

Product datasheet for **MG207569**

Cnr1 (NM_007726) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cnr1 (NM_007726) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Cnr1
Synonyms:	CB-R; CB1; CB1R
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG207569 representing NM_007726
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAAGTCGATCTTAGACGGCCTTGCGATACCACCTTCCGTACCATCACCACAGACCTCCTCTACGTGG
 GCTCAAATGACATTTCAGTACGAAGATATCAAAGGAGACATGGCATCCAAATTAGGATACTCCCACAGAA
 ATTCCCTCTAACTTCCTTCAGGGGTAGTCCCTTCCAAGAAAAGATGACGGCAGGAGACAACCTCCCGTTG
 GTTCCAGCAGGAGACACAACCAACATTACAGAGTTCTATAACAAGTCTCTCTCATCGTTCAAGGAGAACG
 AGGACAACATCCAGTGTGGGGAGAATTTATGGACATGGAGTGCCTCATGATTCTGAATCCAGCCAGCA
 GCTGGCCATCGCTGTCTGTCCCTCACCTGGGCACCTTACGGTTCTGGAGAACCTGCTGGTGCTATGT
 GTCATCCTTCACTCCCGCAGTCTCCGATGCAGGCCTTCTACCACTTCATTGGCAGCCTGGCGGTGGCCG
 ATCTCCTGGGAAGTGCATCTTTGTCTACAGCTTTGTTGACTTCCACGTGTTCCACCGCAAAGATAGTCC
 CAATGTGTTTCTGTTCAAACCTGGGTGGGGTTACCGCCTCCTTACAGCATCTGTGGGCAGCCTGTTCCCTC
 ACGGCCATCGACAGGTACATATCCATTCACAGGCCTCTGGCCTATAAGAGGATCGTCACCAAGGCCAAGG
 CCGTAGTGGCCTTTTGCTTGATGTGGACTATTGCAATAGTAATTGCTGTGTTGCCTCTCCTGGGCTGGAA
 CTGCAAGAAGCTGCAATCTGTTTGTCTGACATCTTCCACTCATTGATGAAACCTACCTGATGTTCTGG
 ATCGGAGTCACCAAGTGTGCTGTTGCTGTTTATTGTGTATGCATACATGTACATTCTGGAAGGCTCACA
 GCCACGCAGTTCGCATGATCCAGCGTGGAAACCCAGAAAAGCATCATTCACACCTCAGAAGATGGCAA
 GGTGCAGGTGACACGGCTGACCAAGCCCGCATGGACATTAGGCTGGCCAAAACCTGGTTCTGATCCTG
 GTGGTGTGATCATCTGCTGGGGCCCTCTGCTTGCATCATGGTGTATGATGTCTTTGGGAAGATGAACA
 AGCTTATCAAGACGGTGTGTTGCCTTCTGTAGTATGCTCTGCCTGCTGAACCTCCACCGTGAACCCCATCAT
 CTATGCTCTGAGGAGCAAGGACCTGAGACATGCTTTCCGACGATGTTCCCTTCATGTGAAGGCACCTGCG
 CAGCCTCTAGATAACAGCATGGGGGACTCAGACTGCCTGCACAAGCACGCCAATAACACAGCCAGCATGC
 ACAGGGCCCGGAAAGCTGCATCAAGAGCACTGTTAAGATCGCCAAGGTGACCATGTCTGTGTCCACAGA
 CACGTCTGCCGAGGCTCTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG207569 representing NM_007726
 Red=Cloning site Green=Tags(s)

MKSILDGLADTTFRITITDLLYVGSNDIQYEDIKGMASKLGYFPQKFPPLTSFRGSPFQEKMTAGDNSPL
 VPAGDTTNIETFYNKSLSSFKENEDNIQCGENFMDMECFMILNPSQQLAIAVLSLTLGTFVLENLLVLC
 VILHSRSLRCRPSYHFIFIGSLAVADLLGSVIFVYSFVDFHVFHRKDSPNVFLFKLGGVTASFTASVGSFLF
 TAIDRYISIHRLAYKRIVTRPKAVVAFCLMWTIAIVIAVLP LLGWNCCKLQSVCSDFPLIDETYL MFW
 IGVTSVLLLLFIVYAYMYILWKAHSHAVRMIQRGTQKSIIHTSEDKVQVTRPDQARMDIRLAKTLVLIL
 VVLIICWGPLLAIMVYDVF GKMNKLIKTVFAFC SMLCLLNSTVNP I IYALRSKDLRHAFRSMFPSCEGTA
 QPLDNSMGSDCLHKHANNTASMHRAAESCIKSTVKIAKV TMSVSTDTSAEAL

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_007726.5](#)

RefSeq Size: 5807 bp

RefSeq ORF: 1422 bp

Locus ID: 12801

UniProt ID: [P47746](#)

Cytogenetics: 4 16.28 cM

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]