Date : Mar 31, 2006

Authors : Arkaitz Carracedo, Mar Lorente, Ainara Egia, Cristina Blázquez, Stephane García, Valentin Giroux, Cedric Malicet, Raquel Villuendas, Meritxell Gironella, Luis González-Feria, Miguel Angel Piris, Juan L Iovanna, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Altered Protein Expression : CK(6) : AC(2) , Gene Expression Regulation : CK(427) : AC(212)

Astrocytoma: Grade IV (AC 1) (CK 3)

Cannabinoids inhibit glioma (brain cancer) through the down-regulation of Tissue Inhibitors of Metalloproteinases (TIMPs).

Pubmed Data : Neuropharmacology. 2008 Jan;54(1):235-43. Epub 2007 Jul 1. PMID: **17675107**

Article Published Date : Jan 01, 2008

Authors : Cristina Blázquez, Arkaitz Carracedo, María Salazar, Mar Lorente, Ainara Egia, Luis

González-Feria, Amador Haro, Guillermo Velasco, Manuel Guzmán

Study Type : Human: Case Report, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Marijuana : CK(1741) : AC(399)
Diseases : Astrocytoma : CK(12) : AC(6) , Astrocytoma: Grade IV : CK(3) : AC(1) , Brain Cancer : CK(450) : AC(179), Glioma : CK(174) : AC(84)
Additional Keywords : Tissue Inhibitors of Metalloproteinases (TIMPs) : CK(3) : AC(1)

Bladder Cancer (AC 1) (CK 2)

The in vivo assessment of the role of CB receptors in inflammation and cancer might be instrumental in broadening the understanding about bladder cancer biology.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:41-51. Epub 2014 Oct 15. PMID: **25445433**

Article Published Date : Sep 30, 2015

Authors : Valeria Gasperi, Daniela Evangelista, Sergio Oddi, Fulvio Florenzano, Valerio Chiurchiù, Luciana Avigliano, M Valeria Catani, Mauro Maccarrone

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Bladder Cancer : CK(349) : AC(100) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Bladder Dysfunction (AC 1) (CK 2)

Cannabigerol may be useful in the treatment of bladder dysfunctions.

Pubmed Data : Nat Prod Commun. 2015 Jun ;10(6):1009-12. PMID: **26197538**

Article Published Date : May 31, 2015

Authors : Ester Pagano, Vittorino Montanaro, Antonio Di Girolamo, Antonio Pistone, Vincenzo Altieri, Jordan K Zjawiony, Angelo A Izzo, Raffaele Capasso

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Bladder Dysfunction : CK(51) : AC(9)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Brain Cancer (AC 2) (CK 4)

Cannabinoids inhibit glioma (brain cancer) through the down-regulation of Tissue Inhibitors of Metalloproteinases (TIMPs).

Pubmed Data : Neuropharmacology. 2008 Jan;54(1):235-43. Epub 2007 Jul 1. PMID: 17675107

Article Published Date : Jan 01, 2008

Authors : Cristina Blázquez, Arkaitz Carracedo, María Salazar, Mar Lorente, Ainara Egia, Luis González-Feria, Amador Haro, Guillermo Velasco, Manuel Guzmán

Study Type : Human: Case Report, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Marijuana : CK(1741) : AC(399)
Diseases : Astrocytoma : CK(12) : AC(6) , Astrocytoma: Grade IV : CK(3) : AC(1) , Brain Cancer : CK(450) : AC(179), Glioma : CK(174) : AC(84)
Additional Keywords : Tissue Inhibitors of Metalloproteinases (TIMPs) : CK(3) : AC(1)

High concentrations of cannabinoids are preferable for efficacious treatment of malignant astrocytomas.

Pubmed Data : PLoS One. 2010 ;5(1):e8702. Epub 2010 Jan 14. PMID: 20090845

Article Published Date : Dec 31, 2009

Authors : Eiron Cudaback, William Marrs, Thomas Moeller, Nephi Stella

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Astrocytoma : CK(12) : AC(6) , Brain Cancer : CK(450) : AC(179)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

Brain Edema (AC 1) (CK 2)

Administration of synthetic 2-AG to mice after CHI led to significant reduction of brain oedema, better clinical recovery, reduced infarct volume and reduced hippocampal cell death compared with controls.

Pubmed Data : Nature. 2001 Oct 4 ;413(6855):527-31. PMID: **11586361**

Article Published Date : Oct 03, 2001

Authors : D Panikashvili, C Simeonidou, S Ben-Shabat, L Hanus, A Breuer, R Mechoulam, E Shohami

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Brain Edema : CK(49) : AC(13) , Brain Inflammation : CK(259) : AC(143), Traumatic Brain Injury : CK(33) : AC(9)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Significant Treatment Outcome : CK(3038) : AC(366)

Brain Inflammation (AC 7) (CK 10)

Administration of synthetic 2-AG to mice after CHI led to significant reduction of brain oedema, better clinical recovery, reduced infarct volume and reduced hippocampal cell death compared with controls.

Pubmed Data : Nature. 2001 Oct 4 ;413(6855):527-31. PMID: **11586361**

Article Published Date : Oct 03, 2001

Authors : D Panikashvili, C Simeonidou, S Ben-Shabat, L Hanus, A Breuer, R Mechoulam, E Shohami

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)

Diseases : Brain Edema : CK(49) : AC(13) , Brain Inflammation : CK(259) : AC(143), Traumatic Brain Injury : CK(33) : AC(9)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Significant Treatment Outcome : CK(3038) : AC(366)

Cannabigerol quinone (VCE-003) has high potential for use against MS and perhaps other neuroinflammatory diseases.

Pubmed Data : J Neuroimmune Pharmacol. 2012 Dec ;7(4):1002-16. Epub 2012 Sep 14. PMID: 22971837

Article Published Date : Nov 30, 2012

Authors : Aitor G Granja, Francisco Carrillo-Salinas, Alberto Pagani, María Gómez-Cañas, Roberto Negri, Carmen Navarrete, Miriam Mecha, Leyre Mestre, Bend L Fiebich, Irene Cantarero, Marco A Calzado, Maria L Bellido, Javier Fernandez-Ruiz, Giovanni Appendino, Carmen Guaza, Eduardo Muñoz

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Brain Inflammation : CK(259) : AC(143), Encephalomyelitis : CK(12) : AC(7) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: 19385063

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434) , Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or

reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: 17178196

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may have therapeutic value in treating neuroinflammation.

Pubmed Data : ScientificWorldJournal. 2011;11:855-65. Epub 2011 Apr 5. PMID: 21479354

Article Published Date : Jan 01, 2011

Authors : Eric J Downer

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabinoids that activate the CB2R inhibit the ECM adhesion process, thus has potential to serve as a therapeutic agent for ablating neuroinflammation associated with HIV.

Pubmed Data : Life Sci. 2014 May 28 ;104(1-2):15-23. Epub 2014 Apr 15. PMID: 24742657

Article Published Date : May 27, 2014

Authors : Erinn S Raborn, Melissa Jamerson, Francine Marciano-Cabral, Guy A Cabral

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Brain Inflammation : CK(259) : AC(143), HIV Infections : CK(659) : AC(216)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of

cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Brain Ischemia (AC 1) (CK 2)

The activation of the endocannabinoid system promotes white and gray matter recovery after neonatal HI injury.

Pubmed Data : Stroke. 2010 Dec ;41(12):2956-64. PMID: **21115947**

Article Published Date : Nov 30, 2010

Authors : David Fernández-López, Jesús M Pradillo, Isaac García-Yébenes, José A Martínez-Orgado, María A Moro, Ignacio Lizasoain

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Ischemia : CK(136) : AC(52) , Neonatal Stroke : CK(2) : AC(1) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neurogenesis : CK(59) : AC(30)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22) , Neuro-repair : CK(2) : AC(1)

Brain: Microglial Activation (AC 3) (CK 4)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: **17178196**

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

It may be possible to prevent Alzheimer's disease pathology by cannabinoids.

Pubmed Data : J Neurosci. 2005 Feb 23 ;25(8):1904-13. PMID: **15728830**

Article Published Date : Feb 22, 2005

Authors : Belén G Ramírez, Cristina Blázquez, Teresa Gómez del Pulgar, Manuel Guzmán, María L de Ceballos

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

JWH-015, THC, CBD, Abn-CBD and O-1602 all protected SH-SY5Y cells from BV-2 conditioned media activated via LPS.

Pubmed Data : Cell Mol Neurobiol. 2014 Jan ;34(1):31-42. Epub 2013 Sep 13. PMID: **24030360**

Article Published Date : Dec 31, 2013

Authors : Emelie Janefjord, Jesper L V Mååg, Benjamin S Harvey, Scott D Smid

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Lignans : CK(169) : AC(46)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Brain: Oxidative Stress (AC 1) (CK 1)

THC and other cannabinoids are potent antioxidants, with cannabidiol been superior to both alpha-tocopherol and ascorbate in protective capacity.

Pubmed Data : Ann N Y Acad Sci. 2000 ;899:274-82. PMID: **10863546**

Article Published Date : Dec 31, 1999

Authors : A J Hampson, M Grimaldi, M Lolic, D Wink, R Rosenthal, J Axelrod

Study Type : In Vitro Study

Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)

Diseases : Brain: Oxidative Stress : CK(79) : AC(46)

Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

Breast Cancer (AC 7) (CK 12)

A review of the antiproliferative effects of cannabinoids on cancer cells.

Pubmed Data : Mini Rev Med Chem. 2005 Oct ;5(10):941-52. PMID: **16250836**

Article Published Date : Sep 30, 2005

Authors : Natalya M Kogan

Study Type : Review

Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)

Diseases : Breast Cancer : CK(3526) : AC(1059) , Glioma : CK(174) : AC(84) , Lung Cancer : CK(1033) : AC(393)

Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

A synthetic cannabinoid inhibited CXCL12-induced migration and invasive properties of breast cancer cells.

Pubmed Data : PLoS One. 2011 ;6(9):e23901. Epub 2011 Sep 7. PMID: **21915267**

Article Published Date : Dec 31, 2010

Authors : Mohd W Nasser, Zahida Qamri, Yadwinder S Deol, Diane Smith, Konstantin Shilo, Xianghong Zou, Ramesh K Ganju

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Breast Cancer: Metastatic : CK(123) : AC(52)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Synthetic Cannabinoids : CK(2) : AC(1)

Anandamide is a potent and selective inhibitor of the proliferation of breast cancer cells.

Pubmed Data : Proc Natl Acad Sci U S A. 1998 Jul 7 ;95(14):8375-80. PMID: **9653194**

Article Published Date : Jul 06, 1998

Authors : L De Petrocellis, D Melck, A Palmisano, T Bisogno, C Laezza, M Bifulco, V Di Marzo

Study Type : Human In Vitro
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Dose Response : CK(1054) : AC(407)

Cannabinoid receptor ligands induce decreased viability, growth suppression and cell death by apoptosis in MCL cells.

Pubmed Data : FEBS Lett. 2005 Dec 19 ;579(30):6885-9. PMID: **16337199**

Article Published Date : Dec 18, 2005

Authors : Jenny Flygare, Kristin Gustafsson, Eva Kimby, Birger Christensson, Birgitta Sander

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Cannabinoids reduce ErbB2-positive breast cancer cell progression.

Pubmed Data : Mol Cancer. 2010;9:196. Epub 2010 Jul 22. PMID: **20649976**

Article Published Date : Jan 01, 2010

Authors : María M Caffarel, Clara Andradas, Emilia Mira, Eduardo Pérez-Gómez, Camilla Cerutti, Gema Moreno-Bueno, Juana M Flores, Isabel García-Real, José Palacios, Santos Mañes, Manuel Guzmán, Cristina Sánchez

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Breast Cancer : CK(3526) : AC(1059)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This review summarizes our current knowledge on the anti-tumor potential of cannabinoids in breast cancer.

Pubmed Data : Cancer Treat Rev. 2012 Nov ;38(7):911-8. Epub 2012 Jul 7. PMID: **22776349**

Article Published Date : Oct 31, 2012

Authors : María M Caffarel, Clara Andradas, Eduardo Pérez-Gómez, Manuel Guzmán, Cristina Sánchez

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)

Diseases : Breast Cancer : CK(3526) : AC(1059)

Breast Cancer: Metastatic (AC 1) (CK 2)

A synthetic cannabinoid inhibited CXCL12-induced migration and invasive properties of breast cancer cells.

Pubmed Data : PLoS One. 2011 ;6(9):e23901. Epub 2011 Sep 7. PMID: 21915267

Article Published Date : Dec 31, 2010

Authors : Mohd W Nasser, Zahida Qamri, Yadwinder S Deol, Diane Smith, Konstantin Shilo, Xianghong Zou, Ramesh K Ganju

Study Type : Animal Study, In Vitro Study

Additional Links

Substances : Cannabinoids : CK(706) : AC(277)

Diseases : Breast Cancer : CK(3526) : AC(1059) , Breast Cancer: Metastatic : CK(123) : AC(52)

Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685)

Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Synthetic Cannabinoids : CK(2) : AC(1)

Breast Cancer: Triple Negative (AC 1) (CK 1)

This review summarizes the anti-cancer properties of the cannabinoids and their potential mechanisms of action.

Pubmed Data : Cancer Lett. 2009 Nov 18 ;285(1):6-12. Epub 2009 May 12. PMID: 19442435

Article Published Date : Nov 17, 2009

Authors : Amy Alexander, Paul F Smith, Rhonda J Rosengren

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer: Triple Negative : CK(258) : AC(140)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)

Cachexia (AC 2) (CK 2)

Cannabinoid type 1 receptor activation stimulates appetite and promotes lipogenesis and energy storage.

Pubmed Data : Curr Opin Clin Nutr Metab Care. 2007 Jul ;10(4):443-8. PMID: 17563462

Article Published Date : Jun 30, 2007

Authors : Douglas Osei-Hyiaman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cachexia : CK(77) : AC(25)
Pharmacological Actions : Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

The possible role of cannabimimetic fatty acid derivatives in the pathological consequences of cancer and inflammation are examined.

Pubmed Data : Chem Phys Lipids. 2000 Nov ;108(1-2):191-209. PMID: 11106791

Article Published Date : Oct 31, 2000

Authors : L De Petrocellis, D Melck, T Bisogno, V Di Marzo

Study Type : Review
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Asthma : CK(1146) : AC(188) , Cachexia : CK(77) : AC(25) , Cancers: All : CK(14469) : AC(4575), Chronic Pain : CK(183) : AC(29) , Inflammation : CK(2918) : AC(856)

Cachexia: Cancer (AC 1) (CK 1)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Cancer Metastasis (AC 2) (CK 2)

Substances aiming at the endocannabinoid system may represent potential antimetastatics.

Pubmed Data : Expert Opin Ther Targets. 2016 May 11:1-17. Epub 2016 May 11. PMID: 27070944

Article Published Date : May 10, 2016

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206) , Cancers: All : CK(14469) : AC(4575)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: 12723496

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206) , Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cancer: Pain (AC 2) (CK 2)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: **25777363**

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Some studies have thus far shown evidence to support the use of cannabinoids for some cancer, neuropathic, spasticity, acute pain, and chronic pain conditions.

Pubmed Data : Curr Pain Headache Rep. 2015 Oct ;19(10):524. PMID: **26325482**

Article Published Date : Sep 30, 2015

Authors : Bjorn Jensen, Jeffrey Chen, Tim Furnish, Mark Wallace

Study Type : Review
Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Cancers: All (AC 25) (CK 30)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: 27486335

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: **18286801**

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

A review of the pharmacokinetics and pharmacodynamics of cannabinoids.

Pubmed Data : Clin Pharmacokinet. 2003 ;42(4):327-60. PMID: **12648025**

Article Published Date : Dec 31, 2002

Authors : Franjo Grotenhermen

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221)

Cannabinoid use showed no significant association between increased cancer incidence and cannabinoids use and it does not depend on the amount of used cannabis.

Pubmed Data : Cas Lek Cesk. 2006 ;145(6):453-7; discussion 458-9. PMID: **16835997**

Article Published Date : Dec 31, 2005

Authors : B Vidinský, P Gál, J Mojzis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Cannabinoids inhibit the growth of gliomas in vivo by targeting both tumor cells and vascular endothelial cells.

Pubmed Data : FASEB J. 2003 Mar ;17(3):529-31. Epub 2003 Jan 2. PMID: **12514108**

Article Published Date : Feb 28, 2003

Authors : Cristina Blázquez, M Llanos Casanova, Anna Planas, Teresa Gómez Del Pulgar, Concepción Villanueva, María J Fernández-Aceñero, Julián Aragonés, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Matrix metalloproteinase-2 (MMP-2) inhibitor : CK(285) : AC(147), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Disease Regression : CK(150) : AC(26)

Cannabinoids may therapeutic value in neurodegenerative conditions and cancer.

Pubmed Data : J Mol Med. 2001;78(11):613-25. PMID: **11269508**

Article Published Date : Jan 01, 2001

Authors : M Guzmán, C Sánchez, I Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) ,

Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids seem to be selective antitumoral compounds, killing glioma cells but not non transformed cells.

Pubmed Data : Mol Neurobiol. 2007 Aug ;36(1):60-7. Epub 2007 Jun 28. PMID: 17952650

Article Published Date : Jul 31, 2007

Authors : Guillermo Velasco, Arkaitz Carracedo, Cristina Blázquez, Mar Lorente, Tania Aguado, Amador Haro, Cristina Sánchez, Ismael Galve-Roperh, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Glioma : CK(174) : AC(84)

New insights into antimetastatic and antiangiogenic effects of cannabinoids.

Pubmed Data : Int Rev Cell Mol Biol. 2015 ;314:43-116. Epub 2014 Dec 18. PMID: 25619715

Article Published Date : Dec 31, 2014

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639)

Some studies have thus far shown evidence to support the use of cannabinoids for some cancer, neuropathic, spasticity, acute pain, and chronic pain conditions.

Pubmed Data : Curr Pain Headache Rep. 2015 Oct ;19(10):524. PMID: 26325482

Article Published Date : Sep 30, 2015

Authors : Bjorn Jensen, Jeffrey Chen, Tim Furnish, Mark Wallace

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Substances aiming at the endocannabinoid system may represent potential antimetastatics.

Pubmed Data : Expert Opin Ther Targets. 2016 May 11:1-17. Epub 2016 May 11. PMID: **27070944**

Article Published Date : May 10, 2016

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206), Cancers: All : CK(14469) : AC(4575)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: **12723496**

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206), Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The evidences in favour of both proapoptotic, pronecrotic and protective, antiapoptotic effects of cannabinoids and, especially N-acylethanolamines, are evaluated.

Pubmed Data : Exp Oncol. 2008 Mar ;30(1):6-21. PMID: 18438336

Article Published Date : Feb 29, 2008

Authors : V M Pushkarev, O I Kovzun, M D Tronko

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Apoptotic : CK(2958) : AC(2075)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: 12052046

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6) , Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The possible role of cannabimimetic fatty acid derivatives in the pathological consequences of cancer and inflammation are examined.

Pubmed Data : Chem Phys Lipids. 2000 Nov ;108(1-2):191-209. PMID: 11106791

Article Published Date : Oct 31, 2000

Authors : L De Petrocellis, D Melck, T Bisogno, V Di Marzo

Study Type : Review
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Endocannabinoids :

CK(9) : AC(1)
Diseases : Asthma : CK(1146) : AC(188) , Cachexia : CK(77) : AC(25) , Cancers: All : CK(14469) : AC(4575), Chronic Pain : CK(183) : AC(29) , Inflammation : CK(2918) : AC(856)

The potential therapeutic applications of cannabinoids are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: **12182964**

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

The proapoptotic effect of cannabinoids on tumor cells is mediated by a ceramide dependent upregulation of the stress protein p8.

Pubmed Data : Cancer Cell. 2006 Apr ;9(4):301-12. PMID: **16616335**

Article Published Date : Mar 31, 2006

Authors : Arkaitz Carracedo, Mar Lorente, Ainara Egia, Cristina Blázquez, Stephane García, Valentin Giroux, Cedric Malicet, Raquel Villuendas, Meritxell Gironella, Luis González-Feria, Miguel Angel Piris, Juan L Iovanna, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Altered Protein Expression : CK(6) : AC(2) , Gene Expression Regulation : CK(427) : AC(212)

There exists solid scientific evidence supporting that cannabinoids exhibit a remarkable anticancer activity in preclinical models of cancer.

Pubmed Data : Prog Neuropsychopharmacol Biol Psychiatry. 2016 Jan 4 ;64:259-66. Epub 2015 Jun 10. PMID: **26071989**

Article Published Date : Jan 03, 2016

Authors : Guillermo Velasco, Sonia Hernández-Tiedra, David Dávila, Mar Lorente

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: **19589225**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

This review discusses the current understanding of cannabinoids as antitumour agents.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:449-72. PMID: **26408171**

Article Published Date : Dec 31, 2014

Authors : Guillermo Velasco, Cristina Sánchez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This review focuses on the mechanisms of cannabinoid induced apoptosis and potential therapeutic applications.

Pubmed Data : Mini Rev Med Chem. 2005 Jan ;5(1):97-106. PMID: **15638794**

Article Published Date : Dec 31, 2004

Authors : María L López-Rodríguez, Alma Viso, Silvia Ortega-Gutiérrez, Inés Díaz-Laviada

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Endogenous Canabinoid System : CK(1) : AC(1)

This review summarises the demonstrated antitumour actions of cannabinoids and indicating possible avenues for cannabinoids as antitumour agents.

Pubmed Data : Expert Opin Ther Targets. 2003 Dec ;7(6):749-58. PMID: **14640910**

Article Published Date : Nov 30, 2003

Authors : Sarah Jones, John Howl

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: **16596790**

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

Cancers: Drug Resistant (AC 1) (CK 1)

Cannabinoids reduce multidrug resistance in a human T lymphoblastoid leukaemia cell line.

Pubmed Data : Biochem Pharmacol. 2006 Apr 14;71(8):1146-54. Epub 2006 Feb 2. PMID: 16458258

Article Published Date : Apr 14, 2006

Authors : M L Holland, J A Panetta, J M Hoskins, M Bebawy, B D Roufogalis, J D Allen, J C Arnold

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: Drug Resistant : CK(351) : AC(222) , Cancers: Multi-Drug Resistant : CK(120) : AC(93), Leukemia: T-cell acute Lymphoblastic : CK(21) : AC(11)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Cancers: Multi-Drug Resistant (AC 1) (CK 1)

Cannabinoids reduce multidrug resistance in a human T lymphoblastoid leukaemia cell line.

Pubmed Data : Biochem Pharmacol. 2006 Apr 14;71(8):1146-54. Epub 2006 Feb 2. PMID: 16458258

Article Published Date : Apr 14, 2006

Authors : M L Holland, J A Panetta, J M Hoskins, M Bebawy, B D Roufogalis, J D Allen, J C Arnold

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: Drug Resistant : CK(351) : AC(222) , Cancers: Multi-Drug Resistant : CK(120) : AC(93), Leukemia: T-cell acute Lymphoblastic : CK(21) : AC(11)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Candida Infection (AC 1) (CK 1)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: 19344127

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35), Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Carcinoma: Non-Small-Cell Lung (AC 1) (CK 1)

This study demonstrates that AEA, THC, and HU 210 are all able to cause changes in integrated mitochondrial function, directly, in the absence of cannabinoid receptors.

Pubmed Data : Biochem Biophys Res Commun. 2007 Dec 7 ;364(1):131-7. Epub 2007 Oct 2. PMID: 17931597

Article Published Date : Dec 06, 2007

Authors : Andriani Athanasiou, Anna B Clarke, Amy E Turner, Nethia M Kumaran, Sara Vakilpour, Paul A Smith, Dimitra Bagiokou, Tracey D Bradshaw, Andrew D Westwell, Lin Fang, Dileep N Lobo, Cris S Constantinescu, Vittorio Calabrese, Andrzej Loesch, Stephen P H Alexander, Richard H Clothier, David A Kendall, Timothy E Bates

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Carcinoma: Non-Small-Cell Lung : CK(134) : AC(71) , Lung Cancer : CK(1033) : AC(393)

Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

Chemotherapy-Induced Nausea (AC 2) (CK 2)

Cannabis-based medications may be useful for treating refractory chemotherapy-induced nausea and vomiting.

Pubmed Data : Cochrane Database Syst Rev. 2015 Nov 12 ;11:CD009464. Epub 2015 Nov 12. PMID: **26561338**

Article Published Date : Nov 11, 2015

Authors : Lesley A Smith, Fredric Azariah, Verna Tc Lavender, Nicola S Stoner, Silvana Bettiol

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chemotherapy-Induced Nausea : CK(152) : AC(16)

Recent evidence suggests a role for the endocannabinoid system in modulating chemotherapy-induced nausea and vomiting.

Pubmed Data : Front Pharmacol. 2016 ;7:221. Epub 2016 Jul 26. PMID: **27507945**

Article Published Date : Dec 31, 2015

Authors : Erin M Rock, Linda A Parker

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Chemotherapy-Induced Nausea : CK(152) : AC(16)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

Chronic Pain (AC 5) (CK 5)

The authors concluded that cannabinoids demonstrate a modest analgesic effect and are safe for the management of chronic pain.

