

Product datasheet for **MR207569**

Cnr1 (NM_007726) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cnr1 (NM_007726) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cnr1
Synonyms:	CB-R; CB1; CB1R
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR207569 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAAGTCGATCTTAGACGGCCTTGACGATACCACCTTCCGTACCATCACCACAGACCTCCTCTACGTGG
 GCTCAAATGACATTTCAGTACGAAGATATCAAAGGAGACATGGCATCCAAATTAGGATACTCCCACAGAA
 ATTCCTCTAACTTCCTTCAGGGGTAGTCCCTTCCAAGAAAAGATGACGGCAGGAGACAACCTCCCGTTG
 GTTCCAGCAGGAGACACAACCAACATTACAGAGTTCTATAACAAGTCTCTCTCATCGTTCAAGGAGAACG
 AGGACAACATCCAGTGTGGGAGAAATTTATGGACATGGAGTGCTTCATGATTCTGAATCCAGCCAGCA
 GCTGGCCATCGCTGTCTGTCCCTACCCTGGGCACCTTCACGGTTCTGGAGAACCTGCTGGTGTATGT
 GTCATCCTTCACTCCCGCAGTCTCCGATGCAGGCCTTCTACCCTTTCATTGGCAGCCTGGCGGTGGCCG
 ATCTCCTGGGAAGTGCATCTTTGTCTACAGCTTTGTTGACTTCCACGTGTTCCACCGCAAAGATAGTCC
 CAATGTGTTTCTGTTCAAACCTGGGTGGGGTTACCGCCTCCTTACAGCATCTGTGGGCAGCCTGTTCTCT
 ACGGCCATCGACAGGTACATATCCATTCACAGGCCTCTGGCCTATAAGAGGATCGTCACCAAGGCCAAGG
 CCGTAGTGGCCTTTTGCTTGATGTGGACTATTGCAATAGTAATTGCTGTGTTGCCTCTCCTGGGCTGGAA
 CTGCAAGAAGCTGCAATCTGTTTGTCTGACATCTTCCACTCATTGATGAAACCTACCTGATGTTCTGG
 ATCGGAGTCACCAAGTGTGCTGTTGCTGTTTCATTGTGTATGCATACATGTACATTCTGGAAGGCTCACA
 GCCACGCAGTTTCGCATGATCCAGCGTGGAAACCCAGAAAAGCATCATTCACACCTCAGAAGATGGCAA
 GGTGCAGGTGACACGGCTGACCAAGCCCGCATGGACATTAGGCTGGCCAAAACCTGGTTCTGATCCTG
 GTGGTGTGATCATCTGCTGGGGCCCTCTGCTTGCATCATGGTGTATGATGTCTTTGGGAAGATGAACA
 AGCTTATCAAGACGGTGTGTTGCCTTCTGTAGTATGCTCTGCCTGCTGAACCTCCACCGTGAACCCCATCAT
 CTATGCTCTGAGGAGCAAGGACCTGAGACATGCTTCCGACGATGTTCCCTTCATGTGAAGGCACCTGCG
 CAGCCTCTAGATAACAGCATGGGGGACTCAGACTGCCTGCACAAGCACGCCAATAACACAGCCAGCATGC
 ACAGGGCCCGGAAAGCTGCATCAAGAGCACTGTTAAGATCGCCAAGGTGACCATGTCTGTGTTCCACAGA
 CACGTCTGCCGAGGCTCTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR207569 protein sequence
 Red=Cloning site Green=Tags(s)

MKSILDGLADTTFRITITDLLYVGSNDIQYEDIKGMASKLGYFPQKFPPLTSFRGSPFQEKMTAGDNSPL
 VPAGDTTNITEFYNKSLSSFENEDNIQCGENFMDMECFMILNPSQQLAIAVLSLTLGTFVLENLLVLC
 VILHSRSLRCRPSYHFIGSLAVADLLGSVIFVYSFVDFHVFHRKDSPNVFLFKLGGVTASF TASVLSLFL
 TAIDRYISIHRLAYKRIVTRPKAVVAFCLMWTIAIIVIAVPLLLGWNCCKLQSVCSDFPLIDETYLFW
 IGVTSVLLLFIVYAYMYILWKAHSHAVRMIQRGTQKSI IHTSEDGKVVTRPDQARMDIRLAKTLVLIL
 VVLIICWGPLLAIMVYDVF GKMNKLIKTVFAFCMSLCLLNSTVNP IYALRSKDLRHAFRSMFSPCEGTA
 QPLDNSMGSDSLHKHANNTASMHRAAESCIKSTVKIAKVTMSVSTDTSAEAL

