SANTA CRUZ BIOTECHNOLOGY, INC.

Sigma Receptor (FL-223): sc-20935

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sigma Receptor, also known as opioid receptor, sigma 1 (Oprs 1), acts as a modulatory system influencing the analgesic activity of opioid drugs. For example, activation of the Sigma Receptor is induced during the early effects of cocaine. At the cellular level, Sigma Receptor agonists modulate intracellular calcium mobilization and extracellular calcium influx, NMDA-mediated responses and acetylcholine release, and alter monoaminergic systems. At the behavioral level, the Sigma Receptor is involved in learning and memory processes, response to stress, depression, neuroprotection and pharmacodependence. Pregnenolone, dehydroepiandrosterone and their sulfate esters behave as Sigma Receptor agonists, while progesterone is a potent antagonist. Sigma Receptor is expressed in the endocrine, immune and other peripheral organ systems, and is expressed in a variety of human tumors. The Sigma Receptor is responsible for the pathogenesis of some psychiatric disorders and may be involved in several diseases of the central nervous system. Opioid analgesia is influenced by many factors, including the Sigma Receptor.

REFERENCES

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4. Kekuda, R., et al. 1996. Cloning and functional expression of the human type 1 Sigma Receptor (hSigmaR1). Biochem. Biophys. Res. Commun. 229: 553-558.
5. Prasad, P.D., et al. 1998. Exon-intron structure, analysis of promoter region, and chromosomal localization of the human type 1 Sigma Receptor gene. J. Neurochem. 70: 443-451.
6. Maurice, T., et al. 2001. The interaction between neuroactive steroids and the sigma1 receptor function: behavioral consequences and therapeutic opportunities. Brain Res. Brain Res. Rev. 37: 116-132.
7. Narita, M., et al. 2001. A putative sigma1 receptor antagonist NE-100 attenuates the discriminative stimulus effects of ketamine in rats. Addict. Biol. 6: 373-376.
8. Mei, J., et al. 2001. Molecular cloning and pharmacological characterization of the rat sigma1 receptor. Biochem. Pharmacol. 62: 349-355.
9. Mei, J., et al. 2002. Sigma1 receptor modulation of opioid analgesia in the mouse. J. Pharmacol. Exp. Ther. 300: 1070-1074.

CHROMOSOMAL LOCATION

Genetic locus: SIGMAR1 (human) mapping to 9p13.3; Sigmar1 (mouse) mapping to 4 A5.

RESEARCH USE

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

SOURCE

Sigma Receptor (FL-223) is a rabbit polyclonal antibody raised against amino acids 1-223 representing full length Sigma Receptor of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Sigma Receptor (FL-223) is recommended for detection of Sigma Receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Sigma Receptor (FL-223) is also recommended for detection of Sigma Receptor in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Sigma Receptor siRNA (h): sc-42250, Sigma Receptor siRNA (m): sc-42251, Sigma Receptor shRNA Plasmid (h): sc-42250-SH, Sigma Receptor shRNA Plasmid (m): sc-42251-SH, Sigma Receptor shRNA (h) Lentiviral Particles: sc-42250-V and Sigma Receptor shRNA (m) Lentiviral Particles: sc-42251-V.

Molecular Weight of Sigma Receptor: 29 kDa.

Positive Controls: JAR cell lysate: sc-2276, Hep G2 cell lysate: sc-2227 or SK-N-MC cell lysate: sc-2237.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

MONOS Satisfaction Guaranteed

Try **Sigma Receptor (B-5): sc-137075** or **Sigma Receptor (F-5): sc-166392**, our highly recommended monoclonal alternatives to Sigma Receptor (FL-223). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Sigma Receptor (B-5): sc-137075**.