Pubmed Data : J Basic Clin Physiol Pharmacol. 2015 Nov 18. Epub 2015 Nov 18. PMID: **26581068**

Article Published Date : Nov 17, 2015

Authors : Mary E Lynch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chronic Pain : CK(183) : AC(29)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

The literature suggests that the medicinal use of cannabis may have a therapeutic role for a multitude of diseases.

Pubmed Data : Headache. 2015 Jun ;55(6):885-916. Epub 2015 May 25. PMID: **26015168**

Article Published Date : May 31, 2015

Authors : Eric P Baron

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chronic Pain : CK(183) : AC(29), Headache : CK(785) : AC(92)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

The possible role of cannabimimetic fatty acid derivatives in the pathological consequences of cancer and inflammation are examined.

Pubmed Data : Chem Phys Lipids. 2000 Nov ;108(1-2):191-209. PMID: **11106791**

Article Published Date : Oct 31, 2000

Authors : L De Petrocellis, D Melck, T Bisogno, V Di Marzo

Study Type : Review
Additional Links
Substances : Anandamide : CK(2) : AC(2), Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Asthma : CK(1146) : AC(188), Cachexia : CK(77) : AC(25), Cancers: All : CK(14469) : AC(4575), Chronic Pain : CK(183) : AC(29), Inflammation : CK(2918) : AC(856)

This review adds further support that currently available cannabinoids are safe, modestly effective analgesics.

Pubmed Data : J Neuroimmune Pharmacol. 2015 Jun ;10(2):293-301. Epub 2015 Mar 22. PMID: 25796592

Article Published Date : May 31, 2015

Authors : M E Lynch, Mark A Ware

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Chronic Pain : CK(183) : AC(29)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

This review suggests that cannabinoids may provide effective analgesia in chronic neuropathic pain conditions that are refractory to other treatments.

Pubmed Data : J Oral Facial Pain Headache. 2015 ;29(1):7-14. PMID: 25635955

Article Published Date : Dec 31, 2014

Authors : Darrell G Boychuk, Greg Goddard, Giovanni Mauro, Maria F Orellana

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Chronic Pain : CK(183) : AC(29) , Neuropathic Pain : CK(271) : AC(62)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Colitis (AC 4) (CK 7)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A

Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Cannabichromene exerts anti-inflammatory actions in activated macrophages.

Pubmed Data : Br J Pharmacol. 2013 May ;169(1):213-29. PMID: **23373571**

Article Published Date : Apr 30, 2013

Authors : B Romano, F Borrelli, I Fasolino, R Capasso, F Piscitelli, Mg Cascio, Rg Pertwee, D Coppola, L Vassallo, P Orlando, V Di Marzo, Aa Izzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

O-1602 is protective against experimentally induced colitis and inhibits neutrophil recruitment independently of CB1, CB2 and GPR55 receptors.

Pubmed Data : Inflamm Bowel Dis. 2011 Aug ;17(8):1651-64. Epub 2010 Nov 15. PMID: **21744421**

Article Published Date : Jul 31, 2011

Authors : Rudolf Schicho, Mohammad Bashashati, Misha Bawa, Douglas McHugh, Dieter Saur, Huang-Ming Hu, Andreas Zimmer, Beat Lutz, Ken Mackie, Heather B Bradshaw, Donna-Marie McCafferty, Keith A Sharkey, Martin Storr

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation: Neutrophil-Mediated : CK(12) : AC(7)
Additional Keywords : Dose Response : CK(1054) : AC(407)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: **22965195**

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111), Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Chemopreventive : CK(2831) : AC(784), Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Colon Cancer (AC 3) (CK 5)

Cannabigerol hampers colon cancer progression in vivo and selectively inhibits the growth of colorectal cancer cells.

Pubmed Data : Carcinogenesis. 2014 Dec ;35(12):2787-97. Epub 2014 Sep 30. PMID: 25269802

Article Published Date : Nov 30, 2014

Authors : Francesca Borrelli, Ester Pagano, Barbara Romano, Stefania Panzera, Francesco Maiello, Diana Coppola, Luciano De Petrocellis, Lorena Buono, Pierangelo Orlando, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Colon Cancer : CK(749) : AC(430), Colon Cancer: Prevention : CK(176) : AC(56)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Antiproliferation : CK(4) : AC(4)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: 19442536

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: 22965195

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Chemopreventive : CK(2831) : AC(784) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Colon Cancer: Prevention (AC 1) (CK 2)

Cannabigerol hampers colon cancer progression in vivo and selectively inhibits the growth of colorectal cancer cells.

Pubmed Data : Carcinogenesis. 2014 Dec ;35(12):2787-97. Epub 2014 Sep 30. PMID: 25269802

Article Published Date : Nov 30, 2014

Authors : Francesca Borrelli, Ester Pagano, Barbara Romano, Stefania Panzera, Francesco Maiello, Diana Coppola, Luciano De Petrocellis, Lorena Buono, Pierangelo Orlando, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Colon Cancer : CK(749) : AC(430) , Colon Cancer: Prevention : CK(176) : AC(56)

Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Antiproliferation : CK(4) : AC(4)

Dementia (AC 1) (CK 1)

A review of phytochemicals and their neuroprotective effects in the treatment of dementia.

Pubmed Data : Molecules. 2016 ;21(4). Epub 2016 Apr 21. PMID: **27110749**

Article Published Date : Dec 31, 2015

Authors : Rosaliana Libro, Sabrina Giacoppo, Thangavelu Soundara Rajan, Placido Bramanti, Emanuela Mazzon

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Flavonoids : CK(1215) : AC(379), Polyphenols : CK(930) : AC(334)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Dementia : CK(571) : AC(79)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

Depression (AC 1) (CK 2)

Delta-tetrahydrocannabinol, cannabidiol, and cannabichromene exert antidepressant-like actions in animal models.

Pubmed Data : Pharmacol Biochem Behav. 2010 Jun ;95(4):434-42. Epub 2010 Mar 21. PMID: **20332000**

Article Published Date : May 31, 2010

Authors : Abir T El-Alfy, Kelly Ivey, Keisha Robinson, Safwat Ahmed, Mohamed Radwan, Desmond Slade, Ikhlas Khan, Mahmoud ElSohly, Samir Ross

Study Type : Animal Study

Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Depression : CK(1844) : AC(267)
Pharmacological Actions : Antidepressive Agents : CK(1004) : AC(162)

Diabetes Mellitus: Type 1: Prevention (AC 1) (CK 1)

Cannabinoids and endocannabinoids may have therapeutic value in metabolic disorders and diabetes.

Pubmed Data : Handb Exp Pharmacol. 2011(203):75-104. PMID: 21484568

Article Published Date : Jan 01, 2011

Authors : Vincenzo Di Marzo, Fabiana Piscitelli, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Diabetes Mellitus: Type 1: Prevention : CK(255) : AC(50) , Diabetes Mellitus: Type 2 : CK(3384) : AC(595), Endocannabinoid System : CK(16) : AC(6)
Additional Keywords : Beta Cell Protection : CK(61) : AC(25)

Diabetes Mellitus: Type 2 (AC 1) (CK 1)

Cannabinoids and endocannabinoids may have therapeutic value in metabolic disorders and diabetes.

Pubmed Data : Handb Exp Pharmacol. 2011(203):75-104. PMID: 21484568

Article Published Date : Jan 01, 2011

Authors : Vincenzo Di Marzo, Fabiana Piscitelli, Raphael Mechoulam

Study Type : Review
Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Diabetes Mellitus: Type 1: Prevention : CK(255) : AC(50) , Diabetes Mellitus: Type 2 : CK(3384) : AC(595), Endocannabinoid System : CK(16) : AC(6)
Additional Keywords : Beta Cell Protection : CK(61) : AC(25)

Dry Skin (AC 1) (CK 5)

Phytocannabinoids could be efficient and safe novel treatments in the management of cutaneous inflammations.

Pubmed Data : Exp Dermatol. 2016 Apr 20. Epub 2016 Apr 20. PMID: **27094344**

Article Published Date : Apr 19, 2016

Authors : Attila Oláh, Arnold Markovics, Judit Szabó-Papp, Pálma Tímea Szabó, Colin Stott, Christos C Zouboulis, Tamás Bíró

Study Type : Human In Vitro
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acne : CK(327) : AC(53) , Dry Skin : CK(104) : AC(17)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Emesis (AC 1) (CK 2)

This study found a synergy between cannabidiol, cannabidiolic acid, and THC in the regulation of emesis in animals.

Pubmed Data : Behav Neurosci. 2015 Jun ;129(3):368-70. PMID: **26030435**

Article Published Date : May 31, 2015

Authors : Erin M Rock, Linda A Parker

Study Type : Animal Study
Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Emesis : CK(14) : AC(1) , Vomiting : CK(12) : AC(2)
Additional Keywords : Natural Substance Synergy : CK(537) : AC(247)

Encephalomyelitis (AC 1) (CK 1)

Cannabigerol quinone (VCE-003) has high potential for use against MS and perhaps other neuroinflammatory diseases.

Pubmed Data : J Neuroimmune Pharmacol. 2012 Dec ;7(4):1002-16. Epub 2012 Sep 14. PMID: 22971837

Article Published Date : Nov 30, 2012

Authors : Aitor G Granja, Francisco Carrillo-Salinas, Alberto Pagani, María Gómez-Cañas, Roberto Negri, Carmen Navarrete, Miriam Mecha, Leyre Mestre, Bend L Fiebich, Irene Cantarero, Marco A Calzado, Maria L Bellido, Javier Fernandez-Ruiz, Giovanni Appendino, Carmen Guaza, Eduardo Muñoz

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Brain Inflammation : CK(259) : AC(143), Encephalomyelitis : CK(12) : AC(7) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Endocannabinoid Disorders (AC 1) (CK 1)

The endocannabinoid system may play a valuable role in the development of treatment options for amyotrophic lateral sclerosis.

Pubmed Data : Curr Pharm Des. 2008;14(23):2306-16. PMID: 18781981

Article Published Date : Jan 01, 2008

Authors : Lynsey G Bilsland, Linda Greensmith

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Endocannabinoid Disorders : CK(15) : AC(9), Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Diseases that are Linked : CK(2325) : AC(303)

Endocannabinoid System (AC 7) (CK 7)

"Endocannabinoids in nervous system health and disease: the big picture in a nutshell."

Pubmed Data : Philos Trans R Soc Lond B Biol Sci. 2012 Dec 5 ;367(1607):3193-200. PMID: 23108539

Article Published Date : Dec 04, 2012

Authors : Stephen D Skaper, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Endocannabinoid System : CK(16) : AC(6)

Cannabinoid use showed no significant association between increased cancer incidence and cannabinoids use and it does not depend on the amount of used cannabis.

Pubmed Data : Cas Lek Cesk. 2006 ;145(6):453-7; discussion 458-9. PMID: 16835997

Article Published Date : Dec 31, 2005

Authors : B Vidinský, P Gál, J Mojzis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: **19442536**

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids and endocannabinoids may have therapeutic value in metabolic disorders and diabetes.

Pubmed Data : Handb Exp Pharmacol. 2011(203):75-104. PMID: **21484568**

Article Published Date : Jan 01, 2011

Authors : Vincenzo Di Marzo, Fabiana Piscitelli, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Diabetes Mellitus: Type 1: Prevention : CK(255) : AC(50) , Diabetes Mellitus: Type 2 : CK(3384) : AC(595), Endocannabinoid System : CK(16) : AC(6)
Additional Keywords : Beta Cell Protection : CK(61) : AC(25)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: **12723496**

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)

Diseases : Cancer Metastasis : CK(442) : AC(206) , Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The endocannabinoid system may play a valuable role in the development of treatment options for amyotrophic lateral sclerosis.

Pubmed Data : Curr Pharm Des. 2008;14(23):2306-16. PMID: **18781981**

Article Published Date : Jan 01, 2008

Authors : Lynsey G Bilsland, Linda Greensmith

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Endocannabinoid Disorders : CK(15) : AC(9), Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Diseases that are Linked : CK(2325) : AC(303)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: **12052046**

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6) , Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Epilepsy (AC 4) (CK 5)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: 18286801

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Cannabidivarin-rich cannabis extracts exerted significant anticonvulsant effects in three rat models of seizure.

Pubmed Data : Br J Pharmacol. 2013 Oct ;170(3):679-92. PMID: 23902406

Article Published Date : Sep 30, 2013

Authors : T D M Hill, M-G Cascio, B Romano, M Duncan, R G Pertwee, C M Williams, B J Whalley, A J Hill

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Epilepsy : CK(249) : AC(63) , Seizures : CK(190) : AC(55)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Phytocannabinoids produce anticonvulsant effects through the endocannabinoid system, with few adverse effects.

Pubmed Data : J Clin Pharm Ther. 2015 Apr ;40(2):135-43. Epub 2014 Dec 4. PMID: 25475762

Article Published Date : Mar 31, 2015

Authors : R G dos Santos, J E C Hallak, J P Leite, A W Zuardi, J A S Crippa

Study Type : Review
Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Epilepsy : CK(249) : AC(63) , Epileptic Seizures : CK(192) : AC(10)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142) , Natural Substances Versus Drugs : CK(1696) : AC(301)

There is preliminary evidence that non-psychoactive cannabinoids may be useful as anticonvulsants.

Pubmed Data : Expert Opin Pharmacother. 2015 ;16(13):1911-4. Epub 2015 Aug 3. PMID: 26234319

Article Published Date : Dec 31, 2014

Authors : Robert E Blair, Laxmikant S Deshpande, Robert J DeLorenzo

Study Type : Commentary
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Epilepsy : CK(249) : AC(63)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)

Epileptic Seizures (AC 1) (CK 1)

Phytocannabinoids produce anticonvulsant effects through the endocannabinoid system, with few adverse effects.

Pubmed Data : J Clin Pharm Ther. 2015 Apr ;40(2):135-43. Epub 2014 Dec 4. PMID: 25475762

Article Published Date : Mar 31, 2015

Authors : R G dos Santos, J E C Hallak, J P Leite, A W Zuardi, J A S Crippa

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Epilepsy : CK(249) : AC(63) , Epileptic Seizures : CK(192) : AC(10)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142) , Natural Substances Versus Drugs : CK(1696) : AC(301)

Gastric Cancer (AC 1) (CK 1)

Cannabinoids work synergistically with paclitaxel in gastric cancer cell lines.

Pubmed Data : J Surg Res. 2009 Jul;155(1):40-7. Epub 2008 Aug 9. PMID: 19394652

Article Published Date : Jul 01, 2009

Authors : Hideyo Miyato, Joji Kitayama, Hiroharu Yamashita, Daisuke Souma, Masahiro Asakage, Jun Yamada, Hirokazu Nagawa

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Gastric Cancer : CK(621) : AC(198)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612) , Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Drug: Paclitaxel : CK(36) : AC(13) , Drug Synergy : CK(351) : AC(156)

Gastrointestinal Diseases (AC 1) (CK 1)

Cannabinoids are promising candidates for gastrointestinal and urinary diseases.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:423-47. PMID: 26408170

Article Published Date : Dec 31, 2014

Authors : Angelo A Izzo, Giulio G Muccioli, Michael R Ruggieri, Rudolf Schicho

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Gastrointestinal Diseases : CK(73) : AC(22) , Urinary Bladder Diseases : CK(2) : AC(1)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Gastrointestinal Inflammation (AC 1) (CK 1)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: **19442536**

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Glaucoma (AC 1) (CK 1)

Cannabis could be an effective ocular hypotensive agent.

Pubmed Data : Curr Opin Ophthalmol. 2016 Mar ;27(2):146-50. PMID: **26840343**

Article Published Date : Feb 29, 2016

Authors : Gary D Novack

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Glaucoma : CK(164) : AC(26)
Pharmacological Actions : Antihypertensive Agents : CK(1147) : AC(161)

Glioblastoma (AC 3) (CK 7)

CB1 receptor immunoreactivity was significantly lower while CB2 receptor immunoreactivity was significantly greater in the membranes of glioblastoma multiforme and astrocytoma.

Pubmed Data : Neurochem Int. 2010 May-Jun;56(6-7):829-33. Epub 2010 Mar 20. PMID: 20307616

Article Published Date : Apr 30, 2010

Authors : Maider López De Jesús, Cristina Hostalot, Jesús M Garibi, Joan Sallés, J Javier Meana, Luis F Callado

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Glioblastoma : CK(181) : AC(81)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids were shown to be of potential use for therapeutic approaches of glioblastoma.

Pubmed Data : Cell Adh Migr. 2016 May 5:0. Epub 2016 May 5. PMID: 27149140

Article Published Date : May 04, 2016

Authors : Tim Hohmann, Urszula Grabiec, Chalid Ghadban, Kerstin Feese, Faramarz Dehghani

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412)

The proapoptotic effect of cannabinoids on tumor cells is mediated by a ceramide dependent upregulation of the stress protein p8.

Pubmed Data : Cancer Cell. 2006 Apr ;9(4):301-12. PMID: 16616335

Article Published Date : Mar 31, 2006

Authors : Arkaitz Carracedo, Mar Lorente, Ainara Egia, Cristina Blázquez, Stephane García, Valentin Giroux, Cedric Malicet, Raquel Villuendas, Meritxell Gironella, Luis González-Feria, Miguel Angel Piris, Juan L Iovanna, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Altered Protein Expression : CK(6) : AC(2) , Gene Expression Regulation : CK(427) : AC(212)

Glioblastoma Multiforme (AC 4) (CK 14)

Cannabinoids appear to be selective antitumoral agents as they kill glioma cells without affecting the viability of nontransformed counterparts.

Pubmed Data : Expert Rev Neurother. 2008 Jan ;8(1):37-49. PMID: **18088200**

Article Published Date : Dec 31, 2007

Authors : Daniela Parolaro, Paola Massi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)

Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Delta9-tetrahydrocannabinol administration led to the inhibition of the VEGF Pathway in Two Patients with Glioblastoma Multiforme.

Pubmed Data : Cancer Res. 2004 Aug 15 ;64(16):5617-23. PMID: **15313899**

Article Published Date : Aug 14, 2004

Authors : Cristina Blázquez, Luis González-Feria, Luis Alvarez, Amador Haro, M Llanos Casanova, Manuel Guzmán

Study Type : Animal Study, Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Vascular Endothelial Growth Factor Inhibitors : CK(123) : AC(61)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212)

The in vivo administration of microencapsulated cannabinoids efficiently reduces tumor growth.

Pubmed Data : PLoS One. 2013 ;8(1):e54795. Epub 2013 Jan 22. PMID: **23349970**

Article Published Date : Dec 31, 2012

Authors : Dolores Hernán Pérez de la Ossa, Mar Lorente, Maria Esther Gil-Alegre, Sofía Torres, Elena García-Taboada, María Del Rosario Aberturas, Jesús Molpeceres, Guillermo Velasco, Ana Isabel Torres-Suárez

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Glioma (AC 7) (CK 10)

A review of the antiproliferative effects of cannabinoids on cancer cells.

Pubmed Data : Mini Rev Med Chem. 2005 Oct ;5(10):941-52. PMID: **16250836**

Article Published Date : Sep 30, 2005

Authors : Natalya M Kogan

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Glioma : CK(174) : AC(84) , Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

Cannabinoids exert anti-inflammatory, anti-proliferative, anti-invasive, anti-metastatic and pro-apoptotic effects in different cancer types.

Pubmed Data : Histol Histopathol. 2015 Jun ;30(6):629-45. Epub 2014 Dec 4. PMID: **25472761**

Article Published Date : May 31, 2015

Authors : Panagiotis Zogopoulos, Penelope Korkolopoulou, Efstratios Patsouris, Stamatios Theocharis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit glioma (brain cancer) through the down-regulation of Tissue Inhibitors of Metalloproteinases (TIMPs).

Pubmed Data : Neuropharmacology. 2008 Jan;54(1):235-43. Epub 2007 Jul 1. PMID: **17675107**

Article Published Date : Jan 01, 2008

Authors : Cristina Blázquez, Arkaitz Carracedo, María Salazar, Mar Lorente, Ainara Egia, Luis González-Feria, Amador Haro, Guillermo Velasco, Manuel Guzmán

Study Type : Human: Case Report, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Marijuana : CK(1741) : AC(399)

Diseases : Astrocytoma : CK(12) : AC(6) , Astrocytoma: Grade IV : CK(3) : AC(1) , Brain Cancer : CK(450) : AC(179), Glioma : CK(174) : AC(84)
Additional Keywords : Tissue Inhibitors of Metalloproteinases (TIMPs) : CK(3) : AC(1)

Cannabinoids may be ideal candidates for the treatment of gliomas.

Pubmed Data : Neuropharmacology. 2004 Sep;47(3):315-23. PMID: **15275820**

Article Published Date : Sep 01, 2004

Authors : Guillermo Velasco, Ismael Galve-Roperh, Cristina Sánchez, Cristina Blázquez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids seem to be selective antitumoral compounds, killing glioma cells but not non transformed cells.

Pubmed Data : Mol Neurobiol. 2007 Aug ;36(1):60-7. Epub 2007 Jun 28. PMID: **17952650**

Article Published Date : Jul 31, 2007

Authors : Guillermo Velasco, Arkaitz Carracedo, Cristina Blázquez, Mar Lorente, Tania Aguado, Amador Haro, Cristina Sánchez, Ismael Galve-Roperh, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Glioma : CK(174) : AC(84)

These findings show that de novo synthesized ceramide is involved in cannabinoid induced apoptosis of glioma cells.

Pubmed Data : Biochem J. 2002 Apr 1 ;363(Pt 1):183-8. PMID: **11903061**

Article Published Date : Mar 31, 2002

Authors : Teresa Gómez del Pulgar, Guillermo Velasco, Cristina Sánchez, Amador Haro, Manuel Guzmán

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioma : CK(174) : AC(84)

Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

cannabidiol was able to produce a significant antitumor activity both in vitro and in vivo.

Pubmed Data : J Pharmacol Exp Ther. 2004 Mar ;308(3):838-45. Epub 2003 Nov 14. PMID: 14617682

Article Published Date : Feb 29, 2004

Authors : Paola Massi, Angelo Vaccani, Stefania Ceruti, Arianna Colombo, Maria P Abbracchio, Daniela Parolaro

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Gliomas (AC 2) (CK 3)

Cannabinoids appear to be selective antitumoral agents as they kill glioma cells without affecting the viability of nontransformed counterparts.

Pubmed Data : Expert Rev Neurother. 2008 Jan ;8(1):37-49. PMID: 18088200

Article Published Date : Dec 31, 2007

Authors : Daniela Parolaro, Paola Massi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518)

Cannabinoids inhibit the growth of gliomas in vivo by targeting both tumor cells and vascular endothelial cells.

Pubmed Data : FASEB J. 2003 Mar ;17(3):529-31. Epub 2003 Jan 2. PMID: 12514108

Article Published Date : Feb 28, 2003

Authors : Cristina Blázquez, M Llanos Casanova, Anna Planas, Teresa Gómez Del Pulgar, Concepción Villanueva, María J Fernández-Aceñero, Julián Aragonés, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Matrix metalloproteinase-2 (MMP-2) inhibitor : CK(285) : AC(147), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Disease Regression : CK(150) : AC(26)

HIV Infections (AC 2) (CK 2)

Cannabinoids that activate the CB2R inhibit the ECM adhesion process, thus has potential to serve as a therapeutic agent for ablating neuroinflammation associated with HIV.

Pubmed Data : Life Sci. 2014 May 28 ;104(1-2):15-23. Epub 2014 Apr 15. PMID: 24742657

Article Published Date : May 27, 2014

Authors : Erinn S Raborn, Melissa Jamerson, Francine Marciano-Cabral, Guy A Cabral

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Brain Inflammation : CK(259) : AC(143), HIV Infections : CK(659) : AC(216)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: 26059175

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links

Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory : CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Headache (AC 1) (CK 1)

The literature suggests that the medicinal use of cannabis may have a therapeutic role for a multitude of diseases.

Pubmed Data : Headache. 2015 Jun ;55(6):885-916. Epub 2015 May 25. PMID: **26015168**

Article Published Date : May 31, 2015

Authors : Eric P Baron

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chronic Pain : CK(183) : AC(29) , Headache : CK(785) : AC(92)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Hepatitis C (AC 1) (CK 1)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: **26059175**

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)

Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory : CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Herpes Simplex Virus Type 2 (AC 1) (CK 1)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: **26059175**

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory : CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Huntington Disease (AC 3) (CK 5)

Cannabigerol could be used for the treatment of neurodegenerative diseases such as Huntington's disease.

Pubmed Data : Neurotherapeutics. 2015 Jan ;12(1):185-99. PMID: **25252936**

Article Published Date : Dec 31, 2014

Authors : Sara Valdeolivas, Carmen Navarrete, Irene Cantarero, María L Bellido, Eduardo Muñoz,

Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabis extracts could be neuroprotective agents, delaying disease progression in a proinflammatory model of Huntington's disease.

