

CNRIP1 siRNA (h): sc-94765

BACKGROUND

The cannabinoid receptors (CB1 and CB2) are G protein-coupled receptors that inhibit adenylate cyclase activity in response to psychoactive cannabinoids. CB1 is expressed in brain tissue and, in low levels, in testis. CB2 has been shown to be expressed only by cells of the immune system, specifically by HL-60 cells. The cannabinoid receptors mediate most of the cannabinoid-induced responses in a dose-dependent, stereoselective manner. CNRIP1 (cannabinoid receptor interacting protein 1), also known as CRIP1 (CB1 cannabinoid receptor-interacting protein 1), is a 164 amino acid protein and G protein-coupled receptor that belongs to the CNRIP family. Involved in appetite, synaptic plasticity, neuroprotection and analgesia, CNRIP1 exists as two alternatively spliced isoforms which have been designated CNRIP1 isoforms 1 and 2, or CRIP1a and CRIP1b, respectively. CNRIP1 isoform 1 is known to interact with CB1 but not CB2, thereby suppressing the inhibition of voltage-gated calcium channels. CNRIP1 isoform 2 does not have the same effect.

REFERENCES

- Gerard, C.M., et al. 1991. Molecular cloning of a human cannabinoid receptor which is also expressed in testis. *Biochem. J.* 279: 129-134.
- Shire, D., et al. 1996. Molecular cloning, expression and function of the murine CB2 peripheral cannabinoid receptor. *Biochim. Biophys. Acta* 1307: 132-136.
- Ameri, A. 1999. The effects of cannabinoids on the brain. *Prog. Neurobiol.* 58: 315-348.
- Valverde, O., et al. 2000. Reduction of stress-induced analgesia but not of exogenous opioid effects in mice lacking CB1 receptors. *Eur. J. Neurosci.* 12: 533-539.
- Brown, S.M., et al. 2002. Cloning and molecular characterization of the rat CB2 cannabinoid receptor. *Biochim. Biophys. Acta* 1576: 255-264.
- Sim-Selley, L.J. 2003. Regulation of cannabinoid CB1 receptors in the central nervous system by chronic cannabinoids. *Crit. Rev. Neurobiol.* 15: 91-119.

CHROMOSOMAL LOCATION

Genetic locus: CNRIP1 (human) mapping to 2p14.

PRODUCT

CNRIP1 siRNA (h) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CNRIP1 shRNA Plasmid (h): sc-94765-SH and CNRIP1 shRNA (h) Lentiviral Particles: sc-94765-V as alternate gene silencing products.

For independent verification of CNRIP1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94765A and sc-94765B.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CNRIP1 siRNA (h) is recommended for the inhibition of CNRIP1 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

CNRIP1 (H-1): sc-515504 is recommended as a control antibody for monitoring of CNRIP1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CNRIP1 gene expression knockdown using RT-PCR Primer: CNRIP1 (h)-PR: sc-94765-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.