SANTA CRUZ BIOTECHNOLOGY, INC.

MOR-1 (N-20): sc-7489

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Endogenous opioid peptides and opiates, like morphine, transmit their pharmacological effects through membrane bound opioid receptors. Pharmacological studies and molecular cloning have led to the identification of three different types of opioid receptor, μ-type, δ-type and κ-type, also designated MOR-1, DOR-1 and KOR-1, respectively. MOR-1 is a receptor for β-endorphin, DOR-1 is a receptor for enkephalins and KOR-1 is a receptor for dynorphins. The three opioid receptor types are highly homologous and belong to the superfamily of G protein-coupled receptors. Opioid receptors have been shown to modulate a range of brain functions, including instinctive behavior and emotions. This regulation is thought to involve the inhibition of neurotransmitter release by reducing calcium ion currents and increasing potassium ion conductance.

REFERENCES

1. Chang, K.J., et al. 1979. Multiple opiate receptors. Enkephalins and morphine bind to receptors of different specificty. J. Biol. Chem. 254: 2610-2618.
2. Cherubini, E., et al. 1985. μ- and κ-opioids inhibit transmitter release by different mechanisms. Proc. Natl. Acad. Aci. USA 82: 1860-1863.
3. Schoffelmeer, A.N., et al. 1988. μ-, δ- and κ-opioid receptor-mediated inhibition of neurotransmitter release and adenylate cyclase activity in rat brain slices: studies with fentanyl isothiocyanate. Eur. J. Pharmacol. 154: 169-178.
4. Knapp, R.J., et al. 1995. Molecular biology and pharmacology of cloned opioid receptors. FASEB J. 9: 516-525.
5. Satoh, M., et al. 1995. Molecular pharmacology of the opioid receptors. Pharmacol. Ther. 68: 343-364.
6. Minami, M., et al. 1995. Molecular biology of the opioid receptors: structures, functions and distributions. Neurosci. Res. 23: 121-145.
7. Simmons, M.L., et al. 1996. κ-opioid receptor activation of a dendrotoxin-sensitive potassium channel mediates presynaptic inhibition of mossy fiber neurotransmitter release. Mol. Pharmacol. 50: 80-85.

CHROMOSOMAL LOCATION

Genetic locus: OPRM1 (human) mapping to 6q25.2.

SOURCE

MOR-1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of MOR-1 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.

Blocking peptide available for competition studies, sc-7489 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MOR-1 (N-20) is recommended for detection of MOR-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for MOR-1 siRNA (h): sc-35957, MOR-1 shRNA Plasmid (h): sc-35957-SH and MOR-1 shRNA (h) Lentiviral Particles: sc-35957-V.

Molecular Weight of MOR-1: 50 kDa.

Positive Controls: 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Rozenfeld-Granot, G., et al. 2002. MAP kinase activation by μ opioid receptor in cord blood $CD34^+CD38^-$ cells. Exp. Hematol. 30: 473-480.
2. Tanaka, S., et al. 2003. Autoantibodies against muscarinic cholinergic receptor in chronic fatigue syndrome. Int. J. Mol. Med. 12: 225-230.
3. Tanaka, S., et al. 2003. Autoantibodies against four kinds of neurotransmitter receptors in psychiatric disorders. J. Neuroimmunol. 141: 155-164.
4. Glattard, E., et al. 2010. Endogenous morphine levels are increased in sepsis: a partial implication of neutrophils. PLoS ONE 5: e8791.
5. Charlet, A., et al. 2010. Abnormal nociception and opiate sensitivity of STOP null mice exhibiting elevated levels of the endogenous alkaloid morphine. Mol. Pain 6: 96.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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