Pubmed Data : ACS Chem Neurosci. 2012 May 16 ;3(5):400-6. Epub 2012 Feb 9. PMID: **22860209**

Article Published Date : May 15, 2012

Authors : Sara Valdeolivas, Valentina Satta, Roger G Pertwee, Javier Fernández-Ruiz, Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Huntington Disease : CK(84) : AC(32) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221) , Plant Extracts : CK(7483) : AC(2462)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Immune Disorders (AC 1) (CK 1)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: 12052046

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6) , Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Inflammation (AC 10) (CK 14)

A combination of Cannabichromene and Delta-tetrahydrocannabinol leads to enhanced tetrad and anti-inflammatory actions.

Pubmed Data : Drug Alcohol Depend. 2010 Nov 1 ;112(1-2):126-33. PMID: 20619971

Article Published Date : Oct 31, 2010

Authors : Gerald T DeLong, Carl E Wolf, Alphonse Poklis, Aron H Lichtman

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: **18286801**

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Agents modulating cannabinoid receptors or endocannabinoid tone provide promising therapeutic opportunities in the treatment of inflammatory neurodegenerative disorders of the CNS.

Pubmed Data : Exp Neurol. 2010 Jul ;224(1):92-102. Epub 2010 Mar 29. PMID: **20353778**

Article Published Date : Jun 30, 2010

Authors : Silvia Rossi, Giorgio Bernardi, Diego Centonze

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabichromene exerts anti-inflammatory actions in activated macrophages.

Pubmed Data : Br J Pharmacol. 2013 May ;169(1):213-29. PMID: **23373571**

Article Published Date : Apr 30, 2013

Authors : B Romano, F Borrelli, I Fasolino, R Capasso, F Piscitelli, Mg Cascio, Rg Pertwee, D Coppola, L Vassallo, P Orlando, V Di Marzo, Aa Izzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabichromene selectively reduces inflammation-induced hypermotility in vivo.

Pubmed Data : Br J Pharmacol. 2012 Jun ;166(4):1444-60. PMID: **22300105**

Article Published Date : May 31, 2012

Authors : Angelo A Izzo, Raffaele Capasso, Gabriella Aviello, Francesca Borrelli, Barbara Romano, Fabiana Piscitelli, Laura Gallo, Francesco Capasso, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: **19442536**

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids have cyclooxygenase inhibitory properties.

Pubmed Data : Biol Pharm Bull. 2011;34(5):774-8. PMID: **21532172**

Article Published Date : Jan 01, 2011

Authors : Lucia Renee Ruhaak, Jenny Felth, Pernilla Christina Karlsson, Joseph James Rafter, Robert Verpoorte, Lars Bohlin

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Cyclooxygenase Inhibitors : CK(71) : AC(39)

Cannabis extracts could be neuroprotective agents, delaying disease progression in a proinflammatory model of Huntington's disease.

Pubmed Data : ACS Chem Neurosci. 2012 May 16 ;3(5):400-6. Epub 2012 Feb 9. PMID: **22860209**

Article Published Date : May 15, 2012

Authors : Sara Valdeolivas, Valentina Satta, Roger G Pertwee, Javier Fernández-Ruiz, Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Huntington Disease : CK(84) : AC(32) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221) , Plant Extracts : CK(7483) : AC(2462)

The in vivo assessment of the role of CB receptors in inflammation and cancer might be instrumental in broadening the understanding about bladder cancer biology.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:41-51. Epub 2014 Oct 15. PMID: **25445433**

Article Published Date : Sep 30, 2015

Authors : Valeria Gasperi, Daniela Evangelista, Sergio Oddi, Fulvio Florenzano, Valerio Chiurchiù, Luciana Avigliano, M Valeria Catani, Mauro Maccarrone

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Bladder Cancer : CK(349) : AC(100) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The possible role of cannabimimetic fatty acid derivatives in the pathological consequences of cancer and inflammation are examined.

Pubmed Data : Chem Phys Lipids. 2000 Nov ;108(1-2):191-209. PMID: **11106791**

Article Published Date : Oct 31, 2000

Authors : L De Petrocellis, D Melck, T Bisogno, V Di Marzo

Study Type : Review

Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Asthma : CK(1146) : AC(188) , Cachexia : CK(77) : AC(25) , Cancers: All : CK(14469) : AC(4575), Chronic Pain : CK(183) : AC(29) , Inflammation : CK(2918) : AC(856)

Inflammation: Neutrophil-Mediated (AC 1) (CK 2)

O-1602 is protective against experimentally induced colitis and inhibits neutrophil recruitment independently of CB1, CB2 and GPR55 receptors.

Pubmed Data : Inflamm Bowel Dis. 2011 Aug ;17(8):1651-64. Epub 2010 Nov 15. PMID: 21744421

Article Published Date : Jul 31, 2011

Authors : Rudolf Schicho, Mohammad Bashashati, Misha Bawa, Douglas McHugh, Dieter Saur, Huang-Ming Hu, Andreas Zimmer, Beat Lutz, Ken Mackie, Heather B Bradshaw, Donna-Marie McCafferty, Keith A Sharkey, Martin Storr

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation: Neutrophil-Mediated : CK(12) : AC(7)
Additional Keywords : Dose Response : CK(1054) : AC(407)

Inflammatory Bowel Diseases (AC 5) (CK 15)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Cannabichromene exerts anti-inflammatory actions in activated macrophages.

Pubmed Data : Br J Pharmacol. 2013 May ;169(1):213-29. PMID: **23373571**

Article Published Date : Apr 30, 2013

Authors : B Romano, F Borrelli, I Fasolino, R Capasso, F Piscitelli, Mg Cascio, Rg Pertwee, D Coppola, L Vassallo, P Orlando, V Di Marzo, Aa Izzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: **19442536**

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Evidence is gathering that manipulating the endocannabinoid system can have beneficial effects in inflammatory bowel disease.

Pubmed Data : Dig Dis. 2014 ;32(4):468-74. Epub 2014 Jun 23. PMID: **24969296**

Article Published Date : Dec 31, 2013

Authors : Timna Naftali, Raphael Mechulam, Lihi Bar Lev, Fred M Konikoff

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Inflammatory Bowel Diseases : CK(1003) : AC(189)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

In this trial cannabis induced a clinical remission in 50% of patients with long standing Crohn's disease with 80% nonresponse or intolerance to anti–TNF-α treatment.

Pubmed Data : Clin Gastroenterol Hepatol. 2013 Oct ;11(10):1276-1280.e1. Epub 2013 May 4. PMID: **23648372**

Article Published Date : Sep 30, 2013

Authors : Timna Naftali, Lihi Bar-Lev Schleider, Iris Dotan, Ephraim Philip Lansky, Fabiana Sklerovsky Benjaminov, Fred Meir Konikoff

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)
Additional Keywords : Natural Substances Versus Drugs : CK(1696) : AC(301) , Significant Treatment Outcome : CK(3038) : AC(366)

Influenza (AC 1) (CK 1)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: **26059175**

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory : CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Insomnia (AC 1) (CK 10)

Cannabis-based medicine is effective in reducing pain and sleep disturbance in patients with multiple sclerosis related central neuropathic pain and is mostly well tolerated.

Pubmed Data : Neurology. 2005 Sep 27;65(6):812-9. PMID: **16186518**

Article Published Date : Sep 27, 2005

Authors : David J Rog, Turo J Nurmikko, Tim Friede, Carolyn A Young

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Insomnia : CK(518) : AC(64) , Multiple Sclerosis : CK(964) : AC(184) , Pain : CK(835) : AC(135), Sleep Disorders : CK(282) : AC(32)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Insulin Resistance (AC 1) (CK 2)

Tetrahydrocannabivarin is a new potential treatment against obesity-associated glucose intolerance.

Pubmed Data : Nutr Diabetes. 2013 ;3:e68. Epub 2013 May 27. PMID: 23712280

Article Published Date : Dec 31, 2012

Authors : E T Wargent, M S Zaibi, C Silvestri, D C Hislop, C J Stocker, C G Stott, G W Guy, M Duncan, V Di Marzo, M A Cawthorne

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Insulin Resistance : CK(1683) : AC(346) , Metabolic Diseases : CK(411) : AC(75) , Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hypoglycemic Agents : CK(1394) : AC(342)

Leishmaniasis (AC 1) (CK 1)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: 19344127

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35) , Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Leukemia (AC 1) (CK 1)

Results show that stimulation of the CB2 receptor leads

to p38 MAPK activation and that inhibition of this kinase attenuates CB2 receptor induced caspase activation and apoptosis.

Pubmed Data : FEBS Lett. 2005 Sep 12 ;579(22):5084-8. PMID: **16139274**

Article Published Date : Sep 11, 2005

Authors : Blanca Herrera, Arkaitz Carracedo, María Diez-Zaera, Manuel Guzmán, Guillermo Velasco

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Leukemia : CK(965) : AC(385)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)

Leukemia: T-cell acute Lymphoblastic (AC 1) (CK 1)

Cannabinoids reduce multidrug resistance in a human T lymphoblastoid leukaemia cell line.

Pubmed Data : Biochem Pharmacol. 2006 Apr 14;71(8):1146-54. Epub 2006 Feb 2. PMID: **16458258**

Article Published Date : Apr 14, 2006

Authors : M L Holland, J A Panetta, J M Hoskins, M Bebawy, B D Roufogalis, J D Allen, J C Arnold

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: Drug Resistant : CK(351) : AC(222) , Cancers: Multi-Drug Resistant : CK(120) : AC(93), Leukemia: T-cell acute Lymphoblastic : CK(21) : AC(11)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Lipopolysaccharide-Induced Toxicity (AC 3) (CK 4)

Cannabichromene exerts anti-inflammatory actions in activated macrophages.

Pubmed Data : Br J Pharmacol. 2013 May ;169(1):213-29. PMID: 23373571

Article Published Date : Apr 30, 2013

Authors : B Romano, F Borrelli, I Fasolino, R Capasso, F Piscitelli, Mg Cascio, Rg Pertwee, D Coppola, L Vassallo, P Orlando, V Di Marzo, Aa Izzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: 17178196

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

JWH-015, THC, CBD, Abn-CBD and O-1602 all protected SH-SY5Y cells from BV-2 conditioned media activated via LPS.

Pubmed Data : Cell Mol Neurobiol. 2014 Jan ;34(1):31-42. Epub 2013 Sep 13. PMID: 24030360

Article Published Date : Dec 31, 2013

Authors : Emelie Janefjord, Jesper L V Mååg, Benjamin S Harvey, Scott D Smid

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Lignans : CK(169) : AC(46)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Liver Cancer (AC 1) (CK 2)

Cannabinoids have anti-tumoral action against liver cancer.

Pubmed Data : Iran J Allergy Asthma Immunol. 2010 Sep;9(3):157-62. PMID: **21475304**

Article Published Date : Sep 01, 2010

Authors : D Vara, M Salazar, N Olea-Herrero, M Guzmán, G Velasco, I Díaz-Laviada

Study Type : Transgenic Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Liver Cancer : CK(1235) : AC(462)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Autophagy Up-regulation : CK(108) : AC(65)

Lung Cancer (AC 4) (CK 4)

A review of the antiproliferative effects of cannabinoids on cancer cells.

Pubmed Data : Mini Rev Med Chem. 2005 Oct ;5(10):941-52. PMID: **16250836**

Article Published Date : Sep 30, 2005

Authors : Natalya M Kogan

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) :

AC(340)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Glioma : CK(174) : AC(84) , Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

This study demonstrated cannabinoid induced upregulation of ICAM-1 on lung cancer cells to be responsible for increased cancer cell lysis by LAK cells.

Pubmed Data : Biochem Pharmacol. 2014 Nov 15 ;92(2):312-25. Epub 2014 Jul 25. PMID: **25069049**

Article Published Date : Nov 14, 2014

Authors : Maria Haustein, Robert Ramer, Michael Linnebacher, Katrin Manda, Burkhard Hinz

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Anti-Tumor : CK(136) : AC(72), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Lymphokine-activated Killer Cells : CK(1) : AC(1)

This study demonstrates that AEA, THC, and HU 210 are all able to cause changes in integrated mitochondrial function, directly, in the absence of cannabinoid

receptors.

Pubmed Data : Biochem Biophys Res Commun. 2007 Dec 7 ;364(1):131-7. Epub 2007 Oct 2. PMID: 17931597

Article Published Date : Dec 06, 2007

Authors : Andriani Athanasiou, Anna B Clarke, Amy E Turner, Nethia M Kumaran, Sara Vakilpour, Paul A Smith, Dimitra Bagiokou, Tracey D Bradshaw, Andrew D Westwell, Lin Fang, Dileep N Lobo, Cris S Constantinescu, Vittorio Calabrese, Andrzej Loesch, Stephen P H Alexander, Richard H Clothier, David A Kendall, Timothy E Bates

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Carcinoma: Non-Small-Cell Lung : CK(134) : AC(71) , Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

Lymphoma (AC 3) (CK 7)

Cannabinoid receptor ligands induce decreased viability, growth suppression and cell death by apoptosis in MCL cells.

Pubmed Data : FEBS Lett. 2005 Dec 19 ;579(30):6885-9. PMID: 16337199

Article Published Date : Dec 18, 2005

Authors : Jenny Flygare, Kristin Gustafsson, Eva Kimby, Birger Christensson, Birgitta Sander

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: 18199524

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

The present data suggest that targeting CB(1)/CB(2) may have therapeutic potential for the treatment of mantle cell lymphoma.

Pubmed Data : Mol Pharmacol. 2006 Nov ;70(5):1612-20. Epub 2006 Aug 25. PMID: **16936228**

Article Published Date : Oct 31, 2006

Authors : Kristin Gustafsson, Birger Christensson, Birgitta Sander, Jenny Flygare

Study Type : Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)
Additional Keywords : Selective Cytotoxicity : CK(158) : AC(112)

Melanoma (AC 2) (CK 3)

Cannabinoid-induced cytotoxic autophagy as an effective strategy to drive melanoma cell death.

Pubmed Data : J Invest Dermatol. 2015 Jun ;135(6):1629-37. Epub 2015 Feb 10. PMID: **25674907**

Article Published Date : May 31, 2015

Authors : Jane L Armstrong, David S Hill, Christopher S McKee, Sonia Hernandez-Tiedra, Mar Lorente, Israel Lopez-Valero, Maria Eleni Anagnostou, Fiyinfoluwa Babatunde, Marco Corazzari, Christopher P F Redfern, Guillermo Velasco, Penny E Lovat

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)

Diseases : Melanoma : CK(282) : AC(146) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Memory Disorders (AC 1) (CK 2)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: **17178196**

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Metabolic Diseases (AC 1) (CK 2)

Tetrahydrocannabivarin is a new potential treatment against obesity-associated glucose intolerance.

Pubmed Data : Nutr Diabetes. 2013 ;3:e68. Epub 2013 May 27. PMID: **23712280**

Article Published Date : Dec 31, 2012

Authors : E T Wargent, M S Zaibi, C Silvestri, D C Hislop, C J Stocker, C G Stott, G W Guy, M Duncan, V Di Marzo, M A Cawthorne

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Insulin Resistance : CK(1683) : AC(346) , Metabolic Diseases : CK(411) : AC(75) , Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hypoglycemic Agents : CK(1394) : AC(342)

Metabolic Syndrome X (AC 1) (CK 2)

THCV and CBD might be used as new therapeutic agents for the treatment of obesity- and metabolic syndrome-related NAFLD/hepatosteatosis.

Pubmed Data : J Hepatol. 2015 Jun ;62(6):1382-90. Epub 2015 Jan 13. PMID: **25595882**

Article Published Date : May 31, 2015

Authors : Cristoforo Silvestri, Debora Paris, Andrea Martella, Dominique Melck, Irene Guadagnino, Mike Cawthorne, Andrea Motta, Vincenzo Di Marzo

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Metabolic Syndrome X : CK(916) : AC(158) , Nonalcoholic fatty liver disease (NAFLD) : CK(392) : AC(88), Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hepatoprotective : CK(1383) : AC(592)

Morphine Tolerance/Dependence (AC 1) (CK 2)

O-1602 decreased acquisition and expression of morphine CPP and inhibited development of morphine-induced physical dependence.

Pubmed Data : Pharmacol Rep. 2016 Jun ;68(3):592-7. Epub 2016 Jan 11. PMID: 26971034

Article Published Date : May 31, 2016

Authors : Mohaddeseh Sadat Alavi, Hossein Hosseinzadeh, Ali Shamsizadeh, Ali Roohbakhsh

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Morphine Tolerance/Dependence : CK(75) : AC(31)

Multiple Sclerosis (AC 9) (CK 39)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: 18286801

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Agents modulating cannabinoid receptors or endocannabinoid tone provide promising therapeutic

opportunities in the treatment of inflammatory neurodegenerative disorders of the CNS.

Pubmed Data : Exp Neurol. 2010 Jul ;224(1):92-102. Epub 2010 Mar 29. PMID: **20353778**

Article Published Date : Jun 30, 2010

Authors : Silvia Rossi, Giorgio Bernardi, Diego Centonze

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabigerol quinone (VCE-003) has high potential for use against MS and perhaps other neuroinflammatory diseases.

Pubmed Data : J Neuroimmune Pharmacol. 2012 Dec ;7(4):1002-16. Epub 2012 Sep 14. PMID: **22971837**

Article Published Date : Nov 30, 2012

Authors : Aitor G Granja, Francisco Carrillo-Salinas, Alberto Pagani, María Gómez-Cañas, Roberto Negri, Carmen Navarrete, Miriam Mecha, Leyre Mestre, Bend L Fiebich, Irene Cantarero, Marco A Calzado, Maria L Bellido, Javier Fernandez-Ruiz, Giovanni Appendino, Carmen Guaza, Eduardo Muñoz

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Brain Inflammation : CK(259) : AC(143), Encephalomyelitis : CK(12) : AC(7) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice.

Pubmed Data : Neuropharmacology. 2012 Jun ;62(7):2299-308. Epub 2012 Feb 8. PMID: **22342378**

Article Published Date : May 31, 2012

Authors : Eva de Lago, Miguel Moreno-Martet, Ana Cabranes, José A Ramos, Javier Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Cannabinoids control spasticity and tremor in a multiple sclerosis model.

Pubmed Data : Nature. 2000 Mar 2;404(6773):84-7. PMID: **10716447**

Article Published Date : Mar 02, 2000

Authors : D Baker, G Pryce, J L Croxford, P Brown, R G Pertwee, J W Huffman, L Layward

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Multiple Sclerosis : CK(964) : AC(184) , Muscle Spasticity : CK(34) : AC(5) , Tremor : CK(39) : AC(8)
Pharmacological Actions : Antispasmodic : CK(132) : AC(32)

Cannabinoids may have possible therapeutic properties for the management of the multiple sclerosis.

Pubmed Data : J Ethnopharmacol. 2010 Nov 19. Epub 2010 Nov 19. PMID: **21094240**

Article Published Date : Nov 19, 2010

Authors : Elena Buccellato, Donatella Carretta, Aneli Utan, Chiara Cavina, Ester Speroni, Giampaolo Grassi, Sanzio Candeletti, Patrizia Romualdi

Study Type : Meta Analysis
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Multiple Sclerosis : CK(964) : AC(184)

Cannabis-based medicine is effective in reducing pain and sleep disturbance in patients with multiple sclerosis related central neuropathic pain and is mostly well tolerated.

Pubmed Data : Neurology. 2005 Sep 27;65(6):812-9. PMID: **16186518**

Article Published Date : Sep 27, 2005

Authors : David J Rog, Turo J Nurmikko, Tim Friede, Carolyn A Young

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Insomnia : CK(518) : AC(64) , Multiple Sclerosis : CK(964) : AC(184) , Pain : CK(835) : AC(135), Sleep Disorders : CK(282) : AC(32)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

This review discusses the potential of cannabinoid therapeutics as disease-modifying or symptom control agents for slowing disease progression in MS and ALS.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:213-31. PMID: **26408162**

Article Published Date : Dec 31, 2014

Authors : Gareth Pryce, David Baker

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Amyotrophic lateral sclerosis (ALS) : CK(566) : AC(140) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Muscle Spasticity (AC 1) (CK 2)

Cannabinoids control spasticity and tremor in a multiple sclerosis model.

Pubmed Data : Nature. 2000 Mar 2;404(6773):84-7. PMID: **10716447**

Article Published Date : Mar 02, 2000

Authors : D Baker, G Pryce, J L Croxford, P Brown, R G Pertwee, J W Huffman, L Layward

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Multiple Sclerosis : CK(964) : AC(184) , Muscle Spasticity : CK(34) : AC(5) , Tremor : CK(39) : AC(8)
Pharmacological Actions : Antispasmodic : CK(132) : AC(32)

Neonatal Stroke (AC 1) (CK 2)

The activation of the endocannabinoid system promotes white and gray matter recovery after neonatal HI injury.

Pubmed Data : Stroke. 2010 Dec ;41(12):2956-64. PMID: **21115947**

Article Published Date : Nov 30, 2010

Authors : David Fernández-López, Jesús M Pradillo, Isaac García-Yébenes, José A Martínez-Orgado, María A Moro, Ignacio Lizasoain

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Ischemia : CK(136) : AC(52) , Neonatal Stroke : CK(2) : AC(1) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neurogenesis : CK(59) : AC(30)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22) , Neuro-repair : CK(2) : AC(1)

Neurodegenerative Diseases (AC 8) (CK 11)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: **18286801**

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Agents modulating cannabinoid receptors or endocannabinoid tone provide promising therapeutic opportunities in the treatment of inflammatory neurodegenerative disorders of the CNS.

Pubmed Data : Exp Neurol. 2010 Jul ;224(1):92-102. Epub 2010 Mar 29. PMID: **20353778**

Article Published Date : Jun 30, 2010

Authors : Silvia Rossi, Giorgio Bernardi, Diego Centonze

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabigerol could be used for the treatment of neurodegenerative diseases such as Huntington's disease.

Pubmed Data : Neurotherapeutics. 2015 Jan ;12(1):185-99. PMID: **25252936**

Article Published Date : Dec 31, 2014

Authors : Sara Valdeolivas, Carmen Navarrete, Irene Cantarero, María L Bellido, Eduardo Muñoz, Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may therapeutic value in neurodegenerative conditions and cancer.

Pubmed Data : J Mol Med. 2001;78(11):613-25. PMID: **11269508**

Article Published Date : Jan 01, 2001

Authors : M Guzmán, C Sánchez, I Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

These findings constitute the first evidence for an astroprotective role of cannabinoids.

Pubmed Data : J Biol Chem. 2002 Sep 27 ;277(39):36527-33. Epub 2002 Jul 19. PMID: **12133838**

Article Published Date : Sep 26, 2002

Authors : Teresa Gómez Del Pulgar, Maria L De Ceballos, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Dose Response : CK(1054) : AC(407)

These results support the view of a potential neuroprotective action of cannabinoids against the in vivo and in vitro toxicity of 6-hydroxydopamine.

Pubmed Data : Neurobiol Dis. 2005 Jun-Jul;19(1-2):96-107. PMID: **15837565**

Article Published Date : May 31, 2005

Authors : Isabel Lastres-Becker, Francisco Molina-Holgado, José A Ramos, Raphael Mechoulam, Javier Fernández-Ruiz

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review

Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)

Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)

Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: **16596790**

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review

Additional Links

Substances : Cannabinoids : CK(706) : AC(277)

Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)

Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

Neuropathic Pain (AC 1) (CK 1)

This review suggests that cannabinoids may provide effective analgesia in chronic neuropathic pain conditions that are refractory to other treatments.

Pubmed Data : J Oral Facial Pain Headache. 2015 ;29(1):7-14. PMID: **25635955**

Article Published Date : Dec 31, 2014

Authors : Darrell G Boychuk, Greg Goddard, Giovanni Mauro, Maria F Orellana

Study Type : Review

Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)

Diseases : Chronic Pain : CK(183) : AC(29) , Neuropathic Pain : CK(271) : AC(62)

Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Nonalcoholic fatty liver disease (NAFLD) (AC 1) (CK 2)

THCV and CBD might be used as new therapeutic agents for the treatment of obesity- and metabolic syndrome-related NAFLD/hepatosteatosis.

Pubmed Data : J Hepatol. 2015 Jun ;62(6):1382-90. Epub 2015 Jan 13. PMID: **25595882**

Article Published Date : May 31, 2015

Authors : Cristoforo Silvestri, Debora Paris, Andrea Martella, Dominique Melck, Irene Guadagnino, Mike Cawthorne, Andrea Motta, Vincenzo Di Marzo

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Metabolic Syndrome X : CK(916) : AC(158) , Nonalcoholic fatty liver disease (NAFLD) : CK(392) : AC(88), Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hepatoprotective : CK(1383) : AC(592)

Obesity (AC 3) (CK 5)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: **18286801**

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) ,

Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

THCV and CBD might be used as new therapeutic agents for the treatment of obesity- and metabolic syndrome-related NAFLD/hepatosteatosis.

Pubmed Data : J Hepatol. 2015 Jun ;62(6):1382-90. Epub 2015 Jan 13. PMID: **25595882**

Article Published Date : May 31, 2015

Authors : Cristoforo Silvestri, Debora Paris, Andrea Martella, Dominique Melck, Irene Guadagnino, Mike Cawthorne, Andrea Motta, Vincenzo Di Marzo

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Metabolic Syndrome X : CK(916) : AC(158) , Nonalcoholic fatty liver disease (NAFLD) : CK(392) : AC(88), Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hepatoprotective : CK(1383) : AC(592)

Tetrahydrocannabivarin is a new potential treatment against obesity-associated glucose intolerance.

