SANTA CRUZ BIOTECHNOLOGY, INC.

DOR-1 (C-20): sc-7490

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 beta-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.
8. Singh, V.K., et al. 1997. Molecular biology of opioid receptors: recent advances. Neuroimmunolmodulation 4: 285-297.

CHROMOSOMAL LOCATION

Genetic locus: OPRD1 (human) mapping to 1p34.3.

SOURCE

DOR-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of DOR-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-7490 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DOR-1 (C-20) is recommended for detection of DOR-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).

DOR-1 (C-20) is also recommended for detection of DOR-1 in additional species, including bovine and porcine.

Suitable for use as control antibody for DOR-1 siRNA (h): sc-42148, DOR-1 shRNA Plasmid (h): sc-42148-SH and DOR-1 shRNA (h) Lentiviral Particles: sc-42148-V.

Molecular Weight of DOR-1: 58 kDa.

Positive Controls: HUV-EC-C whole cell lysate.

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. Zagon, I.S., et al. 2011. B lymphocyte proliferation is suppressed by the opioid growth factor-opioid growth factor receptor axis: Implication for the treatment of autoimmune diseases. Immunobiology 216: 173-183.
2. Zagon, I.S., et al. 2011. T lymphocyte proliferation is suppressed by the opioid growth factor ([Met(5)]-enkephalin)-opioid growth factor receptor axis: implication for the treatment of autoimmune diseases. Immunobiology 216: 579-590.

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.