TRTRPLEQ**KL**ISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

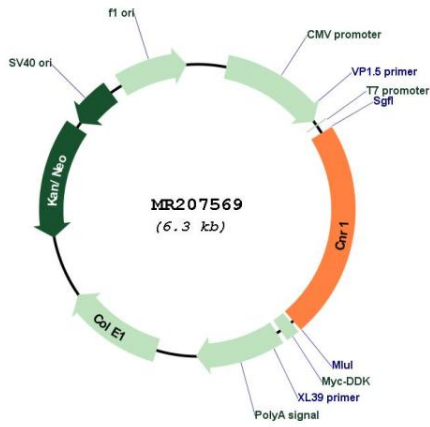
Cytogenetics: 4 16.28 cM

MW: 52.8 kDa

Gene Summary:

G-protein coupled receptor for cannabinoids, including endocannabinoids (eCBs), such as N-arachidonylethanolamide (also called anandamide or AEA) and 2-arachidonoylglycerol (2-AG) (PubMed:9888857, PubMed:22388959). Mediates many cannabinoid-induced effects, acting, among others, on food intake, memory loss, gastrointestinal motility, catalepsy, ambulatory activity, anxiety, chronic pain (PubMed:9888857, PubMed:27828947). Signaling typically involves reduction in cyclic AMP (PubMed:8832654, PubMed:27828947). Signaling typically involves reduction in cyclic AMP (By similarity). In the hypothalamus, may have a dual effect on mitochondrial respiration depending upon the agonist dose and possibly upon the cell type. Increases respiration at low doses, while decreases respiration at high doses (PubMed:25707796, PubMed:27828947). At high doses, CNR1 signal transduction involves G-protein alpha-i protein activation and subsequent inhibition of mitochondrial soluble adenylate cyclase, decrease in cyclic AMP concentration, inhibition of protein kinase A (PKA)-dependent phosphorylation of specific subunits of the mitochondrial electron transport system, including NDUFS2 (PubMed:27828947). In the hypothalamus, inhibits leptin-induced reactive oxygen species (ROS) formation and mediates cannabinoid-induced increase in SREBF1 and FASN gene expression (PubMed:25869131). In response to cannabinoids, drives the release of orexigenic beta-endorphin, but not that of melanocyte-stimulating hormone alpha/alpha-MSH, from hypothalamic POMC neurons, hence promoting food intake (PubMed:25707796). In the hippocampus, regulates cellular respiration and energy production in response to cannabinoids. Involved in cannabinoid-dependent depolarization-induced suppression of inhibition (DSI), a process in which depolarization of CA1 postsynaptic pyramidal neurons mobilizes eCBs, which retrogradely activate presynaptic CB1 receptors, transiently decreasing GABAergic inhibitory neurotransmission (PubMed:22388959). Also reduces excitatory synaptic transmission (PubMed:27828947). In superior cervical ganglions and cerebral vascular smooth muscle cells, inhibits voltage-gated Ca(2+) channels in a constitutive, as well as agonist-dependent manner (By similarity). In cerebral vascular smooth muscle cells, cannabinoid-induced inhibition of voltage-gated Ca(2+) channels leads to vasodilation and decreased vascular tone (By similarity). Induces leptin production in adipocytes and reduces LRP2-mediated leptin clearance in the kidney, hence participating in hyperleptinemia (PubMed:22841573). In adipose tissue, CNR1 signaling leads to increased expression of SREBF1, ACACA and FASN genes (PubMed:15864349). In the liver, activation by endocannabinoids leads to increased de novo lipogenesis and reduced fatty acid catabolism, associated with increased expression of SREBF1/SREBP-1, GCK, ACACA, ACACB and FASN genes (PubMed:15864349, PubMed:21987372). May also affect de novo cholesterol synthesis and HDL-cholesteryl ether uptake (PubMed:21987372). Peripherally modulates energy metabolism. In high carbohydrate diet-induced obesity, may decrease the expression of mitochondrial dihydrolipoyl dehydrogenase/DLD in striated muscles, as well as that of selected glucose/ pyruvate metabolic enzymes, hence affecting energy expenditure through mitochondrial metabolism (PubMed:26671069). In response to cannabinoid anandamide, elicits a proinflammatory response in macrophages, which involves NLRP3 inflammasome activation and IL1B and IL18 secretion. In macrophages infiltrating pancreatic islets, this process may participate in the progression of type-2 diabetes and associated loss of pancreatic beta-cells (PubMed:23955712).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR207569