Pubmed Data : Nutr Diabetes. 2013 ;3:e68. Epub 2013 May 27. PMID: **23712280**

Article Published Date : Dec 31, 2012

Authors : E T Wargent, M S Zaibi, C Silvestri, D C Hislop, C J Stocker, C G Stott, G W Guy, M Duncan, V Di Marzo, M A Cawthorne

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Insulin Resistance : CK(1683) : AC(346) , Metabolic Diseases : CK(411) : AC(75) , Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hypoglycemic Agents : CK(1394) : AC(342)

Obsessive-Compulsive Disorder (AC 1) (CK 10)

Cannabis may have therapeutic value in the treatment of

Tourette syndrome.

Pubmed Data : Acta Psychiatr Scand. 1998 Dec;98(6):502-6. PMID: 9879795

Article Published Date : Dec 01, 1998

Authors : K R Müller-Vahl, H Kolbe, U Schneider, H M Emrich

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Obsessive-Compulsive Disorder : CK(188) : AC(26) , Tourette Syndrome : CK(149) : AC(18)

Oral Cancer (AC 1) (CK 1)

Cannabinoids are potent inhibitors of Tu183 cellular respiration and are toxic to this highly malignant tumor.

Pubmed Data : Pharmacology. 2010 ;85(6):328-35. Epub 2010 Jun 2. PMID: 20516734

Article Published Date : Dec 31, 2009

Authors : Donna A Whyte, Suleiman Al-Hammadi, Ghazala Balhaj, Oliver M Brown, Harvey S Penefsky, Abdul-Kader Souid

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Oral Cancer : CK(214) : AC(79)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Dose Response : CK(1054) : AC(407)

Pain (AC 4) (CK 23)

Cannabinoid potentiation of glycine receptors contributes to cannabis-induced analgesia.

Pubmed Data : Nat Chem Biol. 2011 May;7(5):296-303. Epub 2011 Apr 3. PMID: 21460829

Article Published Date : May 01, 2011

Authors : Wei Xiong, Kejun Cheng, Tanxing Cui, Grzegorz Godlewski, Kenner C Rice, Yan Xu, Li Zhang

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Glycine Agents : CK(2) : AC(1)

Cannabinoids have analgesic potential.

Pubmed Data : J Opioid Manag. 2009 Nov-Dec;5(6):341-57. PMID: **20073408**

Article Published Date : Nov 01, 2009

Authors : Jaseena Elikkottil, Jaseena Elikottil, Pankaj Gupta, Kalpna Gupta

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Cannabis-based medicine is effective in reducing pain and sleep disturbance in patients with multiple sclerosis related central neuropathic pain and is mostly well tolerated.

Pubmed Data : Neurology. 2005 Sep 27;65(6):812-9. PMID: **16186518**

Article Published Date : Sep 27, 2005

Authors : David J Rog, Turo J Nurmikko, Tim Friede, Carolyn A Young

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Insomnia : CK(518) : AC(64) , Multiple Sclerosis : CK(964) : AC(184) , Pain : CK(835) : AC(135), Sleep Disorders : CK(282) : AC(32)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

These results indicate that in cannabis smokers, men exhibit greater cannabis-induced analgesia relative to women.

Pubmed Data : Drug Alcohol Depend. 2016 Aug 5. Epub 2016 Aug 5. PMID: **27522535**

Article Published Date : Aug 04, 2016

Authors : Ziva D Cooper, Margaret Haney

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Pancreatic Cancer (AC 2) (CK 2)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

The present study demonstrates in vitro anticancer activity of CB derivatives on the poorly differentiated pancreatic cancer cell line MIA PaCa-2.

Pubmed Data : FEBS Lett. 2006 Mar 20 ;580(7):1733-9. Epub 2006 Feb 20. PMID: **16500647**

Article Published Date : Mar 19, 2006

Authors : Stefano Fogli, Paola Nieri, Andrea Chicca, Barbara Adinolfi, Veronica Mariotti, Paola Iacopetti, Maria Cristina Breschi, Silvia Pellegrini

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pancreatic Cancer : CK(889) : AC(260)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212) , Natural Substance/Drug

Synergy : CK(352) : AC(142)

Parkinson's Disease (AC 5) (CK 8)

A review of the promising aspects of cannabinoid-based therapies for Parkinson's disease.

Pubmed Data : Mol Neurodegener. 2015 ;10:17. Epub 2015 Apr 8. PMID: **25888232**

Article Published Date : Dec 31, 2014

Authors : Sandeep Vasant More, Dong-Kug Choi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

THC mediates neuroprotection via PPARγ-dependent restoration of mitochondrial content which may be beneficial for PD treatment.

Pubmed Data : Oncotarget. 2016 Jun 27. Epub 2016 Jun 27. PMID: **27366949**

Article Published Date : Jun 26, 2016

Authors : Marie-Louise Zeissler, Jordan Eastwood, Kieran McCorry, C Oliver Hanemann, John P Zajicek, Camille B Carroll

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Tetrahydrocannabivarin could be used for delaying disease progression in PD and also for ameliorating parkinsonian symptoms.

Pubmed Data : Br J Pharmacol. 2011 Aug ;163(7):1495-506. PMID: **21323909**

Article Published Date : Jul 31, 2011

Authors : C García, C Palomo-Garo, M García-Arencibia, Ja Ramos, Rg Pertwee, J Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

These results support the view of a potential neuroprotective action of cannabinoids against the in vivo and in vitro toxicity of 6-hydroxydopamine.

Pubmed Data : Neurobiol Dis. 2005 Jun-Jul;19(1-2):96-107. PMID: **15837565**

Article Published Date : May 31, 2005

Authors : Isabel Lastres-Becker, Francisco Molina-Holgado, José A Ramos, Raphael Mechoulam, Javier Fernández-Ruiz

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Peripheral Neuropathies (AC 1) (CK 1)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Prostate Cancer (AC 3) (CK 3)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: 18199524

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Cannabinoids possess attributes that have impact in both cancer pain and prostate cancer pathophysiology.

Pubmed Data : Indian J Urol. 2012 Jan ;28(1):9-14. PMID: **22557710**

Article Published Date : Dec 31, 2011

Authors : Juan A Ramos, Fernando J Bianco

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Prostate: PSA Doubling : CK(164) : AC(20) , Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Angiogenic : CK(197) : AC(137)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids prevent proliferation and cause apoptosis via a combination of cannabinoid receptor-independent, cellular and molecular mechanisms.

Pubmed Data : Br J Pharmacol. 2013 Jan ;168(1):79-102. PMID: **22594963**

Article Published Date : Dec 31, 2012

Authors : Luciano De Petrocellis, Alessia Ligresti, Aniello Schiano Moriello, Mariagrazia Iappelli, Roberta Verde, Colin G Stott, Luigia Cristino, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Anti-Androgen : CK(60) : AC(18) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Prostate: PSA Doubling (AC 1) (CK 1)

Cannabinoids possess attributes that have impact in both cancer pain and prostate cancer pathophysiology.

Pubmed Data : Indian J Urol. 2012 Jan ;28(1):9-14. PMID: **22557710**

Article Published Date : Dec 31, 2011

Authors : Juan A Ramos, Fernando J Bianco

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Prostate: PSA Doubling : CK(164) : AC(20) , Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Angiogenic : CK(197) : AC(137)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Pseudomonas aeruginosa (AC 1) (CK 1)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: 19344127

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35), Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Psoriasis (AC 1) (CK 1)

Cannabinoids may have potential anti-psoriatic activity

Pubmed Data : Curr Clin Pharmacol. 2016 May 11. Epub 2016 May 11. PMID: 27164964

Article Published Date : May 10, 2016

Authors : Nima Derakhshan, Mahboubeh Kazemi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Psoriasis : CK(352) : AC(65)

Rhabdomyosarcoma (AC 1) (CK 2)

Cannabinoid receptor agonists HU210 and Delta(9)-tetrahydrocannabinol lowers the viability of translocation-positive rhabdomyosarcoma cells through the induction of apoptosis.

Pubmed Data : Mol Cancer Ther. 2009 Jul ;8(7):1838-45. Epub 2009 Jun 9. PMID: 19509271

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Dagmar Walter, Marco Wachtel, Kathya Pretre, Maria Salazar, Manuel Guzmán, Guillermo Velasco, Beat W Schäfer

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Rhabdomyosarcoma : CK(3) : AC(2)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1) , Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor : CK(14) : AC(4)
Additional Keywords : Chemotherapeutic Synergy: Cisplatin : CK(80) : AC(57) , Chemotherapeutic Synergy: Doxorubicin : CK(44) : AC(32)

Schizophrenia (AC 2) (CK 3)

A review of the many benefits of cannabinoids in health and disease.

Pubmed Data : Dialogues Clin Neurosci. 2007 ;9(4):413-30. PMID: **18286801**

Article Published Date : Dec 31, 2006

Authors : Natalya M Kogan, Raphael Mechoulam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Anorexia : CK(73) : AC(9) , Cancers: All : CK(14469) : AC(4575) , Epilepsy : CK(249) : AC(63) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850), Obesity : CK(2206) : AC(465) , Schizophrenia : CK(445) : AC(70)

Tetrahdrocannabivarin has therapeutic potential for ameliorating some of the negative, cognitive and positive symptoms of schizophrenia.

Pubmed Data : Br J Pharmacol. 2015 Mar ;172(5):1305-18. PMID: **25363799**

Article Published Date : Feb 28, 2015

Authors : Maria Grazia Cascio, Erica Zamberletti, Pietro Marini, Daniela Parolaro, Roger G Pertwee

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Schizophrenia : CK(445) : AC(70)

Seizures (AC 1) (CK 2)

Cannabidivarin-rich cannabis extracts exerted significant anticonvulsant effects in three rat models of seizure.

Pubmed Data : Br J Pharmacol. 2013 Oct ;170(3):679-92. PMID: **23902406**

Article Published Date : Sep 30, 2013

Authors : T D M Hill, M-G Cascio, B Romano, M Duncan, R G Pertwee, C M Williams, B J Whalley, A J Hill

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Epilepsy : CK(249) : AC(63) , Seizures : CK(190) : AC(55)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Skin Cancer (AC 4) (CK 6)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: 12511587

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075), Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoid-induced cytotoxic autophagy as an effective strategy to drive melanoma cell death.

Pubmed Data : J Invest Dermatol. 2015 Jun ;135(6):1629-37. Epub 2015 Feb 10. PMID: 25674907

Article Published Date : May 31, 2015

Authors : Jane L Armstrong, David S Hill, Christopher S McKee, Sonia Hernandez-Tiedra, Mar Lorente, Israel Lopez-Valero, Maria Eleni Anagnostou, Fiyinfoluwa Babatunde, Marco Corazzari, Christopher P F Redfern, Guillermo Velasco, Penny E Lovat

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Melanoma : CK(282) : AC(146), Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: 18199524

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

These results confirm the value of exogenous cannabinoids for the treatment of melanomas.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:35-40. Epub 2015 Apr 25. PMID: **25921771**

Article Published Date : Sep 30, 2015

Authors : Nicole Glodde, Mira Jakobs, Tobias Bald, Thomas Tüting, Evelyn Gaffal

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Sleep Disorders (AC 1) (CK 10)

Cannabis-based medicine is effective in reducing pain and sleep disturbance in patients with multiple sclerosis related central neuropathic pain and is mostly well tolerated.

Pubmed Data : Neurology. 2005 Sep 27;65(6):812-9. PMID: **16186518**

Article Published Date : Sep 27, 2005

Authors : David J Rog, Turo J Nurmikko, Tim Friede, Carolyn A Young

Study Type : Human Study
Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Insomnia : CK(518) : AC(64) , Multiple Sclerosis : CK(964) : AC(184) , Pain : CK(835) : AC(135), Sleep Disorders : CK(282) : AC(32)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Staphylococcus aureus: Methicillin-resistant (MRSA) (AC 2) (CK 2)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: **19344127**

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35) , Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Cannabinoids showed potent activity against a variety of methicillin-resistant Staphylococcus aureus (MRSA) strains.

Pubmed Data : J Nat Prod. 2008 Aug ;71(8):1427-30. Epub 2008 Aug 6. PMID: **18681481**

Article Published Date : Jul 31, 2008

Authors : Giovanni Appendino, Simon Gibbons, Anna Giana, Alberto Pagani, Gianpaolo Grassi, Michael Stavri, Eileen Smith, M Mukhlesur Rahman

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)

Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474)

Stroke (AC 1) (CK 20)

Cannabinoids significantly reduced infarct volume and improve functional outcome in experimental stroke models.

Pubmed Data : J Cereb Blood Flow Metab. 2015 Mar ;35(3):348-58. Epub 2014 Dec 10. PMID: 25492113

Article Published Date : Feb 28, 2015

Authors : Timothy J England, William H Hind, Nadiah A Rasid, Saoirse E O'Sullivan

Study Type : Meta Analysis, Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Stroke : CK(1365) : AC(168) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Stroke: Attenuation/Recovery (AC 3) (CK 32)

Cannabinoids significantly reduced infarct volume and improve functional outcome in experimental stroke models.

Pubmed Data : J Cereb Blood Flow Metab. 2015 Mar ;35(3):348-58. Epub 2014 Dec 10. PMID: 25492113

Article Published Date : Feb 28, 2015

Authors : Timothy J England, William H Hind, Nadiah A Rasid, Saoirse E O'Sullivan

Study Type : Meta Analysis, Review
Additional Links

Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Stroke : CK(1365) : AC(168) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

The activation of the endocannabinoid system promotes white and gray matter recovery after neonatal HI injury.

Pubmed Data : Stroke. 2010 Dec ;41(12):2956-64. PMID: **21115947**

Article Published Date : Nov 30, 2010

Authors : David Fernández-López, Jesús M Pradillo, Isaac García-Yébenes, José A Martínez-Orgado, María A Moro, Ignacio Lizasoain

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Ischemia : CK(136) : AC(52) , Neonatal Stroke : CK(2) : AC(1) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neurogenesis : CK(59) : AC(30)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22) , Neuro-repair : CK(2) : AC(1)

This study found that cannabinoid positive patients had milder intracerebral haemorrhage presentation and less disability at discharge.

Pubmed Data : Cerebrovasc Dis. 2016 Jan 29 ;41(5-6):248-255. Epub 2016 Jan 29. PMID: **26820826**

Article Published Date : Jan 28, 2016

Authors : Mario Di Napoli, Alicia M Zha, Daniel A Godoy, Luca Masotti, Floris H B M Schreuder, Aurel Popa-Wagner, Réza Behrouz,

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Stroke: Attenuation/Recovery : CK(345) : AC(74), Stroke: Ischemic : CK(192) : AC(26)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

Stroke: Ischemic (AC 1) (CK 10)

This study found that cannabinoid positive patients had

milder intracerebral haemorrhage presentation and less disability at discharge.

Pubmed Data : Cerebrovasc Dis. 2016 Jan 29 ;41(5-6):248-255. Epub 2016 Jan 29. PMID: **26820826**

Article Published Date : Jan 28, 2016

Authors : Mario Di Napoli, Alicia M Zha, Daniel A Godoy, Luca Masotti, Floris H B M Schreuder, Aurel Popa-Wagner, Réza Behrouz,

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Stroke: Attenuation/Recovery : CK(345) : AC(74), Stroke: Ischemic : CK(192) : AC(26)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

Thyroid Cancer (AC 1) (CK 2)

The discovery of IL-12-induced CB2 overexpression in thyroid cancer cells may offer a new target for anaplastic thyroid cancer treatment

Pubmed Data : Cancer Gene Ther. 2008 Feb ;15(2):101-7. Epub 2007 Dec 21. PMID: **18197164**

Article Published Date : Jan 31, 2008

Authors : Y Shi, M Zou, E Y Baitei, A S Alzahrani, R S Parhar, Z Al-Makhalafi, F A Al-Mohanna

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Thyroid Cancer : CK(220) : AC(51)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1), Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Chemothapeutic Synergy: Paclitaxel : CK(32) : AC(23)

Tourette Syndrome (AC 2) (CK 20)

Cannabinoids may have therapeutic value in the treatment of tics in Tourette syndrome.

Pubmed Data : Expert Opin Pharmacother. 2003 Oct;4(10):1717-25. PMID: **14521482**

Article Published Date : Oct 01, 2003

Authors : Kirsten R Müller-Vahl

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Tourette Syndrome : CK(149) : AC(18)

Cannabis may have therapeutic value in the treatment of Tourette syndrome.

Pubmed Data : Acta Psychiatr Scand. 1998 Dec;98(6):502-6. PMID: **9879795**

Article Published Date : Dec 01, 1998

Authors : K R Müller-Vahl, H Kolbe, U Schneider, H M Emrich

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Obsessive-Compulsive Disorder : CK(188) : AC(26), Tourette Syndrome : CK(149) : AC(18)

Traumatic Brain Injury (AC 1) (CK 2)

Administration of synthetic 2-AG to mice after CHI led to significant reduction of brain oedema, better clinical recovery, reduced infarct volume and reduced hippocampal cell death compared with controls.

Pubmed Data : Nature. 2001 Oct 4 ;413(6855):527-31. PMID: **11586361**

Article Published Date : Oct 03, 2001

Authors : D Panikashvili, C Simeonidou, S Ben-Shabat, L Hanus, A Breuer, R Mechoulam, E Shohami

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)

Diseases : Brain Edema : CK(49) : AC(13) , Brain Inflammation : CK(259) : AC(143), Traumatic Brain Injury : CK(33) : AC(9)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Significant Treatment Outcome : CK(3038) : AC(366)

Tremor (AC 1) (CK 2)

Cannabinoids control spasticity and tremor in a multiple sclerosis model.

Pubmed Data : Nature. 2000 Mar 2;404(6773):84-7. PMID: **10716447**

Article Published Date : Mar 02, 2000

Authors : D Baker, G Pryce, J L Croxford, P Brown, R G Pertwee, J W Huffman, L Layward

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Multiple Sclerosis : CK(964) : AC(184) , Muscle Spasticity : CK(34) : AC(5) , Tremor : CK(39) : AC(8)
Pharmacological Actions : Antispasmodic : CK(132) : AC(32)

Urinary Bladder Diseases (AC 1) (CK 1)

Cannabinoids are promising candidates for gastrointestinal and urinary diseases.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:423-47. PMID: **26408170**

Article Published Date : Dec 31, 2014

Authors : Angelo A Izzo, Giulio G Muccioli, Michael R Ruggieri, Rudolf Schicho

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Gastrointestinal Diseases : CK(73) : AC(22) , Urinary Bladder Diseases : CK(2) : AC(1)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Vomiting (AC 1) (CK 2)

This study found a synergy between cannabidiol, cannabidiolic acid, and THC in the regulation of emesis in animals.

Pubmed Data : Behav Neurosci. 2015 Jun ;129(3):368-70. PMID: **26030435**

Article Published Date : May 31, 2015

Authors : Erin M Rock, Linda A Parker

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Emesis : CK(14) : AC(1) , Vomiting : CK(12) : AC(2)
Additional Keywords : Natural Substance Synergy : CK(537) : AC(247)

Category : Pharmacological Actions

Analgesics (AC 13) (CK 33)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: **25777363**

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1),

Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

A review of the pharmacokinetics and pharmacodynamics of cannabinoids.

Pubmed Data : Clin Pharmacokinet. 2003 ;42(4):327-60. PMID: **12648025**

Article Published Date : Dec 31, 2002

Authors : Franjo Grotenhermen

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221)

Cannabinoid potentiation of glycine receptors contributes to cannabis-induced analgesia.

Pubmed Data : Nat Chem Biol. 2011 May;7(5):296-303. Epub 2011 Apr 3. PMID: **21460829**

Article Published Date : May 01, 2011

Authors : Wei Xiong, Kejun Cheng, Tanxing Cui, Grzegorz Godlewski, Kenner C Rice, Yan Xu, Li Zhang

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Glycine Agents : CK(2) : AC(1)

Cannabinoids have analgesic potential.

Pubmed Data : J Opioid Manag. 2009 Nov-Dec;5(6):341-57. PMID: **20073408**

Article Published Date : Nov 01, 2009

Authors : Jaseena Elikkottil, Jaseena Elikottil, Pankaj Gupta, Kalpna Gupta

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: 17178196

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids possess attributes that have impact in both cancer pain and prostate cancer pathophysiology.

Pubmed Data : Indian J Urol. 2012 Jan ;28(1):9-14. PMID: 22557710

Article Published Date : Dec 31, 2011

Authors : Juan A Ramos, Fernando J Bianco

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Prostate: PSA Doubling : CK(164) : AC(20) , Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Angiogenic : CK(197) : AC(137)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabis-based medicine is effective in reducing pain and sleep disturbance in patients with multiple sclerosis related central neuropathic pain and is mostly well tolerated.

Pubmed Data : Neurology. 2005 Sep 27;65(6):812-9. PMID: 16186518

Article Published Date : Sep 27, 2005

Authors : David J Rog, Turo J Nurmikko, Tim Friede, Carolyn A Young

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Insomnia : CK(518) : AC(64) , Multiple Sclerosis : CK(964) : AC(184) , Pain : CK(835) : AC(135), Sleep Disorders : CK(282) : AC(32)

Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Some studies have thus far shown evidence to support the use of cannabinoids for some cancer, neuropathic, spasticity, acute pain, and chronic pain conditions.

Pubmed Data : Curr Pain Headache Rep. 2015 Oct ;19(10):524. PMID: **26325482**

Article Published Date : Sep 30, 2015

Authors : Bjorn Jensen, Jeffrey Chen, Tim Furnish, Mark Wallace

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

The authors concluded that cannabinoids demonstrate a modest analgesic effect and are safe for the management of chronic pain.

Pubmed Data : J Basic Clin Physiol Pharmacol. 2015 Nov 18. Epub 2015 Nov 18. PMID: **26581068**

Article Published Date : Nov 17, 2015

Authors : Mary E Lynch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chronic Pain : CK(183) : AC(29)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

The literature suggests that the medicinal use of cannabis may have a therapeutic role for a multitude of diseases.

Pubmed Data : Headache. 2015 Jun ;55(6):885-916. Epub 2015 May 25. PMID: **26015168**

Article Published Date : May 31, 2015

Authors : Eric P Baron

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Chronic Pain : CK(183) : AC(29) , Headache : CK(785) : AC(92)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

These results indicate that in cannabis smokers, men exhibit greater cannabis-induced analgesia relative to women.

Pubmed Data : Drug Alcohol Depend. 2016 Aug 5. Epub 2016 Aug 5. PMID: 27522535

Article Published Date : Aug 04, 2016

Authors : Ziva D Cooper, Margaret Haney

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

This review adds further support that currently available cannabinoids are safe, modestly effective analgesics.

Pubmed Data : J Neuroimmune Pharmacol. 2015 Jun ;10(2):293-301. Epub 2015 Mar 22. PMID: 25796592

Article Published Date : May 31, 2015

Authors : M E Lynch, Mark A Ware

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Chronic Pain : CK(183) : AC(29)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

This review suggests that cannabinoids may provide effective analgesia in chronic neuropathic pain conditions that are refractory to other treatments.

Pubmed Data : J Oral Facial Pain Headache. 2015 ;29(1):7-14. PMID: 25635955

Article Published Date : Dec 31, 2014

Authors : Darrell G Boychuk, Greg Goddard, Giovanni Mauro, Maria F Orellana

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Chronic Pain : CK(183) : AC(29) , Neuropathic Pain : CK(271) : AC(62)
Pharmacological Actions : Analgesics : CK(1317) : AC(216)

Angiogenesis Inhibitors (AC 7) (CK 20)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: 12511587

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075), Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit the growth of gliomas in vivo by targeting both tumor cells and vascular endothelial cells.

Pubmed Data : FASEB J. 2003 Mar ;17(3):529-31. Epub 2003 Jan 2. PMID: 12514108

Article Published Date : Feb 28, 2003

Authors : Cristina Blázquez, M Llanos Casanova, Anna Planas, Teresa Gómez Del Pulgar, Concepción Villanueva, María J Fernández-Aceñero, Julián Aragonés, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575), Gliomas : CK(5) : AC(3)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Matrix metalloproteinase-2 (MMP-2) inhibitor : CK(285) : AC(147), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Disease Regression : CK(150) : AC(26)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: 17065222

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Delta9-tetrahydrocannabinol administration led to the inhibition of the VEGF Pathway in Two Patients with Glioblastoma Multiforme.

Pubmed Data : Cancer Res. 2004 Aug 15 ;64(16):5617-23. PMID: **15313899**

Article Published Date : Aug 14, 2004

Authors : Cristina Blázquez, Luis González-Feria, Luis Alvarez, Amador Haro, M Llanos Casanova, Manuel Guzmán

Study Type : Animal Study, Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Vascular Endothelial Growth Factor Inhibitors : CK(123) : AC(61)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212)

The in vivo administration of microencapsulated cannabinoids efficiently reduces tumor growth.

Pubmed Data : PLoS One. 2013 ;8(1):e54795. Epub 2013 Jan 22. PMID: **23349970**

Article Published Date : Dec 31, 2012

Authors : Dolores Hernán Pérez de la Ossa, Mar Lorente, Maria Esther Gil-Alegre, Sofía Torres, Elena García-Taboada, María Del Rosario Aberturas, Jesús Molpeceres, Guillermo Velasco, Ana Isabel Torres-Suárez

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: **19589225**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412), Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37), Endocannabinoid System : CK(59) : AC(22)

This review discusses the current understanding of cannabinoids as antitumour agents.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:449-72. PMID: **26408171**

Article Published Date : Dec 31, 2014

Authors : Guillermo Velasco, Cristina Sánchez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Anti-Androgen (AC 1) (CK 1)

Cannabinoids prevent proliferation and cause apoptosis via a combination of cannabinoid receptor-independent, cellular and molecular mechanisms.

Pubmed Data : Br J Pharmacol. 2013 Jan ;168(1):79-102. PMID: **22594963**

Article Published Date : Dec 31, 2012

Authors : Luciano De Petrocellis, Alessia Ligresti, Aniello Schiano Moriello, Mariagrazia Iappelli, Roberta Verde, Colin G Stott, Luigia Cristino, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Anti-Androgen : CK(60) : AC(18), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Anti-Angiogenic (AC 4) (CK 4)

Cannabinoids possess attributes that have impact in both cancer pain and prostate cancer pathophysiology.

Pubmed Data : Indian J Urol. 2012 Jan ;28(1):9-14. PMID: **22557710**

Article Published Date : Dec 31, 2011

Authors : Juan A Ramos, Fernando J Bianco

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Prostate: PSA Doubling : CK(164) : AC(20), Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Analgesics : CK(1317) : AC(216), Anti-Angiogenic : CK(197) : AC(137)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids reduce ErbB2-positive breast cancer cell progression.

Pubmed Data : Mol Cancer. 2010;9:196. Epub 2010 Jul 22. PMID: **20649976**

Article Published Date : Jan 01, 2010

Authors : María M Caffarel, Clara Andradas, Emilia Mira, Eduardo Pérez-Gómez, Camilla Cerutti, Gema Moreno-Bueno, Juana M Flores, Isabel García-Real, José Palacios, Santos Mañes, Manuel Guzmán, Cristina Sánchez

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Breast Cancer : CK(3526) : AC(1059)

Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

New insights into antimetastatic and antiangiogenic effects of cannabinoids.

Pubmed Data : Int Rev Cell Mol Biol. 2015 ;314:43-116. Epub 2014 Dec 18. PMID: 25619715

Article Published Date : Dec 31, 2014

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: 16596790

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

Anti-Bacterial Agents (AC 2) (CK 2)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: 19344127

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35), Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Cannabinoids showed potent activity against a variety of methicillin-resistant Staphylococcus aureus (MRSA) strains.

Pubmed Data : J Nat Prod. 2008 Aug ;71(8):1427-30. Epub 2008 Aug 6. PMID: **18681481**

Article Published Date : Jul 31, 2008

Authors : Giovanni Appendino, Simon Gibbons, Anna Giana, Alberto Pagani, Gianpaolo Grassi, Michael Stavri, Eileen Smith, M Mukhlesur Rahman

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474)

Anti-Inflammatory Agents (AC 25) (CK 46)

A combination of Cannabichromene and Delta-tetrahydrocannabinol leads to enhanced tetrad and anti-inflammatory actions.

Pubmed Data : Drug Alcohol Depend. 2010 Nov 1 ;112(1-2):126-33. PMID: **20619971**

Article Published Date : Oct 31, 2010

Authors : Gerald T DeLong, Carl E Wolf, Alphonse Poklis, Aron H Lichtman

Study Type : Animal Study

Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: **27486335**

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Autophagy Up-regulation : CK(108) : AC(65), Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

A review of the promising aspects of cannabinoid-based therapies for Parkinson's disease.

Pubmed Data : Mol Neurodegener. 2015 ;10:17. Epub 2015 Apr 8. PMID: **25888232**

Article Published Date : Dec 31, 2014

Authors : Sandeep Vasant More, Dong-Kug Choi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Administration of synthetic 2-AG to mice after CHI led to significant reduction of brain oedema, better clinical recovery, reduced infarct volume and reduced hippocampal cell death compared with controls.

Pubmed Data : Nature. 2001 Oct 4 ;413(6855):527-31. PMID: **11586361**

Article Published Date : Oct 03, 2001

Authors : D Panikashvili, C Simeonidou, S Ben-Shabat, L Hanus, A Breuer, R Mechoulam, E Shohami

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Brain Edema : CK(49) : AC(13) , Brain Inflammation : CK(259) : AC(143), Traumatic Brain Injury : CK(33) : AC(9)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Significant Treatment Outcome : CK(3038) : AC(366)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Cannabichromene exerts anti-inflammatory actions in activated macrophages.

Pubmed Data : Br J Pharmacol. 2013 May ;169(1):213-29. PMID: 23373571

Article Published Date : Apr 30, 2013

Authors : B Romano, F Borrelli, I Fasolino, R Capasso, F Piscitelli, Mg Cascio, Rg Pertwee, D Coppola, L Vassallo, P Orlando, V Di Marzo, Aa Izzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabichromene selectively reduces inflammation-

induced hypermotility in vivo.

Pubmed Data : Br J Pharmacol. 2012 Jun ;166(4):1444-60. PMID: 22300105

Article Published Date : May 31, 2012

Authors : Angelo A Izzo, Raffaele Capasso, Gabriella Aviello, Francesca Borrelli, Barbara Romano, Fabiana Piscitelli, Laura Gallo, Francesco Capasso, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabigerol quinone (VCE-003) has high potential for use against MS and perhaps other neuroinflammatory diseases.

Pubmed Data : J Neuroimmune Pharmacol. 2012 Dec ;7(4):1002-16. Epub 2012 Sep 14. PMID: 22971837

Article Published Date : Nov 30, 2012

Authors : Aitor G Granja, Francisco Carrillo-Salinas, Alberto Pagani, María Gómez-Cañas, Roberto Negri, Carmen Navarrete, Miriam Mecha, Leyre Mestre, Bend L Fiebich, Irene Cantarero, Marco A Calzado, Maria L Bellido, Javier Fernandez-Ruiz, Giovanni Appendino, Carmen Guaza, Eduardo Muñoz

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Brain Inflammation : CK(259) : AC(143), Encephalomyelitis : CK(12) : AC(7) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: 19442536

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) ,

Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice.

Pubmed Data : Neuropharmacology. 2012 Jun ;62(7):2299-308. Epub 2012 Feb 8. PMID: **22342378**

Article Published Date : May 31, 2012

Authors : Eva de Lago, Miguel Moreno-Martet, Ana Cabranes, José A Ramos, Javier Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434) , Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids exert anti-inflammatory, anti-proliferative, anti-invasive, anti-metastatic and pro-apoptotic effects in different cancer types.

Pubmed Data : Histol Histopathol. 2015 Jun ;30(6):629-45. Epub 2014 Dec 4. PMID: **25472761**

Article Published Date : May 31, 2015

Authors : Panagiotis Zogopoulos, Penelope Korkolopoulou, Efstratios Patsouris, Stamatios Theocharis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids have cyclooxygenase inhibitory properties.

Pubmed Data : Biol Pharm Bull. 2011;34(5):774-8. PMID: **21532172**

Article Published Date : Jan 01, 2011

Authors : Lucia Renee Ruhaak, Jenny Felth, Pernilla Christina Karlsson, Joseph James Rafter, Robert Verpoorte, Lars Bohlin

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Cyclooxygenase Inhibitors : CK(71) : AC(39)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: **17178196**

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217) , Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may have therapeutic value in treating neuroinflammation.

Pubmed Data : ScientificWorldJournal. 2011;11:855-65. Epub 2011 Apr 5. PMID: **21479354**

Article Published Date : Jan 01, 2011

Authors : Eric J Downer

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabinoids that activate the CB2R inhibit the ECM adhesion process, thus has potential to serve as a therapeutic agent for ablating neuroinflammation associated with HIV.

Pubmed Data : Life Sci. 2014 May 28 ;104(1-2):15-23. Epub 2014 Apr 15. PMID: **24742657**

Article Published Date : May 27, 2014

Authors : Erinn S Raborn, Melissa Jamerson, Francine Marciano-Cabral, Guy A Cabral

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Brain Inflammation : CK(259) : AC(143), HIV Infections : CK(659) : AC(216)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

Cannabis and cannabinoids can protect the gastric mucosa against noxious challenge.

Pubmed Data : Asian Pac J Trop Med. 2016 May ;9(5):413-9. Epub 2016 Apr 15. PMID: **27261847**

Article Published Date : Apr 30, 2016

Authors : Omar Abdel-Salam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Alcohol Toxicity : CK(319) : AC(125)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Antioxidants : CK(7304) : AC(2677), Gastrointestinal Agents : CK(266) : AC(40) , Gastroprotective : CK(153) : AC(72)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)
Problem Substances : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) : CK(1905) : AC(215)

Cannabis extracts could be neuroprotective agents, delaying disease progression in a proinflammatory model of Huntington's disease.

Pubmed Data : ACS Chem Neurosci. 2012 May 16 ;3(5):400-6. Epub 2012 Feb 9. PMID: **22860209**

Article Published Date : May 15, 2012

Authors : Sara Valdeolivas, Valentina Satta, Roger G Pertwee, Javier Fernández-Ruiz, Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Huntington Disease : CK(84) : AC(32) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221) , Plant Extracts : CK(7483) : AC(2462)

Cannabis has potential therapeutic value in the treatment of amyotrophic lateral sclerosis.

Pubmed Data : Am J Hosp Palliat Care. 2010 Aug;27(5):347-56. Epub 2010 May 3. PMID: **20439484**

Article Published Date : Aug 01, 2010

Authors : Gregory T Carter, Mary E Abood, Sunil K Aggarwal, Michael D Weiss

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Antineoplastic Agents : CK(1158) : AC(639), Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

In this trial cannabis induced a clinical remission in 50% of patients with long standing Crohn's disease with 80% nonresponse or intolerance to anti–TNF-α treatment.

Pubmed Data : Clin Gastroenterol Hepatol. 2013 Oct ;11(10):1276-1280.e1. Epub 2013 May 4. PMID: **23648372**

Article Published Date : Sep 30, 2013

Authors : Timna Naftali, Lihi Bar-Lev Schleider, Iris Dotan, Ephraim Philip Lansky, Fabiana Sklerovsky Benjaminov, Fred Meir Konikoff

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)
Additional Keywords : Natural Substances Versus Drugs : CK(1696) : AC(301) , Significant Treatment Outcome : CK(3038) : AC(366)

Phytocannabinoids could be efficient and safe novel

treatments in the management of cutaneous inflammations.

Pubmed Data : Exp Dermatol. 2016 Apr 20. Epub 2016 Apr 20. PMID: **27094344**

Article Published Date : Apr 19, 2016

Authors : Attila Oláh, Arnold Markovics, Judit Szabó-Papp, Pálma Tímea Szabó, Colin Stott, Christos C Zouboulis, Tamás Bíró

Study Type : Human In Vitro
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acne : CK(327) : AC(53) , Dry Skin : CK(104) : AC(17)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: **26059175**

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory : CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: **19589225**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Anti-Tumor (AC 4) (CK 6)

Cannabinoids are potent inhibitors of Tu183 cellular

respiration and are toxic to this highly malignant tumor.

Pubmed Data : Pharmacology. 2010 ;85(6):328-35. Epub 2010 Jun 2. PMID: **20516734**

Article Published Date : Dec 31, 2009

Authors : Donna A Whyte, Suleiman Al-Hammadi, Ghazala Balhaj, Oliver M Brown, Harvey S Penefsky, Abdul-Kader Souid

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Oral Cancer : CK(214) : AC(79)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Dose Response : CK(1054) : AC(407)

Cannabinoids have anti-tumoral action against liver cancer.

Pubmed Data : Iran J Allergy Asthma Immunol. 2010 Sep;9(3):157-62. PMID: **21475304**

Article Published Date : Sep 01, 2010

Authors : D Vara, M Salazar, N Olea-Herrero, M Guzmán, G Velasco, I Díaz-Laviada

Study Type : Transgenic Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Liver Cancer : CK(1235) : AC(462)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Autophagy Up-regulation : CK(108) : AC(65)

This study demonstrated cannabinoid induced upregulation of ICAM-1 on lung cancer cells to be responsible for increased cancer cell lysis by LAK cells.

Pubmed Data : Biochem Pharmacol. 2014 Nov 15 ;92(2):312-25. Epub 2014 Jul 25. PMID: **25069049**

Article Published Date : Nov 14, 2014

Authors : Maria Haustein, Robert Ramer, Michael Linnebacher, Katrin Manda, Burkhard Hinz

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412), Anti-Tumor : CK(136) : AC(72), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Lymphokine-activated Killer Cells : CK(1) : AC(1)

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cannabidiol was able to produce a significant antitumor activity both in vitro and in vivo.

Pubmed Data : J Pharmacol Exp Ther. 2004 Mar ;308(3):838-45. Epub 2003 Nov 14. PMID: 14617682

Article Published Date : Feb 29, 2004

Authors : Paola Massi, Angelo Vaccani, Stefania Ceruti, Arianna Colombo, Maria P Abbracchio, Daniela Parolaro

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Anti-metastatic (AC 9) (CK 11)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: 27486335

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Autophagy Up-regulation : CK(108) : AC(65), Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

A synthetic cannabinoid inhibited CXCL12-induced migration and invasive properties of breast cancer cells.

Pubmed Data : PLoS One. 2011 ;6(9):e23901. Epub 2011 Sep 7. PMID: 21915267

Article Published Date : Dec 31, 2010

Authors : Mohd W Nasser, Zahida Qamri, Yadwinder S Deol, Diane Smith, Konstantin Shilo, Xianghong Zou, Ramesh K Ganju

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Breast Cancer: Metastatic : CK(123) : AC(52)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Synthetic Cannabinoids : CK(2) : AC(1)

Cannabinoids exert anti-inflammatory, anti-proliferative, anti-invasive, anti-metastatic and pro-apoptotic effects in different cancer types.

Pubmed Data : Histol Histopathol. 2015 Jun ;30(6):629-45. Epub 2014 Dec 4. PMID: **25472761**

Article Published Date : May 31, 2015

Authors : Panagiotis Zogopoulos, Penelope Korkolopoulou, Efstratios Patsouris, Stamatios Theocharis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids were shown to be of potential use for therapeutic approaches of glioblastoma.

Pubmed Data : Cell Adh Migr. 2016 May 5:0. Epub 2016 May 5. PMID: **27149140**

Article Published Date : May 04, 2016

Authors : Tim Hohmann, Urszula Grabiec, Chalid Ghadban, Kerstin Feese, Faramarz Dehghani

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412)

New insights into antimetastatic and antiangiogenic effects of cannabinoids.

Pubmed Data : Int Rev Cell Mol Biol. 2015 ;314:43-116. Epub 2014 Dec 18. PMID: **25619715**

Article Published Date : Dec 31, 2014

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: **12723496**

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206), Cancers: All : CK(14469) : AC(4575), Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

This review critically discusses the pharmacology of CB

receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: 19589225

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

This study demonstrated cannabinoid induced upregulation of ICAM-1 on lung cancer cells to be responsible for increased cancer cell lysis by LAK cells.

Pubmed Data : Biochem Pharmacol. 2014 Nov 15 ;92(2):312-25. Epub 2014 Jul 25. PMID: 25069049

Article Published Date : Nov 14, 2014

Authors : Maria Haustein, Robert Ramer, Michael Linnebacher, Katrin Manda, Burkhard Hinz

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Anti-Tumor : CK(136) : AC(72), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Lymphokine-activated Killer Cells : CK(1) : AC(1)

Anticarcinogenic Agents (AC 4) (CK 5)

Cannabigerol hampers colon cancer progression in vivo and selectively inhibits the growth of colorectal cancer cells.

Pubmed Data : Carcinogenesis. 2014 Dec ;35(12):2787-97. Epub 2014 Sep 30. PMID: **25269802**

Article Published Date : Nov 30, 2014

Authors : Francesca Borrelli, Ester Pagano, Barbara Romano, Stefania Panzera, Francesco Maiello, Diana Coppola, Luciano De Petrocellis, Lorena Buono, Pierangelo Orlando, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Colon Cancer : CK(749) : AC(430) , Colon Cancer: Prevention : CK(176) : AC(56)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Antiproliferation : CK(4) : AC(4)

Cannabinoids - via direct or indirect activation of CB(1) and/or CB(2) receptors exert protective effects in well-established models of intestinal inflammation and colon cancer.

Pubmed Data : Pharmacol Res. 2009 Aug ;60(2):117-25. Epub 2009 Mar 18. PMID: **19442536**

Article Published Date : Jul 31, 2009

Authors : Angelo A Izzo, Michael Camilleri

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colon Cancer : CK(749) : AC(430) , Endocannabinoid System : CK(16) : AC(6) , Gastrointestinal Inflammation : CK(116) : AC(39) , Inflammation : CK(2918) : AC(856) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anticarcinogenic Agents : CK(1097) : AC(518)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids appear to be selective antitumoral agents as they kill glioma cells without affecting the viability of nontransformed counterparts.

Pubmed Data : Expert Rev Neurother. 2008 Jan ;8(1):37-49. PMID: **18088200**

Article Published Date : Dec 31, 2007

Authors : Daniela Parolaro, Paola Massi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: 19589225

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

Anticonvulsants (AC 3) (CK 4)

Cannabidivarin-rich cannabis extracts exerted significant anticonvulsant effects in three rat models of seizure.

Pubmed Data : Br J Pharmacol. 2013 Oct ;170(3):679-92. PMID: 23902406

Article Published Date : Sep 30, 2013

Authors : T D M Hill, M-G Cascio, B Romano, M Duncan, R G Pertwee, C M Williams, B J Whalley, A J Hill

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Epilepsy : CK(249) : AC(63) , Seizures : CK(190) : AC(55)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Phytocannabinoids produce anticonvulsant effects through the endocannabinoid system, with few adverse effects.

Pubmed Data : J Clin Pharm Ther. 2015 Apr ;40(2):135-43. Epub 2014 Dec 4. PMID: 25475762

Article Published Date : Mar 31, 2015

Authors : R G dos Santos, J E C Hallak, J P Leite, A W Zuardi, J A S Crippa

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Epilepsy : CK(249) : AC(63) , Epileptic Seizures : CK(192) : AC(10)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142) , Natural Substances Versus Drugs : CK(1696) : AC(301)

There is preliminary evidence that non-psychoactive cannabinoids may be useful as anticonvulsants.

Pubmed Data : Expert Opin Pharmacother. 2015 ;16(13):1911-4. Epub 2015 Aug 3. PMID: 26234319

Article Published Date : Dec 31, 2014

Authors : Robert E Blair, Laxmikant S Deshpande, Robert J DeLorenzo

Study Type : Commentary
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Epilepsy : CK(249) : AC(63)
Pharmacological Actions : Anticonvulsants : CK(238) : AC(67)

Antidepressive Agents (AC 1) (CK 2)

Delta-tetrahydrocannabinol, cannabidiol, and cannabichromene exert antidepressant-like actions in animal models.

Pubmed Data : Pharmacol Biochem Behav. 2010 Jun ;95(4):434-42. Epub 2010 Mar 21. PMID: 20332000

Article Published Date : May 31, 2010

Authors : Abir T El-Alfy, Kelly Ivey, Keisha Robinson, Safwat Ahmed, Mohamed Radwan, Desmond Slade, Ikhlas Khan, Mahmoud ElSohly, Samir Ross

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis :

CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Depression : CK(1844) : AC(267)
Pharmacological Actions : Antidepressive Agents : CK(1004) : AC(162)

Antifungal Agents (AC 1) (CK 1)

Biologically active cannabinoids from high-potency Cannabis sativa displayed significant antibacterial and antifungal activities.

Pubmed Data : J Nat Prod. 2009 May 22 ;72(5):906-11. PMID: **19344127**

Article Published Date : May 21, 2009

Authors : Mohamed M Radwan, Mahmoud A Elsohly, Desmond Slade, Safwat A Ahmed, Ikhlas A Khan, Samir A Ross

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Candida Infection : CK(241) : AC(112), Leishmaniasis : CK(52) : AC(35) , Pseudomonas aeruginosa : CK(107) : AC(65), Staphylococcus aureus: Methicillin-resistant (MRSA) : CK(244) : AC(92)
Pharmacological Actions : Anti-Bacterial Agents : CK(1366) : AC(474) , Antifungal Agents : CK(234) : AC(146)

Antihypertensive Agents (AC 1) (CK 1)

Cannabis could be an effective ocular hypotensive agent.

Pubmed Data : Curr Opin Ophthalmol. 2016 Mar ;27(2):146-50. PMID: **26840343**

Article Published Date : Feb 29, 2016

Authors : Gary D Novack

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Glaucoma : CK(164) : AC(26)

Pharmacological Actions : Antihypertensive Agents : CK(1147) : AC(161)

Antineoplastic Agents (AC 14) (CK 17)

A review of the antiproliferative effects of cannabinoids on cancer cells.

Pubmed Data : Mini Rev Med Chem. 2005 Oct ;5(10):941-52. PMID: **16250836**

Article Published Date : Sep 30, 2005

Authors : Natalya M Kogan

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Glioma : CK(174) : AC(84) , Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: **12511587**

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075) , Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoid use showed no significant association between increased cancer incidence and cannabinoids

use and it does not depend on the amount of used cannabis.

Pubmed Data : Cas Lek Cesk. 2006 ;145(6):453-7; discussion 458-9. PMID: **16835997**

Article Published Date : Dec 31, 2005

Authors : B Vidinský, P Gál, J Mojzis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids reduce multidrug resistance in a human T lymphoblastoid leukaemia cell line.

Pubmed Data : Biochem Pharmacol. 2006 Apr 14;71(8):1146-54. Epub 2006 Feb 2. PMID: **16458258**

Article Published Date : Apr 14, 2006

Authors : M L Holland, J A Panetta, J M Hoskins, M Bebawy, B D Roufogalis, J D Allen, J C Arnold

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: Drug Resistant : CK(351) : AC(222) , Cancers: Multi-Drug Resistant : CK(120) : AC(93), Leukemia: T-cell acute Lymphoblastic : CK(21) : AC(11)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)

Cannabis has potential therapeutic value in the treatment of amyotrophic lateral sclerosis.

Pubmed Data : Am J Hosp Palliat Care. 2010 Aug;27(5):347-56. Epub 2010 May 3. PMID: **20439484**

Article Published Date : Aug 01, 2010

Authors : Gregory T Carter, Mary E Abood, Sunil K Aggarwal, Michael D Weiss

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antineoplastic Agents : CK(1158) : AC(639), Antioxidants : CK(7304) : AC(2677), Neuroprotective Agents : CK(2264) : AC(1069)

New insights into antimetastatic and antiangiogenic effects of cannabinoids.

Pubmed Data : Int Rev Cell Mol Biol. 2015 ;314:43-116. Epub 2014 Dec 18. PMID: **25619715**

Article Published Date : Dec 31, 2014

Authors : Robert Ramer, Burkhard Hinz

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639)

The evidences in favour of both proapoptotic, pronecrotic and protective, antiapoptotic effects of cannabinoids and, especially N-acylethanolamines, are evaluated.

Pubmed Data : Exp Oncol. 2008 Mar ;30(1):6-21. PMID: **18438336**

Article Published Date : Feb 29, 2008

Authors : V M Pushkarev, O I Kovzun, M D Tronko

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075)

The potential therapeutic applications of cannabinoids

are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: **12182964**

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

The present study demonstrates in vitro anticancer activity of CB derivatives on the poorly differentiated pancreatic cancer cell line MIA PaCa-2.

Pubmed Data : FEBS Lett. 2006 Mar 20 ;580(7):1733-9. Epub 2006 Feb 20. PMID: **16500647**

Article Published Date : Mar 19, 2006

Authors : Stefano Fogli, Paola Nieri, Andrea Chicca, Barbara Adinolfi, Veronica Mariotti, Paola Iacopetti, Maria Cristina Breschi, Silvia Pellegrini

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pancreatic Cancer : CK(889) : AC(260)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212) , Natural Substance/Drug Synergy : CK(352) : AC(142)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: **19589225**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

This review discusses the current understanding of cannabinoids as antitumour agents.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:449-72. PMID: **26408171**

Article Published Date : Dec 31, 2014

Authors : Guillermo Velasco, Cristina Sánchez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: **16596790**

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

cannabidiol was able to produce a significant antitumor activity both in vitro and in vivo.

Pubmed Data : J Pharmacol Exp Ther. 2004 Mar ;308(3):838-45. Epub 2003 Nov 14. PMID: **14617682**

Article Published Date : Feb 29, 2004

Authors : Paola Massi, Angelo Vaccani, Stefania Ceruti, Arianna Colombo, Maria P Abbracchio, Daniela Parolaro

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antineoplastic Agents : CK(1158) :

AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Antioxidants (AC 5) (CK 7)

Cannabis and cannabinoids can protect the gastric mucosa against noxious challenge.

Pubmed Data : Asian Pac J Trop Med. 2016 May ;9(5):413-9. Epub 2016 Apr 15. PMID: **27261847**

Article Published Date : Apr 30, 2016

Authors : Omar Abdel-Salam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Alcohol Toxicity : CK(319) : AC(125)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antioxidants : CK(7304) : AC(2677), Gastrointestinal Agents : CK(266) : AC(40), Gastroprotective : CK(153) : AC(72)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)
Problem Substances : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) : CK(1905) : AC(215)

Cannabis has potential therapeutic value in the treatment of amyotrophic lateral sclerosis.

Pubmed Data : Am J Hosp Palliat Care. 2010 Aug;27(5):347-56. Epub 2010 May 3. PMID: **20439484**

Article Published Date : Aug 01, 2010

Authors : Gregory T Carter, Mary E Abood, Sunil K Aggarwal, Michael D Weiss

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antineoplastic Agents : CK(1158) : AC(639), Antioxidants : CK(7304) : AC(2677), Neuroprotective Agents : CK(2264) : AC(1069)

THC and other cannabinoids are potent antioxidants, with cannabidiol been superior to both alpha-tocopherol and ascorbate in protective capacity.

Pubmed Data : Ann N Y Acad Sci. 2000 ;899:274-82. PMID: **10863546**

Article Published Date : Dec 31, 1999

Authors : A J Hampson, M Grimaldi, M Lolic, D Wink, R Rosenthal, J Axelrod

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Brain: Oxidative Stress : CK(79) : AC(46)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

Tetrahydrocannabivarin could be used for delaying disease progression in PD and also for ameliorating parkinsonian symptoms.

Pubmed Data : Br J Pharmacol. 2011 Aug ;163(7):1495-506. PMID: **21323909**

Article Published Date : Jul 31, 2011

Authors : C García, C Palomo-Garo, M García-Arencibia, Ja Ramos, Rg Pertwee, J Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

These results support the view of a potential neuroprotective action of cannabinoids against the in vivo and in vitro toxicity of 6-hydroxydopamine.

Pubmed Data : Neurobiol Dis. 2005 Jun-Jul;19(1-2):96-107. PMID: **15837565**

Article Published Date : May 31, 2005

Authors : Isabel Lastres-Becker, Francisco Molina-Holgado, José A Ramos, Raphael Mechoulam, Javier Fernández-Ruiz

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

Antiproliferative (AC 32) (CK 49)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: 27486335

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

A review of the antiproliferative effects of cannabinoids on cancer cells.

Pubmed Data : Mini Rev Med Chem. 2005 Oct ;5(10):941-52. PMID: 16250836

Article Published Date : Sep 30, 2005

Authors : Natalya M Kogan

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Glioma : CK(174) : AC(84) , Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)

A synthetic cannabinoid inhibited CXCL12-induced migration and invasive properties of breast cancer cells.

Pubmed Data : PLoS One. 2011 ;6(9):e23901. Epub 2011 Sep 7. PMID: **21915267**

Article Published Date : Dec 31, 2010

Authors : Mohd W Nasser, Zahida Qamri, Yadwinder S Deol, Diane Smith, Konstantin Shilo, Xianghong Zou, Ramesh K Ganju

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Breast Cancer: Metastatic : CK(123) : AC(52)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Synthetic Cannabinoids : CK(2) : AC(1)

Anandamide is a potent and selective inhibitor of the proliferation of breast cancer cells.

Pubmed Data : Proc Natl Acad Sci U S A. 1998 Jul 7 ;95(14):8375-80. PMID: **9653194**

Article Published Date : Jul 06, 1998

Authors : L De Petrocellis, D Melck, A Palmisano, T Bisogno, C Laezza, M Bifulco, V Di Marzo

Study Type : Human In Vitro
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Dose Response : CK(1054) : AC(407)

Cannabigerol hampers colon cancer progression in vivo and selectively inhibits the growth of colorectal cancer cells.

Pubmed Data : Carcinogenesis. 2014 Dec ;35(12):2787-97. Epub 2014 Sep 30. PMID: **25269802**

Article Published Date : Nov 30, 2014

Authors : Francesca Borrelli, Ester Pagano, Barbara Romano, Stefania Panzera, Francesco Maiello, Diana Coppola, Luciano De Petrocellis, Lorena Buono, Pierangelo Orlando, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Colon Cancer : CK(749) : AC(430) , Colon Cancer: Prevention : CK(176) : AC(56)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Antiproliferation : CK(4) : AC(4)

Cannabinoid receptor agonists HU210 and Delta(9)-tetrahydrocannabinol lowers the viability of translocation-positive rhabdomyosarcoma cells through the induction of apoptosis.

Pubmed Data : Mol Cancer Ther. 2009 Jul ;8(7):1838-45. Epub 2009 Jun 9. PMID: **19509271**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Dagmar Walter, Marco Wachtel, Kathya Pretre, Maria Salazar, Manuel Guzmán, Guillermo Velasco, Beat W Schäfer

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Rhabdomyosarcoma : CK(3) : AC(2)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1) , Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor : CK(14) : AC(4)
Additional Keywords : Chemotherapeutic Synergy: Cisplatin : CK(80) : AC(57) , Chemotherapeutic Synergy: Doxorubicin : CK(44) : AC(32)

Cannabinoid receptor ligands induce decreased viability, growth suppression and cell death by apoptosis in MCL cells.

Pubmed Data : FEBS Lett. 2005 Dec 19 ;579(30):6885-9. PMID: **16337199**

Article Published Date : Dec 18, 2005

Authors : Jenny Flygare, Kristin Gustafsson, Eva Kimby, Birger Christensson, Birgitta Sander

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)

Diseases : Breast Cancer : CK(3526) : AC(1059) , Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoid-induced cytotoxic autophagy as an effective strategy to drive melanoma cell death.

Pubmed Data : J Invest Dermatol. 2015 Jun ;135(6):1629-37. Epub 2015 Feb 10. PMID: **25674907**

Article Published Date : May 31, 2015

Authors : Jane L Armstrong, David S Hill, Christopher S McKee, Sonia Hernandez-Tiedra, Mar Lorente, Israel Lopez-Valero, Maria Eleni Anagnostou, Fiyinfoluwa Babatunde, Marco Corazzari, Christopher P F Redfern, Guillermo Velasco, Penny E Lovat

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Melanoma : CK(282) : AC(146) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Cannabinoids are potent inhibitors of Tu183 cellular respiration and are toxic to this highly malignant tumor.

Pubmed Data : Pharmacology. 2010 ;85(6):328-35. Epub 2010 Jun 2. PMID: **20516734**

Article Published Date : Dec 31, 2009

Authors : Donna A Whyte, Suleiman Al-Hammadi, Ghazala Balhaj, Oliver M Brown, Harvey S Penefsky, Abdul-Kader Souid

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Oral Cancer : CK(214) : AC(79)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Dose Response : CK(1054) : AC(407)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links

Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Cannabinoids exert anti-inflammatory, anti-proliferative, anti-invasive, anti-metastatic and pro-apoptotic effects in different cancer types.

Pubmed Data : Histol Histopathol. 2015 Jun ;30(6):629-45. Epub 2014 Dec 4. PMID: **25472761**

Article Published Date : May 31, 2015

Authors : Panagiotis Zogopoulos, Penelope Korkolopoulou, Efstratios Patsouris, Stamatios Theocharis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids may therapeutic value in

neurodegenerative conditions and cancer.

Pubmed Data : J Mol Med. 2001;78(11):613-25. PMID: **11269508**

Article Published Date : Jan 01, 2001

Authors : M Guzmán, C Sánchez, I Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids prevent proliferation and cause apoptosis via a combination of cannabinoid receptor-independent, cellular and molecular mechanisms.

Pubmed Data : Br J Pharmacol. 2013 Jan ;168(1):79-102. PMID: **22594963**

Article Published Date : Dec 31, 2012

Authors : Luciano De Petrocellis, Alessia Ligresti, Aniello Schiano Moriello, Mariagrazia Iappelli, Roberta Verde, Colin G Stott, Luigia Cristino, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Anti-Androgen : CK(60) : AC(18) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids reduce ErbB2-positive breast cancer cell progression.

Pubmed Data : Mol Cancer. 2010;9:196. Epub 2010 Jul 22. PMID: **20649976**

Article Published Date : Jan 01, 2010

Authors : María M Caffarel, Clara Andradas, Emilia Mira, Eduardo Pérez-Gómez, Camilla Cerutti, Gema Moreno-Bueno, Juana M Flores, Isabel García-Real, José Palacios, Santos Mañes, Manuel Guzmán, Cristina Sánchez

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Breast Cancer : CK(3526) : AC(1059)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Cannabinoids work synergistically with paclitaxel in gastric cancer cell lines.

Pubmed Data : J Surg Res. 2009 Jul;155(1):40-7. Epub 2008 Aug 9. PMID: **19394652**

Article Published Date : Jul 01, 2009

Authors : Hideyo Miyato, Joji Kitayama, Hiroharu Yamashita, Daisuke Souma, Masahiro Asakage, Jun Yamada, Hirokazu Nagawa

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Gastric Cancer : CK(621) : AC(198)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612) , Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Drug: Paclitaxel : CK(36) : AC(13) , Drug Synergy : CK(351) : AC(156)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: **22965195**

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Chemopreventive : CK(2831) : AC(784) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: **12723496**

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206) , Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)

Pharmacological Actions : Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: 12052046

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575), Endocannabinoid System : CK(16) : AC(6), Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The in vivo administration of microencapsulated cannabinoids efficiently reduces tumor growth.

Pubmed Data : PLoS One. 2013 ;8(1):e54795. Epub 2013 Jan 22. PMID: 23349970

Article Published Date : Dec 31, 2012

Authors : Dolores Hernán Pérez de la Ossa, Mar Lorente, Maria Esther Gil-Alegre, Sofía Torres, Elena García-Taboada, María Del Rosario Aberturas, Jesús Molpeceres, Guillermo Velasco, Ana Isabel Torres-Suárez

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

The in vivo assessment of the role of CB receptors in inflammation and cancer might be instrumental in broadening the understanding about bladder cancer biology.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:41-51. Epub 2014 Oct 15. PMID: **25445433**

Article Published Date : Sep 30, 2015

Authors : Valeria Gasperi, Daniela Evangelista, Sergio Oddi, Fulvio Florenzano, Valerio Chiurchiù, Luciana Avigliano, M Valeria Catani, Mauro Maccarrone

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Bladder Cancer : CK(349) : AC(100) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The potential therapeutic applications of cannabinoids are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: **12182964**

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

The present study demonstrates in vitro anticancer activity of CB derivatives on the poorly differentiated pancreatic cancer cell line MIA PaCa-2.

Pubmed Data : FEBS Lett. 2006 Mar 20 ;580(7):1733-9. Epub 2006 Feb 20. PMID: **16500647**

Article Published Date : Mar 19, 2006

Authors : Stefano Fogli, Paola Nieri, Andrea Chicca, Barbara Adinolfi, Veronica Mariotti, Paola Iacopetti, Maria Cristina Breschi, Silvia Pellegrini

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pancreatic Cancer : CK(889) : AC(260)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212) , Natural Substance/Drug Synergy : CK(352) : AC(142)

The proapoptotic effect of cannabinoids on tumor cells is mediated by a ceramide dependent upregulation of the stress protein p8.

Pubmed Data : Cancer Cell. 2006 Apr ;9(4):301-12. PMID: **16616335**

Article Published Date : Mar 31, 2006

Authors : Arkaitz Carracedo, Mar Lorente, Ainara Egia, Cristina Blázquez, Stephane García, Valentin Giroux, Cedric Malicet, Raquel Villuendas, Meritxell Gironella, Luis González-Feria, Miguel Angel Piris, Juan L Iovanna, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Altered Protein Expression : CK(6) : AC(2) , Gene Expression Regulation : CK(427) : AC(212)

These results confirm the value of exogenous cannabinoids for the treatment of melanomas.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:35-40. Epub 2015 Apr 25. PMID: **25921771**

Article Published Date : Sep 30, 2015

Authors : Nicole Glodde, Mira Jakobs, Tobias Bald, Thomas Tüting, Evelyn Gaffal

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

This review critically discusses the pharmacology of CB receptor activation as a novel therapeutic anticancer strategy

Pubmed Data : J Pharm Pharmacol. 2009 Jul ;61(7):839-53. PMID: **19589225**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Jürg Gertsch

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)

Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-Inflammatory Agents : CK(4621) : AC(1616), Anti-metastatic : CK(615) : AC(412) , Anticarcinogenic Agents : CK(1097) : AC(518), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Endocannabinoid System : CK(59) : AC(22)

This review discusses the current understanding of cannabinoids as antitumour agents.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:449-72. PMID: **26408171**

Article Published Date : Dec 31, 2014

Authors : Guillermo Velasco, Cristina Sánchez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This review focuses on the mechanisms of cannabinoid induced apoptosis and potential therapeutic applications.

Pubmed Data : Mini Rev Med Chem. 2005 Jan ;5(1):97-106. PMID: **15638794**

Article Published Date : Dec 31, 2004

Authors : María L López-Rodríguez, Alma Viso, Silvia Ortega-Gutiérrez, Inés Díaz-Laviada

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Antiproliferative : CK(2479) : AC(1685)
Additional Keywords : Endogenous Canabinoid System : CK(1) : AC(1)

This review summarizes the anti-cancer properties of the cannabinoids and their potential mechanisms of action.

Pubmed Data : Cancer Lett. 2009 Nov 18 ;285(1):6-12. Epub 2009 May 12. PMID: **19442435**

Article Published Date : Nov 17, 2009

Authors : Amy Alexander, Paul F Smith, Rhonda J Rosengren

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)

Diseases : Breast Cancer: Triple Negative : CK(258) : AC(140)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: **16596790**

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

cannabidiol was able to produce a significant antitumor activity both in vitro and in vivo.

Pubmed Data : J Pharmacol Exp Ther. 2004 Mar ;308(3):838-45. Epub 2003 Nov 14. PMID: **14617682**

Article Published Date : Feb 29, 2004

Authors : Paola Massi, Angelo Vaccani, Stefania Ceruti, Arianna Colombo, Maria P Abbracchio, Daniela Parolaro

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Antispasmodic (AC 1) (CK 2)

Cannabinoids control spasticity and tremor in a multiple sclerosis model.

Pubmed Data : Nature. 2000 Mar 2;404(6773):84-7. PMID: **10716447**

Article Published Date : Mar 02, 2000

Authors : D Baker, G Pryce, J L Croxford, P Brown, R G Pertwee, J W Huffman, L Layward

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Multiple Sclerosis : CK(964) : AC(184) , Muscle Spasticity : CK(34) : AC(5) , Tremor : CK(39) : AC(8)
Pharmacological Actions : Antispasmodic : CK(132) : AC(32)

Apoptotic (AC 40) (CK 57)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: **27486335**

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: **25777363**

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685),

Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

A review of the pharmacokinetics and pharmacodynamics of cannabinoids.

Pubmed Data : Clin Pharmacokinet. 2003 ;42(4):327-60. PMID: **12648025**

Article Published Date : Dec 31, 2002

Authors : Franjo Grotenhermen

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: **12511587**

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075) , Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

CB2 receptor activation signals apoptosis via a ceramide-dependent stimulation of the mitochondrial intrinsic pathway.

Pubmed Data : Exp Cell Res. 2006 Jul 1 ;312(11):2121-31. Epub 2006 Apr 19. PMID: **16624285**

Article Published Date : Jun 30, 2006

Authors : Blanca Herrera, Arkaitz Carracedo, María Diez-Zaera, Teresa Gómez del Pulgar, Manuel Guzmán, Guillermo Velasco

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Acute T cell Leukemias : CK(18) : AC(16)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabidiol and cannabidiol-dimethylheptyl and exposure of the cells to gamma irradiation markedly enhanced apoptosis, reaching values of 93 and 95%.

Pubmed Data : Leuk Lymphoma. 2003 Oct ;44(10):1767-73. PMID: **14692532**

Article Published Date : Sep 30, 2003

Authors : Ruth Gallily, Tal Even-Chena, Galia Katzavian, Dan Lehmann, Arie Dagan, Raphael Mechoulam

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acute Myeloid Leukemia : CK(95) : AC(47)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Caspase-3 Activation : CK(91) : AC(66)
Additional Keywords : Dose Response : CK(1054) : AC(407) , Gamma Irradiation : CK(9) : AC(6) , Radiation Synergy : CK(12) : AC(2)

Cannabigerol hampers colon cancer progression in vivo and selectively inhibits the growth of colorectal cancer cells.

Pubmed Data : Carcinogenesis. 2014 Dec ;35(12):2787-97. Epub 2014 Sep 30. PMID: **25269802**

Article Published Date : Nov 30, 2014

Authors : Francesca Borrelli, Ester Pagano, Barbara Romano, Stefania Panzera, Francesco Maiello, Diana Coppola, Luciano De Petrocellis, Lorena Buono, Pierangelo Orlando, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Colon Cancer : CK(749) : AC(430) , Colon Cancer: Prevention : CK(176) : AC(56)
Pharmacological Actions : Anticarcinogenic Agents : CK(1097) : AC(518) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Antiproliferation : CK(4) : AC(4)

Cannabinoid receptor agonists HU210 and Delta(9)-tetrahydrocannabinol lowers the viability of

translocation-positive rhabdomyosarcoma cells through the induction of apoptosis.

Pubmed Data : Mol Cancer Ther. 2009 Jul ;8(7):1838-45. Epub 2009 Jun 9. PMID: **19509271**

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Dagmar Walter, Marco Wachtel, Kathya Pretre, Maria Salazar, Manuel Guzmán, Guillermo Velasco, Beat W Schäfer

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Rhabdomyosarcoma : CK(3) : AC(2)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1) , Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor : CK(14) : AC(4)
Additional Keywords : Chemotherapeutic Synergy: Cisplatin : CK(80) : AC(57) , Chemotherapeutic Synergy: Doxorubicin : CK(44) : AC(32)

Cannabinoid receptor ligands induce decreased viability, growth suppression and cell death by apoptosis in MCL cells.

Pubmed Data : FEBS Lett. 2005 Dec 19 ;579(30):6885-9. PMID: **16337199**

Article Published Date : Dec 18, 2005

Authors : Jenny Flygare, Kristin Gustafsson, Eva Kimby, Birger Christensson, Birgitta Sander

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2) , Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoid-induced cytotoxic autophagy as an effective strategy to drive melanoma cell death.

Pubmed Data : J Invest Dermatol. 2015 Jun ;135(6):1629-37. Epub 2015 Feb 10. PMID: **25674907**

Article Published Date : May 31, 2015

Authors : Jane L Armstrong, David S Hill, Christopher S McKee, Sonia Hernandez-Tiedra, Mar Lorente, Israel Lopez-Valero, Maria Eleni Anagnostou, Fiyinfoluwa Babatunde, Marco Corazzari, Christopher P F Redfern, Guillermo Velasco, Penny E Lovat

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-

tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Melanoma : CK(282) : AC(146) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Plant Extracts : CK(7483) : AC(2462)

Cannabinoids could be used for the inhibition of tumor growth in a clinical setting.

Pubmed Data : Cancer Res. 2008 Jan 15 ;68(2):339-42. PMID: **18199524**

Article Published Date : Jan 14, 2008

Authors : Sami Sarfaraz, Vaqar M Adhami, Deeba N Syed, Farrukh Afaq, Hasan Mukhtar

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Breast Cancer : CK(3526) : AC(1059) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma Multiforme : CK(191) : AC(82), Lung Cancer : CK(1033) : AC(393) , Lymphoma : CK(253) : AC(83) , Pancreatic Cancer : CK(889) : AC(260) , Prostate Cancer : CK(1489) : AC(437) , Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Higher Dose Better Than Lower Dose : CK(2) : AC(2)

Cannabinoids exert anti-inflammatory, anti-proliferative, anti-invasive, anti-metastatic and pro-apoptotic effects in different cancer types.

Pubmed Data : Histol Histopathol. 2015 Jun ;30(6):629-45. Epub 2014 Dec 4. PMID: **25472761**

Article Published Date : May 31, 2015

Authors : Panagiotis Zogopoulos, Penelope Korkolopoulou, Efstratios Patsouris, Stamatios Theocharis

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis

Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids may be ideal candidates for the treatment of gliomas.

Pubmed Data : Neuropharmacology. 2004 Sep;47(3):315-23. PMID: **15275820**

Article Published Date : Sep 01, 2004

Authors : Guillermo Velasco, Ismael Galve-Roperh, Cristina Sánchez, Cristina Blázquez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids may therapeutic value in neurodegenerative conditions and cancer.

Pubmed Data : J Mol Med. 2001;78(11):613-25. PMID: **11269508**

Article Published Date : Jan 01, 2001

Authors : M Guzmán, C Sánchez, I Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids prevent proliferation and cause apoptosis via a combination of cannabinoid receptor-independent, cellular and molecular mechanisms.

Pubmed Data : Br J Pharmacol. 2013 Jan ;168(1):79-102. PMID: **22594963**

Article Published Date : Dec 31, 2012

Authors : Luciano De Petrocellis, Alessia Ligresti, Aniello Schiano Moriello, Mariagrazia Iappelli, Roberta Verde, Colin G Stott, Luigia Cristino, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Anti-Androgen : CK(60) : AC(18), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids reduce ErbB2-positive breast cancer cell progression.

Pubmed Data : Mol Cancer. 2010;9:196. Epub 2010 Jul 22. PMID: **20649976**

Article Published Date : Jan 01, 2010

Authors : María M Caffarel, Clara Andradas, Emilia Mira, Eduardo Pérez-Gómez, Camilla Cerutti, Gema Moreno-Bueno, Juana M Flores, Isabel García-Real, José Palacios, Santos Mañes, Manuel Guzmán, Cristina Sánchez

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Breast Cancer : CK(3526) : AC(1059)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Cannabinoids work synergistically with paclitaxel in gastric cancer cell lines.

Pubmed Data : J Surg Res. 2009 Jul;155(1):40-7. Epub 2008 Aug 9. PMID: **19394652**

Article Published Date : Jul 01, 2009

Authors : Hideyo Miyato, Joji Kitayama, Hiroharu Yamashita, Daisuke Souma, Masahiro Asakage, Jun Yamada, Hirokazu Nagawa

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Gastric Cancer : CK(621) : AC(198)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612) , Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Drug: Paclitaxel : CK(36) : AC(13), Drug Synergy : CK(351) : AC(156)

High concentrations of cannabinoids are preferable for

efficacious treatment of malignant astrocytomas.

Pubmed Data : PLoS One. 2010 ;5(1):e8702. Epub 2010 Jan 14. PMID: **20090845**

Article Published Date : Dec 31, 2009

Authors : Eiron Cudaback, William Marrs, Thomas Moeller, Nephi Stella

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Astrocytoma : CK(12) : AC(6) , Brain Cancer : CK(450) : AC(179)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

Results show that stimulation of the CB2 receptor leads to p38 MAPK activation and that inhibition of this kinase attenuates CB2 receptor induced caspase activation and apoptosis.

Pubmed Data : FEBS Lett. 2005 Sep 12 ;579(22):5084-8. PMID: **16139274**

Article Published Date : Sep 11, 2005

Authors : Blanca Herrera, Arkaitz Carracedo, María Diez-Zaera, Manuel Guzmán, Guillermo Velasco

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Leukemia : CK(965) : AC(385)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)

Sustained ceramide accumulation in tumor cells mediates cannabinoid induced apoptosis.

Pubmed Data : Life Sci. 2005 Aug 19 ;77(14):1723-31. PMID: **15958274**

Article Published Date : Aug 18, 2005

Authors : Guillermo Velasco, Ismael Galve-Roperh, Cristina Sánchez, Cristina Blázquez, Amador Haro, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and

further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: **22965195**

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Chemopreventive : CK(2831) : AC(784) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

The discovery of IL-12-induced CB2 overexpression in thyroid cancer cells may offer a new target for anaplastic thyroid cancer treatment

Pubmed Data : Cancer Gene Ther. 2008 Feb ;15(2):101-7. Epub 2007 Dec 21. PMID: **18197164**

Article Published Date : Jan 31, 2008

Authors : Y Shi, M Zou, E Y Baitei, A S Alzahrani, R S Parhar, Z Al-Makhalafi, F A Al-Mohanna

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Thyroid Cancer : CK(220) : AC(51)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1), Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Chemothapeutic Synergy:

Paclitaxel : CK(32) : AC(23)

The endocannabinoid system controls the growth and metastasis of malignant cells.

Pubmed Data : Recenti Prog Med. 2003 May ;94(5):194-8. PMID: 12723496

Article Published Date : Apr 30, 2003

Authors : Maurizio Bifulco, Vincenzo Di Marzo

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancer Metastasis : CK(442) : AC(206) , Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The evidences in favour of both proapoptotic, pronecrotic and protective, antiapoptotic effects of cannabinoids and, especially N-acylethanolamines, are evaluated.

Pubmed Data : Exp Oncol. 2008 Mar ;30(1):6-21. PMID: 18438336

Article Published Date : Feb 29, 2008

Authors : V M Pushkarev, O I Kovzun, M D Tronko

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Apoptotic : CK(2958) : AC(2075)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: 12052046

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6) , Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The in vivo administration of microencapsulated cannabinoids efficiently reduces tumor growth.

Pubmed Data : PLoS One. 2013 ;8(1):e54795. Epub 2013 Jan 22. PMID: **23349970**

Article Published Date : Dec 31, 2012

Authors : Dolores Hernán Pérez de la Ossa, Mar Lorente, Maria Esther Gil-Alegre, Sofía Torres, Elena García-Taboada, María Del Rosario Aberturas, Jesús Molpeceres, Guillermo Velasco, Ana Isabel Torres-Suárez

Study Type : Animal Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

The in vivo assessment of the role of CB receptors in inflammation and cancer might be instrumental in broadening the understanding about bladder cancer biology.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:41-51. Epub 2014 Oct 15. PMID: **25445433**

Article Published Date : Sep 30, 2015

Authors : Valeria Gasperi, Daniela Evangelista, Sergio Oddi, Fulvio Florenzano, Valerio Chiurchiù, Luciana Avigliano, M Valeria Catani, Mauro Maccarrone

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Bladder Cancer : CK(349) : AC(100) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

The potential therapeutic applications of cannabinoids are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: 12182964

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

The present data suggest that targeting CB(1)/CB(2) may have therapeutic potential for the treatment of mantle cell lymphoma.

Pubmed Data : Mol Pharmacol. 2006 Nov ;70(5):1612-20. Epub 2006 Aug 25. PMID: 16936228

Article Published Date : Oct 31, 2006

Authors : Kristin Gustafsson, Birger Christensson, Birgitta Sander, Jenny Flygare

Study Type : Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)
Additional Keywords : Selective Cytotoxicity : CK(158) : AC(112)

The present study demonstrates in vitro anticancer activity of CB derivatives on the poorly differentiated pancreatic cancer cell line MIA PaCa-2.

Pubmed Data : FEBS Lett. 2006 Mar 20 ;580(7):1733-9. Epub 2006 Feb 20. PMID: 16500647

Article Published Date : Mar 19, 2006

Authors : Stefano Fogli, Paola Nieri, Andrea Chicca, Barbara Adinolfi, Veronica Mariotti, Paola Iacopetti, Maria Cristina Breschi, Silvia Pellegrini

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pancreatic Cancer : CK(889) : AC(260)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212) , Natural Substance/Drug Synergy : CK(352) : AC(142)

The proapoptotic effect of cannabinoids on tumor cells is mediated by a ceramide dependent upregulation of the stress protein p8.

Pubmed Data : Cancer Cell. 2006 Apr ;9(4):301-12. PMID: **16616335**

Article Published Date : Mar 31, 2006

Authors : Arkaitz Carracedo, Mar Lorente, Ainara Egia, Cristina Blázquez, Stephane García, Valentin Giroux, Cedric Malicet, Raquel Villuendas, Meritxell Gironella, Luis González-Feria, Miguel Angel Piris, Juan L Iovanna, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Astrocytoma : CK(12) : AC(6) , Cancers: All : CK(14469) : AC(4575) , Glioblastoma : CK(181) : AC(81)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Altered Protein Expression : CK(6) : AC(2) , Gene Expression Regulation : CK(427) : AC(212)

There exists solid scientific evidence supporting that cannabinoids exhibit a remarkable anticancer activity in preclinical models of cancer.

Pubmed Data : Prog Neuropsychopharmacol Biol Psychiatry. 2016 Jan 4 ;64:259-66. Epub 2015 Jun 10. PMID: **26071989**

Article Published Date : Jan 03, 2016

Authors : Guillermo Velasco, Sonia Hernández-Tiedra, David Dávila, Mar Lorente

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65)

These findings show that de novo synthesized ceramide is involved in cannabinoid induced apoptosis of glioma cells.

Pubmed Data : Biochem J. 2002 Apr 1 ;363(Pt 1):183-8. PMID: **11903061**

Article Published Date : Mar 31, 2002

Authors : Teresa Gómez del Pulgar, Guillermo Velasco, Cristina Sánchez, Amador Haro, Manuel Guzmán

Study Type : In Vitro Study
Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

This review discusses the current understanding of cannabinoids as antitumour agents.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:449-72. PMID: **26408171**

Article Published Date : Dec 31, 2014

Authors : Guillermo Velasco, Cristina Sánchez, Manuel Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: **16596790**

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

This study demonstrated cannabinoid induced upregulation of ICAM-1 on lung cancer cells to be responsible for increased cancer cell lysis by LAK cells.

Pubmed Data : Biochem Pharmacol. 2014 Nov 15 ;92(2):312-25. Epub 2014 Jul 25. PMID: **25069049**

Article Published Date : Nov 14, 2014

Authors : Maria Haustein, Robert Ramer, Michael Linnebacher, Katrin Manda, Burkhard Hinz

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-

tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Anti-metastatic : CK(615) : AC(412), Anti-Tumor : CK(136) : AC(72), Apoptotic : CK(2958) : AC(2075)
Additional Keywords : Lymphokine-activated Killer Cells : CK(1) : AC(1)

This study demonstrates that AEA, THC, and HU 210 are all able to cause changes in integrated mitochondrial function, directly, in the absence of cannabinoid receptors.

Pubmed Data : Biochem Biophys Res Commun. 2007 Dec 7 ;364(1):131-7. Epub 2007 Oct 2. PMID: 17931597

Article Published Date : Dec 06, 2007

Authors : Andriani Athanasiou, Anna B Clarke, Amy E Turner, Nethia M Kumaran, Sara Vakilpour, Paul A Smith, Dimitra Bagiokou, Tracey D Bradshaw, Andrew D Westwell, Lin Fang, Dileep N Lobo, Cris S Constantinescu, Vittorio Calabrese, Andrzej Loesch, Stephen P H Alexander, Richard H Clothier, David A Kendall, Timothy E Bates

Study Type : In Vitro Study
Additional Links
Substances : Anandamide : CK(2) : AC(2), Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Carcinoma: Non-Small-Cell Lung : CK(134) : AC(71), Lung Cancer : CK(1033) : AC(393)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075)

cannabidiol was able to produce a significant antitumor activity both in vitro and in vivo.

Pubmed Data : J Pharmacol Exp Ther. 2004 Mar ;308(3):838-45. Epub 2003 Nov 14. PMID: 14617682

Article Published Date : Feb 29, 2004

Authors : Paola Massi, Angelo Vaccani, Stefania Ceruti, Arianna Colombo, Maria P Abbracchio, Daniela Parolaro

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Glioma : CK(174) : AC(84)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075)

Appetite Stimulants (AC 1) (CK 1)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

Autophagy Up-regulation (AC 3) (CK 4)

A growing amount of experimental data imply possible exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: 27486335

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

Cannabinoids have anti-tumoral action against liver

cancer.

Pubmed Data : Iran J Allergy Asthma Immunol. 2010 Sep;9(3):157-62. PMID: **21475304**

Article Published Date : Sep 01, 2010

Authors : D Vara, M Salazar, N Olea-Herrero, M Guzmán, G Velasco, I Díaz-Laviada

Study Type : Transgenic Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Liver Cancer : CK(1235) : AC(462)
Pharmacological Actions : Anti-Tumor : CK(136) : AC(72), Autophagy Up-regulation : CK(108) : AC(65)

There exists solid scientific evidence supporting that cannabinoids exhibit a remarkable anticancer activity in preclinical models of cancer.

Pubmed Data : Prog Neuropsychopharmacol Biol Psychiatry. 2016 Jan 4 ;64:259-66. Epub 2015 Jun 10. PMID: **26071989**

Article Published Date : Jan 03, 2016

Authors : Guillermo Velasco, Sonia Hernández-Tiedra, David Dávila, Mar Lorente

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65)

Calcium Channel Blockers (AC 1) (CK 2)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoid Receptor Antagonist/Inverse Agonist (AC 2) (CK 4)

Cannabinoid receptor agonists HU210 and Delta(9)-tetrahydrocannabinol lowers the viability of translocation-positive rhabdomyosarcoma cells through the induction of apoptosis.

Pubmed Data : Mol Cancer Ther. 2009 Jul ;8(7):1838-45. Epub 2009 Jun 9. PMID: 19509271

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Dagmar Walter, Marco Wachtel, Kathya Pretre, Maria Salazar, Manuel Guzmán, Guillermo Velasco, Beat W Schäfer

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Rhabdomyosarcoma : CK(3) : AC(2)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1), Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor : CK(14) : AC(4)
Additional Keywords : Chemotherapeutic Synergy: Cisplatin : CK(80) : AC(57), Chemotherapeutic Synergy: Doxorubicin : CK(44) : AC(32)

The discovery of IL-12-induced CB2 overexpression in thyroid cancer cells may offer a new target for anaplastic thyroid cancer treatment

Pubmed Data : Cancer Gene Ther. 2008 Feb ;15(2):101-7. Epub 2007 Dec 21. PMID: **18197164**

Article Published Date : Jan 31, 2008

Authors : Y Shi, M Zou, E Y Baitei, A S Alzahrani, R S Parhar, Z Al-Makhalafi, F A Al-Mohanna

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Thyroid Cancer : CK(220) : AC(51)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1), Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Chemothapeutic Synergy: Paclitaxel : CK(32) : AC(23)

Caspase-3 Activation (AC 1) (CK 1)

Cannabidiol and cannabidiol-dimethylheptyl and exposure of the cells to gamma irradiation markedly enhanced apoptosis, reaching values of 93 and 95%.

Pubmed Data : Leuk Lymphoma. 2003 Oct ;44(10):1767-73. PMID: **14692532**

Article Published Date : Sep 30, 2003

Authors : Ruth Gallily, Tal Even-Chena, Galia Katzavian, Dan Lehmann, Arie Dagan, Raphael Mechoulam

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Acute Myeloid Leukemia : CK(95) : AC(47)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Caspase-3 Activation : CK(91) : AC(66)
Additional Keywords : Dose Response : CK(1054) : AC(407) , Gamma Irradiation : CK(9) : AC(6) , Radiation Synergy : CK(12) : AC(2)

Cell cycle arrest (AC 5) (CK 6)

A growing amount of experimental data imply possible

exploitation of cannabinoids in cancer therapy.

Pubmed Data : Onco Targets Ther. 2016 ;9:4323-36. Epub 2016 Jul 18. PMID: **27486335**

Article Published Date : Dec 31, 2015

Authors : Maria Pyszniak, Jacek Tabarkiewicz, Jarogniew J Łuszczki

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Anti-metastatic : CK(615) : AC(412), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Autophagy Up-regulation : CK(108) : AC(65) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: **17065222**

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cannabinoids prevent proliferation and cause apoptosis via a combination of cannabinoid receptor-independent, cellular and molecular mechanisms.

Pubmed Data : Br J Pharmacol. 2013 Jan ;168(1):79-102. PMID: **22594963**

Article Published Date : Dec 31, 2012

Authors : Luciano De Petrocellis, Alessia Ligresti, Aniello Schiano Moriello, Mariagrazia Iappelli, Roberta Verde, Colin G Stott, Luigia Cristino, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)

Diseases : Prostate Cancer : CK(1489) : AC(437)
Pharmacological Actions : Anti-Androgen : CK(60) : AC(18), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids work synergistically with paclitaxel in gastric cancer cell lines.

Pubmed Data : J Surg Res. 2009 Jul;155(1):40-7. Epub 2008 Aug 9. PMID: 19394652

Article Published Date : Jul 01, 2009

Authors : Hideyo Miyato, Joji Kitayama, Hiroharu Yamashita, Daisuke Souma, Masahiro Asakage, Jun Yamada, Hirokazu Nagawa

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Gastric Cancer : CK(621) : AC(198)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612) , Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Drug: Paclitaxel : CK(36) : AC(13) , Drug Synergy : CK(351) : AC(156)

The present study demonstrates in vitro anticancer activity of CB derivatives on the poorly differentiated pancreatic cancer cell line MIA PaCa-2.

Pubmed Data : FEBS Lett. 2006 Mar 20 ;580(7):1733-9. Epub 2006 Feb 20. PMID: 16500647

Article Published Date : Mar 19, 2006

Authors : Stefano Fogli, Paola Nieri, Andrea Chicca, Barbara Adinolfi, Veronica Mariotti, Paola Iacopetti, Maria Cristina Breschi, Silvia Pellegrini

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pancreatic Cancer : CK(889) : AC(260)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212) , Natural Substance/Drug Synergy : CK(352) : AC(142)

Chemopreventive (AC 2) (CK 3)

A review of cannabis and cannabinoids and their benefits in many health conditions.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):575-86. Epub 2015 Apr 17. PMID: 25777363

Article Published Date : May 31, 2015

Authors : D I Abrams, M Guzman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : AIDS : CK(79) : AC(13) , Cachexia: Cancer : CK(50) : AC(15) , Cancer: Pain : CK(1) : AC(1), Cancers: All : CK(14469) : AC(4575) , Peripheral Neuropathies : CK(214) : AC(35)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Appetite Stimulants : CK(10) : AC(1) , Chemopreventive : CK(2831) : AC(784)
Additional Keywords : Natural Substance/Drug Synergy : CK(352) : AC(142)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: 22965195

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Chemopreventive : CK(2831) : AC(784) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Chemosensitizer (AC 2) (CK 3)

Cannabinoids work synergistically with paclitaxel in gastric cancer cell lines.

Pubmed Data : J Surg Res. 2009 Jul;155(1):40-7. Epub 2008 Aug 9. PMID: 19394652

Article Published Date : Jul 01, 2009

Authors : Hideyo Miyato, Joji Kitayama, Hiroharu Yamashita, Daisuke Souma, Masahiro Asakage, Jun Yamada, Hirokazu Nagawa

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Gastric Cancer : CK(621) : AC(198)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Cell cycle arrest : CK(810) : AC(612) , Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Drug: Paclitaxel : CK(36) : AC(13) , Drug Synergy : CK(351) : AC(156)

The discovery of IL-12-induced CB2 overexpression in thyroid cancer cells may offer a new target for anaplastic thyroid cancer treatment

Pubmed Data : Cancer Gene Ther. 2008 Feb ;15(2):101-7. Epub 2007 Dec 21. PMID: 18197164

Article Published Date : Jan 31, 2008

Authors : Y Shi, M Zou, E Y Baitei, A S Alzahrani, R S Parhar, Z Al-Makhalafi, F A Al-Mohanna

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Thyroid Cancer : CK(220) : AC(51)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1), Chemosensitizer : CK(394) : AC(286)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Chemothapeutic Synergy: Paclitaxel : CK(32) : AC(23)

Chemotherapeutic (AC 1) (CK 2)

Cannabinoids inhibit the growth of melanoma cells but not of normal melanocytes.

Pubmed Data : FASEB J. 2006 Dec ;20(14):2633-5. Epub 2006 Oct 25. PMID: 17065222

Article Published Date : Nov 30, 2006

Authors : Cristina Blázquez, Arkaitz Carracedo, Lucía Barrado, Pedro José Real, José Luis Fernández-Luna, Guillermo Velasco, Marcos Malumbres, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)

Diseases : Melanoma : CK(282) : AC(146)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Anti-metastatic : CK(615) : AC(412), Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cell cycle arrest : CK(810) : AC(612) , Chemotherapeutic : CK(397) : AC(152)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37) , Selective Cytotoxicity : CK(158) : AC(112)

Cyclooxygenase Inhibitors (AC 1) (CK 1)

Cannabinoids have cyclooxygenase inhibitory properties.

Pubmed Data : Biol Pharm Bull. 2011;34(5):774-8. PMID: 21532172

Article Published Date : Jan 01, 2011

Authors : Lucia Renee Ruhaak, Jenny Felth, Pernilla Christina Karlsson, Joseph James Rafter, Robert Verpoorte, Lars Bohlin

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Cyclooxygenase Inhibitors : CK(71) : AC(39)

Gastrointestinal Agents (AC 1) (CK 1)

Cannabis and cannabinoids can protect the gastric mucosa against noxious challenge.

Pubmed Data : Asian Pac J Trop Med. 2016 May ;9(5):413-9. Epub 2016 Apr 15. PMID: 27261847

Article Published Date : Apr 30, 2016

Authors : Omar Abdel-Salam

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Alcohol Toxicity : CK(319) : AC(125)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antioxidants : CK(7304) : AC(2677), Gastrointestinal Agents : CK(266) : AC(40) , Gastroprotective : CK(153) : AC(72)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)
Problem Substances : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) : CK(1905) : AC(215)

Gastroprotective (AC 1) (CK 1)

Cannabis and cannabinoids can protect the gastric mucosa against noxious challenge.

Pubmed Data : Asian Pac J Trop Med. 2016 May ;9(5):413-9. Epub 2016 Apr 15. PMID: **27261847**

Article Published Date : Apr 30, 2016

Authors : Omar Abdel-Salam

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Alcohol Toxicity : CK(319) : AC(125)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Antioxidants : CK(7304) : AC(2677), Gastrointestinal Agents : CK(266) : AC(40) , Gastroprotective : CK(153) : AC(72)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22)
Problem Substances : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) : CK(1905) : AC(215)

Glycine Agents (AC 1) (CK 2)

Cannabinoid potentiation of glycine receptors contributes to cannabis-induced analgesia.

Pubmed Data : Nat Chem Biol. 2011 May;7(5):296-303. Epub 2011 Apr 3. PMID: **21460829**

Article Published Date : May 01, 2011

Authors : Wei Xiong, Kejun Cheng, Tanxing Cui, Grzegorz Godlewski, Kenner C Rice, Yan Xu, Li Zhang

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Pain : CK(835) : AC(135)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Glycine Agents : CK(2) : AC(1)

Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor (AC 1) (CK 2)

Cannabinoid receptor agonists HU210 and Delta(9)-tetrahydrocannabinol lowers the viability of translocation-positive rhabdomyosarcoma cells through the induction of apoptosis.

Pubmed Data : Mol Cancer Ther. 2009 Jul ;8(7):1838-45. Epub 2009 Jun 9. PMID: 19509271

Article Published Date : Jun 30, 2009

Authors : Susanne Oesch, Dagmar Walter, Marco Wachtel, Kathya Pretre, Maria Salazar, Manuel Guzmán, Guillermo Velasco, Beat W Schäfer

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33) , Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Rhabdomyosarcoma : CK(3) : AC(2)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Cannabinoid Receptor Antagonist/Inverse Agonist : CK(1) : AC(1) , Glycogen synthase kinase-3beta (GSK-3beta) Inhibitor : CK(14) : AC(4)
Additional Keywords : Chemotherapeutic Synergy: Cisplatin : CK(80) : AC(57) , Chemotherapeutic Synergy: Doxorubicin : CK(44) : AC(32)

Hepatoprotective (AC 1) (CK 2)

THCV and CBD might be used as new therapeutic agents for the treatment of obesity- and metabolic syndrome-related NAFLD/hepatosteatosis.

Pubmed Data : J Hepatol. 2015 Jun ;62(6):1382-90. Epub 2015 Jan 13. PMID: 25595882

Article Published Date : May 31, 2015

Authors : Cristoforo Silvestri, Debora Paris, Andrea Martella, Dominique Melck, Irene Guadagnino, Mike Cawthorne, Andrea Motta, Vincenzo Di Marzo

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277)
Diseases : Metabolic Syndrome X : CK(916) : AC(158) , Nonalcoholic fatty liver disease (NAFLD) : CK(392) : AC(88), Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hepatoprotective : CK(1383) : AC(592)

Hypoglycemic Agents (AC 1) (CK 2)

Tetrahydrocannabivarin is a new potential treatment against obesity-associated glucose intolerance.

Pubmed Data : Nutr Diabetes. 2013 ;3:e68. Epub 2013 May 27. PMID: 23712280

Article Published Date : Dec 31, 2012

Authors : E T Wargent, M S Zaibi, C Silvestri, D C Hislop, C J Stocker, C G Stott, G W Guy, M Duncan, V Di Marzo, M A Cawthorne

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Insulin Resistance : CK(1683) : AC(346) , Metabolic Diseases : CK(411) : AC(75) , Obesity : CK(2206) : AC(465)
Pharmacological Actions : Hypoglycemic Agents : CK(1394) : AC(342)

Immunomodulatory (AC 3) (CK 3)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

The potential therapeutic applications of cannabinoids are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: **12182964**

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

The present study reviews current insights into the role of cannabinoids and their receptors on viral infections.

Pubmed Data : J Med Virol. 2016 Jan ;88(1):1-12. Epub 2015 Jun 25. PMID: **26059175**

Article Published Date : Dec 31, 2015

Authors : Alireza Tahamtan, Masoumeh Tavakoli-Yaraki, Tomasz P Rygiel, Talat Mokhtari-Azad, Vahid Salimi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Hepatitis C : CK(474) : AC(87) , Herpes Simplex Virus Type 2 : CK(34) : AC(19) , HIV Infections : CK(659) : AC(216), Influenza : CK(789) : AC(123)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Immunomodulatory :

CK(1286) : AC(357)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Immunosuppressive Agents (AC 2) (CK 2)

A review of the pharmacokinetics and pharmacodynamics of cannabinoids.

Pubmed Data : Clin Pharmacokinet. 2003 ;42(4):327-60. PMID: **12648025**

Article Published Date : Dec 31, 2002

Authors : Franjo Grotenhermen

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221)

The experimental evidence reviewed in this article argues in favor of the therapeutic potential of these compounds in immune disorders and cancer.

Pubmed Data : Prostaglandins Leukot Essent Fatty Acids. 2002 Feb-Mar;66(2-3):319-32. PMID: **12052046**

Article Published Date : Jan 31, 2002

Authors : Daniela Parolaro, P Massi, T Rubino, E Monti

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Cancers: All : CK(14469) : AC(4575) , Endocannabinoid System : CK(16) : AC(6) , Immune Disorders : CK(29) : AC(4)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Interleukin-1 beta downregulation (AC 1) (CK 2)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Interleukin-10 downregulation (AC 1) (CK 2)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Matrix metalloproteinase-2 (MMP-2) inhibitor (AC 1) (CK 2)

Cannabinoids inhibit the growth of gliomas in vivo by targeting both tumor cells and vascular endothelial cells.

Pubmed Data : FASEB J. 2003 Mar ;17(3):529-31. Epub 2003 Jan 2. PMID: 12514108

Article Published Date : Feb 28, 2003

Authors : Cristina Blázquez, M Llanos Casanova, Anna Planas, Teresa Gómez Del Pulgar, Concepción Villanueva, María J Fernández-Aceñero, Julián Aragonés, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Gliomas : CK(5) : AC(3)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Matrix metalloproteinase-2 (MMP-2) inhibitor : CK(285) : AC(147), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Disease Regression : CK(150) : AC(26)

Neuritogenic (AC 1) (CK 2)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59), Neuroprotective Agents : CK(2264) : AC(1069)

Neurogenesis (AC 2) (CK 3)

The activation of the endocannabinoid system promotes white and gray matter recovery after neonatal HI injury.

Pubmed Data : Stroke. 2010 Dec ;41(12):2956-64. PMID: **21115947**

Article Published Date : Nov 30, 2010

Authors : David Fernández-López, Jesús M Pradillo, Isaac García-Yébenes, José A Martínez-Orgado, María A Moro, Ignacio Lizasoain

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain Ischemia : CK(136) : AC(52), Neonatal Stroke : CK(2) : AC(1), Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neurogenesis : CK(59) : AC(30)
Additional Keywords : Endocannabinoid System : CK(59) : AC(22), Neuro-repair : CK(2) : AC(1)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

Neuroimmunomodulation (AC 1) (CK 1)

The cannabinoid system along with other neuroimmune systems has a subtle but significant role in the regulation of immunity.

Pubmed Data : Pain Res Manag. 2001 ;6(2):95-101. PMID: **11854771**

Article Published Date : Dec 31, 2000

Authors : T W Klein, C A Newton, H Friedman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Acquired Immunodeficiency Syndrome : CK(16) : AC(12) , Cancers: All : CK(14469) : AC(4575), Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Apoptotic : CK(2958) : AC(2075), Immunomodulatory : CK(1286) : AC(357) , Neuroimmunomodulation : CK(1) : AC(1)
Additional Keywords : Immunocannabinoid System : CK(1) : AC(1)

Neuroprotective Agents (AC 31) (CK 72)

A cannabinoid CB2 receptor selective compound, delays

disease progression in a mouse model of amyotrophic lateral sclerosis.

Pubmed Data : Eur J Pharmacol. 2006 Aug 7;542(1-3):100-5. Epub 2006 May 20. PMID: **16781706**

Article Published Date : Aug 07, 2006

Authors : Kathline Kim, Dan H Moore, Alexandros Makriyannis, Mary E Abood

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

A review of phytochemicals and their neuroprotective effects in the treatment of dementia.

Pubmed Data : Molecules. 2016 ;21(4). Epub 2016 Apr 21. PMID: **27110749**

Article Published Date : Dec 31, 2015

Authors : Rosaliana Libro, Sabrina Giacoppo, Thangavelu Soundara Rajan, Placido Bramanti, Emanuela Mazzon

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Flavonoids : CK(1215) : AC(379), Polyphenols : CK(930) : AC(334)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Dementia : CK(571) : AC(79)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

A review of the pharmacokinetics and pharmacodynamics of cannabinoids.

Pubmed Data : Clin Pharmacokinet. 2003 ;42(4):327-60. PMID: **12648025**

Article Published Date : Dec 31, 2002

Authors : Franjo Grotenhermen

Study Type : Review
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Analgesics : CK(1317) : AC(216) , Apoptotic : CK(2958) : AC(2075) , Immunosuppressive Agents : CK(37) : AC(24) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221)

A review of the promising aspects of cannabinoid-based

therapies for Parkinson's disease.

Pubmed Data : Mol Neurodegener. 2015 ;10:17. Epub 2015 Apr 8. PMID: **25888232**

Article Published Date : Dec 31, 2014

Authors : Sandeep Vasant More, Dong-Kug Choi

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Administration of synthetic 2-AG to mice after CHI led to significant reduction of brain oedema, better clinical recovery, reduced infarct volume and reduced hippocampal cell death compared with controls.

Pubmed Data : Nature. 2001 Oct 4 ;413(6855):527-31. PMID: **11586361**

Article Published Date : Oct 03, 2001

Authors : D Panikashvili, C Simeonidou, S Ben-Shabat, L Hanus, A Breuer, R Mechoulam, E Shohami

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Brain Edema : CK(49) : AC(13) , Brain Inflammation : CK(259) : AC(143), Traumatic Brain Injury : CK(33) : AC(9)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Significant Treatment Outcome : CK(3038) : AC(366)

Agents modulating cannabinoid receptors or endocannabinoid tone provide promising therapeutic opportunities in the treatment of inflammatory neurodegenerative disorders of the CNS.

Pubmed Data : Exp Neurol. 2010 Jul ;224(1):92-102. Epub 2010 Mar 29. PMID: **20353778**

Article Published Date : Jun 30, 2010

Authors : Silvia Rossi, Giorgio Bernardi, Diego Centonze

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Inflammation : CK(2918) : AC(856) , Multiple Sclerosis : CK(964) : AC(184) , Neurodegenerative Diseases : CK(3376) : AC(850)

Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabigerol could be used for the treatment of neurodegenerative diseases such as Huntington's disease.

Pubmed Data : Neurotherapeutics. 2015 Jan ;12(1):185-99. PMID: **25252936**

Article Published Date : Dec 31, 2014

Authors : Sara Valdeolivas, Carmen Navarrete, Irene Cantarero, María L Bellido, Eduardo Muñoz, Onintza Sagredo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabigerol quinone (VCE-003) has high potential for use against MS and perhaps other neuroinflammatory diseases.

Pubmed Data : J Neuroimmune Pharmacol. 2012 Dec ;7(4):1002-16. Epub 2012 Sep 14. PMID: **22971837**

Article Published Date : Nov 30, 2012

Authors : Aitor G Granja, Francisco Carrillo-Salinas, Alberto Pagani, María Gómez-Cañas, Roberto Negri, Carmen Navarrete, Miriam Mecha, Leyre Mestre, Bend L Fiebich, Irene Cantarero, Marco A Calzado, Maria L Bellido, Javier Fernandez-Ruiz, Giovanni Appendino, Carmen Guaza, Eduardo Muñoz

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Brain Inflammation : CK(259) : AC(143), Encephalomyelitis : CK(12) : AC(7) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis.

Pubmed Data : Neurobiol Dis. 2009 May ;34(2):300-7. PMID: **19385063**

Article Published Date : Apr 30, 2009

Authors : Yannick Marchalant, Holly M Brothers, Greg J Norman, Kate Karelina, A Courtney DeVries, Gary L Wenk

Study Type : Animal Study
Additional Links

Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434), Aging: Brain : CK(248) : AC(85), Brain Inflammation : CK(259) : AC(143)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616), Calcium Channel Blockers : CK(87) : AC(23), Neuritogenic : CK(133) : AC(59), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may have therapeutic value in neurodegenerative conditions by preventing and/or reducing neuroinflammation.

Pubmed Data : Neuroscience. 2007 Feb 23 ;144(4):1516-22. Epub 2006 Dec 18. PMID: **17178196**

Article Published Date : Feb 22, 2007

Authors : Y Marchalant, S Rosi, G L Wenk

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53), Brain Inflammation : CK(259) : AC(143), Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217), Memory Disorders : CK(342) : AC(104)
Pharmacological Actions : Analgesics : CK(1317) : AC(216), Anti-Inflammatory Agents : CK(4621) : AC(1616), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids may therapeutic value in neurodegenerative conditions and cancer.

Pubmed Data : J Mol Med. 2001;78(11):613-25. PMID: **11269508**

Article Published Date : Jan 01, 2001

Authors : M Guzmán, C Sánchez, I Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575), Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075), Neuroprotective Agents : CK(2264) : AC(1069)

Cannabinoids seem to protect neurons against NMDA toxicity.

Pubmed Data : Mol Pharmacol. 2006 Mar ;69(3):691-6. Epub 2005 Nov 18. PMID: **16299067**

Article Published Date : Feb 28, 2006

Authors : Sun Hee Kim, Seok Joon Won, Xiao Ou Mao, Kunlin Jin, David A Greenberg

Study Type : Animal Study
Additional Links

Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069) , Nitric Oxide Inhibitor : CK(223) : AC(108)

Cannabinoids significantly reduced infarct volume and improve functional outcome in experimental stroke models.

Pubmed Data : J Cereb Blood Flow Metab. 2015 Mar ;35(3):348-58. Epub 2014 Dec 10. PMID: 25492113

Article Published Date : Feb 28, 2015

Authors : Timothy J England, William H Hind, Nadiah A Rasid, Saoirse E O'Sullivan

Study Type : Meta Analysis, Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Stroke : CK(1365) : AC(168) , Stroke: Attenuation/Recovery : CK(345) : AC(74)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabis contains a number of compounds which may have therapeutic value in delaying the progression of ALS.

Pubmed Data : Amyotroph Lateral Scler Other Motor Neuron Disord. 2004 Mar;5(1):33-9. PMID: 15204022

Article Published Date : Mar 01, 2004

Authors : Chandrasekaran Raman, Sean D McAllister, Gulrukh Rizvi, Sonal G Patel, Dan H Moore, Mary E Abood

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Cannabis extracts could be neuroprotective agents, delaying disease progression in a proinflammatory model of Huntington's disease.

Pubmed Data : ACS Chem Neurosci. 2012 May 16 ;3(5):400-6. Epub 2012 Feb 9. PMID: 22860209

Article Published Date : May 15, 2012

Authors : Sara Valdeolivas, Valentina Satta, Roger G Pertwee, Javier Fernández-Ruiz, Onintza Sagredo

Study Type : Animal Study

Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Huntington Disease : CK(84) : AC(32) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Phytotherapy : CK(1216) : AC(221) , Plant Extracts : CK(7483) : AC(2462)

Cannabis has potential therapeutic value in the treatment of amyotrophic lateral sclerosis.

Pubmed Data : Am J Hosp Palliat Care. 2010 Aug;27(5):347-56. Epub 2010 May 3. PMID: **20439484**

Article Published Date : Aug 01, 2010

Authors : Gregory T Carter, Mary E Abood, Sunil K Aggarwal, Michael D Weiss

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Antineoplastic Agents : CK(1158) : AC(639), Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

It may be possible to prevent Alzheimer's disease pathology by cannabinoids.

Pubmed Data : J Neurosci. 2005 Feb 23 ;25(8):1904-13. PMID: **15728830**

Article Published Date : Feb 22, 2005

Authors : Belén G Ramírez, Cristina Blázquez, Teresa Gómez del Pulgar, Manuel Guzmán, María L de Ceballos

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

JWH-015, THC, CBD, Abn-CBD and O-1602 all protected SH-SY5Y cells from BV-2 conditioned media activated via LPS.

Pubmed Data : Cell Mol Neurobiol. 2014 Jan ;34(1):31-42. Epub 2013 Sep 13. PMID: **24030360**

Article Published Date : Dec 31, 2013

Authors : Emelie Janefjord, Jesper L V Mååg, Benjamin S Harvey, Scott D Smid

Study Type : In Vitro Study
Additional Links

Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Lignans : CK(169) : AC(46)
Diseases : Brain: Microglial Activation : CK(82) : AC(53) , Lipopolysaccharide-Induced Toxicity : CK(358) : AC(217)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

THC and other cannabinoids are potent antioxidants, with cannabidiol been superior to both alpha-tocopherol and ascorbate in protective capacity.

Pubmed Data : Ann N Y Acad Sci. 2000 ;899:274-82. PMID: **10863546**

Article Published Date : Dec 31, 1999

Authors : A J Hampson, M Grimaldi, M Lolic, D Wink, R Rosenthal, J Axelrod

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Brain: Oxidative Stress : CK(79) : AC(46)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

THC mediates neuroprotection via PPARγ-dependent restoration of mitochondrial content which may be beneficial for PD treatment.

Pubmed Data : Oncotarget. 2016 Jun 27. Epub 2016 Jun 27. PMID: **27366949**

Article Published Date : Jun 26, 2016

Authors : Marie-Louise Zeissler, Jordan Eastwood, Kieran McCorry, C Oliver Hanemann, John P Zajicek, Camille B Carroll

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

Tetrahydrocannabivarin could be used for delaying disease progression in PD and also for ameliorating parkinsonian symptoms.

Pubmed Data : Br J Pharmacol. 2011 Aug ;163(7):1495-506. PMID: **21323909**

Article Published Date : Jul 31, 2011

Authors : C García, C Palomo-Garo, M García-Arencibia, Ja Ramos, Rg Pertwee, J Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

The CB2 cannabinoid agonist AM-1241 prolongs survival (56%) in a transgenic mouse model of amyotrophic lateral sclerosis when initiated at symptom onset.

Pubmed Data : Curr Eye Res. 2005 Jul;30(7):583-91. PMID: **17241118**

Article Published Date : Jul 01, 2005

Authors : Jennifer L Shoemaker, Kathryn A Seely, Ronald L Reed, John P Crow, Paul L Prather

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

The current article provides an overview of the potential of cannabinoids in the treatment of late-onset Alzheimer's disease.

Pubmed Data : Clin Pharmacol Ther. 2015 Jun ;97(6):597-606. Epub 2015 Apr 17. PMID: **25788394**

Article Published Date : May 31, 2015

Authors : Aia Ahmed, M A van der Marck, Gah van den Elsen, Mgm Olde Rikkert

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Aging : CK(1633) : AC(434) , Alzheimer's Disease : CK(1287) : AC(379)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

The endocannabinoid system may play a valuable role in the development of treatment options for amyotrophic lateral sclerosis.

Pubmed Data : Curr Pharm Des. 2008;14(23):2306-16. PMID: **18781981**

Article Published Date : Jan 01, 2008

Authors : Lynsey G Bilsland, Linda Greensmith

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Amyotrophic Lateral Sclerosis : CK(567) : AC(140) , Endocannabinoid Disorders : CK(15) : AC(9), Endocannabinoid System : CK(16) : AC(6)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Diseases that are Linked : CK(2325) : AC(303)

The potential therapeutic applications of cannabinoids are discussed.

Pubmed Data : Pharmacol Ther. 2002 Aug ;95(2):175-84. PMID: **12182964**

Article Published Date : Jul 31, 2002

Authors : Manuel Guzmán, Cristina Sánchez, Ismael Galve-Roperh

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639) , Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Immunomodulatory : CK(1286) : AC(357) , Neuroprotective Agents : CK(2264) : AC(1069)

These findings constitute the first evidence for an astroprotective role of cannabinoids.

Pubmed Data : J Biol Chem. 2002 Sep 27 ;277(39):36527-33. Epub 2002 Jul 19. PMID: **12133838**

Article Published Date : Sep 26, 2002

Authors : Teresa Gómez Del Pulgar, Maria L De Ceballos, Manuel Guzmán, Guillermo Velasco

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Dose Response : CK(1054) : AC(407)

These results support the view of a potential neuroprotective action of cannabinoids against the in vivo and in vitro toxicity of 6-hydroxydopamine.

Pubmed Data : Neurobiol Dis. 2005 Jun-Jul;19(1-2):96-107. PMID: **15837565**

Article Published Date : May 31, 2005

Authors : Isabel Lastres-Becker, Francisco Molina-Holgado, José A Ramos, Raphael Mechoulam, Javier Fernández-Ruiz

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Antioxidants : CK(7304) : AC(2677) , Neuroprotective Agents : CK(2264) : AC(1069)

This review details the mechanisms of neurodegeneration and highlights the beneficial effects of cannabinoid treatment.

Pubmed Data : Br J Pharmacol. 2014 Mar ;171(6):1347-60. PMID: **24172185**

Article Published Date : Feb 28, 2014

Authors : S G Fagan, V A Campbell

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Alzheimer's Disease : CK(1287) : AC(379) , Brain Inflammation : CK(259) : AC(143), Huntington Disease : CK(84) : AC(32) , Neurodegenerative Diseases : CK(3376) : AC(850) , Parkinson's Disease : CK(538) : AC(166)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Neurogenesis : CK(59) : AC(30), Neuroprotective Agents : CK(2264) : AC(1069)

This review discusses the potential of cannabinoid therapeutics as disease-modifying or symptom control agents for slowing disease progression in MS and ALS.

Pubmed Data : Handb Exp Pharmacol. 2015 ;231:213-31. PMID: **26408162**

Article Published Date : Dec 31, 2014

Authors : Gareth Pryce, David Baker

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408) , Endocannabinoids : CK(9) : AC(1)
Diseases : Amyotrophic lateral sclerosis (ALS) : CK(566) : AC(140) , Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)

This reviews the basis for the use of cannabinoids in the treatment of cancers and neurodegenerative diseases.

Pubmed Data : Handb Exp Pharmacol. 2005(168):627-42. PMID: 16596790

Article Published Date : Dec 31, 2004

Authors : M Guzmán

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575) , Neurodegenerative Diseases : CK(3376) : AC(850)
Pharmacological Actions : Anti-Angiogenic : CK(197) : AC(137), Antineoplastic Agents : CK(1158) : AC(639), Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Neuroprotective Agents : CK(2264) : AC(1069)

This study found that cannabinoid positive patients had milder intracerebral haemorrhage presentation and less disability at discharge.

Pubmed Data : Cerebrovasc Dis. 2016 Jan 29 ;41(5-6):248-255. Epub 2016 Jan 29. PMID: 26820826

Article Published Date : Jan 28, 2016

Authors : Mario Di Napoli, Alicia M Zha, Daniel A Godoy, Luca Masotti, Floris H B M Schreuder, Aurel Popa-Wagner, Réza Behrouz,

Study Type : Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabis : CK(1776) : AC(408)
Diseases : Stroke: Attenuation/Recovery : CK(345) : AC(74), Stroke: Ischemic : CK(192) : AC(26)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069)
Additional Keywords : Risk Reduction : CK(6346) : AC(680)

Nitric Oxide Inhibitor (AC 2) (CK 4)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Cannabinoids seem to protect neurons against NMDA toxicity.

Pubmed Data : Mol Pharmacol. 2006 Mar ;69(3):691-6. Epub 2005 Nov 18. PMID: 16299067

Article Published Date : Feb 28, 2006

Authors : Sun Hee Kim, Seok Joon Won, Xiao Ou Mao, Kunlin Jin, David A Greenberg

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069) , Nitric Oxide Inhibitor : CK(223) : AC(108)

P38 Mitogen-Activated Protein Kinase Modulator (AC 2) (CK 6)

Results show that stimulation of the CB2 receptor leads to p38 MAPK activation and that inhibition of this kinase attenuates CB2 receptor induced caspase activation and apoptosis.

Pubmed Data : FEBS Lett. 2005 Sep 12 ;579(22):5084-8. PMID: 16139274

Article Published Date : Sep 11, 2005

Authors : Blanca Herrera, Arkaitz Carracedo, María Diez-Zaera, Manuel Guzmán, Guillermo Velasco

Study Type : In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Leukemia : CK(965) : AC(385)

Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)

The present data suggest that targeting CB(1)/CB(2) may have therapeutic potential for the treatment of mantle cell lymphoma.

Pubmed Data : Mol Pharmacol. 2006 Nov ;70(5):1612-20. Epub 2006 Aug 25. PMID: 16936228

Article Published Date : Oct 31, 2006

Authors : Kristin Gustafsson, Birger Christensson, Birgitta Sander, Jenny Flygare

Study Type : Human In Vitro
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Lymphoma : CK(253) : AC(83)
Pharmacological Actions : Apoptotic : CK(2958) : AC(2075) , P38 Mitogen-Activated Protein Kinase Modulator : CK(6) : AC(5)
Additional Keywords : Selective Cytotoxicity : CK(158) : AC(112)

Superoxide Dismutase Up-regulation (AC 1) (CK 2)

Cannabichromene could be considered for clinical experimentation in inflammatory bowel disease patients.

Pubmed Data : Biochem Pharmacol. 2013 May 1 ;85(9):1306-16. Epub 2013 Feb 12. PMID: 23415610

Article Published Date : Apr 30, 2013

Authors : Francesca Borrelli, Ines Fasolino, Barbara Romano, Raffaele Capasso, Francesco Maiello, Diana Coppola, Pierangelo Orlando, Giovanni Battista, Ester Pagano, Vincenzo Di Marzo, Angelo A Izzo

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Inflammatory Bowel Diseases : CK(1003) : AC(189)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Interleukin-10 downregulation : CK(128) : AC(45), Interleukin-1 beta downregulation : CK(462) : AC(204) , Nitric Oxide Inhibitor : CK(223) : AC(108), Superoxide Dismutase Up-regulation : CK(508) : AC(171)

Tumor Necrosis Factor (TNF) Alpha Inhibitor (AC 5) (CK 8)

Cannabinoid type 1 receptor activation stimulates appetite and promotes lipogenesis and energy storage.

Pubmed Data : Curr Opin Clin Nutr Metab Care. 2007 Jul ;10(4):443-8. PMID: 17563462

Article Published Date : Jun 30, 2007

Authors : Douglas Osei-Hyiaman

Study Type : Review
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340), Endocannabinoids : CK(9) : AC(1)
Diseases : Cachexia : CK(77) : AC(25)
Pharmacological Actions : Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice.

Pubmed Data : Neuropharmacology. 2012 Jun ;62(7):2299-308. Epub 2012 Feb 8. PMID: 22342378

Article Published Date : May 31, 2012

Authors : Eva de Lago, Miguel Moreno-Martet, Ana Cabranes, José A Ramos, Javier Fernández-Ruiz

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Cannabinoids: Synthetic : CK(78) : AC(33)
Diseases : Multiple Sclerosis : CK(964) : AC(184)
Pharmacological Actions : Anti-Inflammatory Agents : CK(4621) : AC(1616) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

It may be possible to prevent Alzheimer's disease pathology by cannabinoids.

Pubmed Data : J Neurosci. 2005 Feb 23 ;25(8):1904-13. PMID: 15728830

Article Published Date : Feb 22, 2005

Authors : Belén G Ramírez, Cristina Blázquez, Teresa Gómez del Pulgar, Manuel Guzmán, María L de Ceballos

Study Type : Review

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Brain: Microglial Activation : CK(82) : AC(53)
Pharmacological Actions : Neuroprotective Agents : CK(2264) : AC(1069) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

The antitumorigenic effects of O-1602 are multiple in that it reduces viability and proliferation of cancer cells and further promotes their apoptosis.

Pubmed Data : J Mol Med (Berl). 2013 Apr ;91(4):449-58. Epub 2012 Sep 11. PMID: **22965195**

Article Published Date : Mar 31, 2013

Authors : Julia Kargl, Johannes Haybaeck, Angela Stančić, Liisa Andersen, Gunther Marsche, Akos Heinemann, Rudolf Schicho

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Colitis : CK(255) : AC(111) , Colon Cancer : CK(749) : AC(430)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Chemopreventive : CK(2831) : AC(784) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)

The in vivo assessment of the role of CB receptors in inflammation and cancer might be instrumental in broadening the understanding about bladder cancer biology.

Pubmed Data : Life Sci. 2015 Oct 1 ;138:41-51. Epub 2014 Oct 15. PMID: **25445433**

Article Published Date : Sep 30, 2015

Authors : Valeria Gasperi, Daniela Evangelista, Sergio Oddi, Fulvio Florenzano, Valerio Chiurchiù, Luciana Avigliano, M Valeria Catani, Mauro Maccarrone

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Endocannabinoids : CK(9) : AC(1)
Diseases : Bladder Cancer : CK(349) : AC(100) , Inflammation : CK(2918) : AC(856)
Pharmacological Actions : Antiproliferative : CK(2479) : AC(1685), Apoptotic : CK(2958) : AC(2075) , Tumor Necrosis Factor (TNF) Alpha Inhibitor : CK(1768) : AC(650)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Vanilloid Receptor-1 Modulator (AC 1) (CK 1)

Cannabinoids have potent and efficacious modulatory effects on TRPA1and TRPM8 mediated intracellular Ca2 elevation.

Pubmed Data : J Pharmacol Exp Ther. 2008 Jun ;325(3):1007-15. Epub 2008 Mar 19. PMID: 18354058

Article Published Date : May 31, 2008

Authors : Luciano De Petrocellis, Vittorio Vellani, Aniello Schiano-Moriello, Pietro Marini, Pier Cosimo Magherini, Pierangelo Orlando, Vincenzo Di Marzo

Study Type : In Vitro Study
Additional Links
Substances : Cannabidiol : CK(1115) : AC(338), Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Pharmacological Actions : Vanilloid Receptor-1 Modulator : CK(2) : AC(2)

Vascular Endothelial Growth Factor A Inhibitor (AC 1) (CK 2)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: 12511587

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62) , Antineoplastic Agents :

CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075), Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Vascular Endothelial Growth Factor Inhibitors (AC 1) (CK 10)

Delta9-tetrahydrocannabinol administration led to the inhibition of the VEGF Pathway in Two Patients with Glioblastoma Multiforme.

Pubmed Data : Cancer Res. 2004 Aug 15 ;64(16):5617-23. PMID: **15313899**

Article Published Date : Aug 14, 2004

Authors : Cristina Blázquez, Luis González-Feria, Luis Alvarez, Amador Haro, M Llanos Casanova, Manuel Guzmán

Study Type : Animal Study, Human Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277), Delta-tetrahydrocannabinol (THC) : CK(1123) : AC(340)
Diseases : Glioblastoma Multiforme : CK(191) : AC(82)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Vascular Endothelial Growth Factor Inhibitors : CK(123) : AC(61)
Additional Keywords : Gene Expression Regulation : CK(427) : AC(212)

Vascular Endothelial Growth Factor Regulator (AC 2) (CK 4)

Activation of cannabinoid receptors could be a new therapeutic approach for the treatment of skin tumors.

Pubmed Data : J Clin Invest. 2003 Jan ;111(1):43-50. PMID: **12511587**

Article Published Date : Dec 31, 2002

Authors : M Llanos Casanova, Cristina Blázquez, Jesús Martínez-Palacio, Concepción Villanueva, M Jesús Fernández-Aceñero, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study, In Vitro Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Skin Cancer : CK(652) : AC(264)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Antineoplastic Agents : CK(1158) : AC(639), Apoptotic : CK(2958) : AC(2075), Vascular Endothelial Growth Factor A Inhibitor : CK(132) : AC(71), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Cannabinoid Receptors : CK(67) : AC(37)

Cannabinoids inhibit the growth of gliomas in vivo by targeting both tumor cells and vascular endothelial cells.

Pubmed Data : FASEB J. 2003 Mar ;17(3):529-31. Epub 2003 Jan 2. PMID: **12514108**

Article Published Date : Feb 28, 2003

Authors : Cristina Blázquez, M Llanos Casanova, Anna Planas, Teresa Gómez Del Pulgar, Concepción Villanueva, María J Fernández-Aceñero, Julián Aragonés, John W Huffman, José L Jorcano, Manuel Guzmán

Study Type : Animal Study
Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Diseases : Cancers: All : CK(14469) : AC(4575), Gliomas : CK(5) : AC(3)
Pharmacological Actions : Angiogenesis Inhibitors : CK(114) : AC(62), Matrix metalloproteinase-2 (MMP-2) inhibitor : CK(285) : AC(147), Vascular Endothelial Growth Factor Regulator : CK(31) : AC(14)
Additional Keywords : Disease Regression : CK(150) : AC(26)

Vasodilator Agents (AC 1) (CK 2)

O-1602 mediates its vasorelaxant effects partly by an endothelium-dependent pathway involving rimonabant- and O-1918-sensitive targets.

Pubmed Data : Eur J Pharmacol. 2015 Oct 15 ;765:107-14. Epub 2015 Aug 18. PMID: **26297305**

Article Published Date : Oct 14, 2015

Authors : Y M Al Suleimani, A S Al Mahruqi, C R Hiley

Study Type : Animal Study

Additional Links
Substances : Cannabinoids : CK(706) : AC(277)
Pharmacological Actions : Vasodilator Agents : CK(342) : AC(73)