SANTA CRUZ BIOTECHNOLOGY, INC.

MOR-1 (D-12): sc-515933

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.

CHROMOSOMAL LOCATION

Genetic locus: OPRM1 (human) mapping to 6q25.2; Oprm1 (mouse) mapping to 10 A1.

SOURCE

MOR-1 (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 26-50 within an N-terminal extracellular domain of MOR-1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

MOR-1 (D-12) is recommended for detection of MOR-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for MOR-1 siRNA (h): sc-35957, MOR-1 siRNA (m): sc-35958, MOR-1 shRNA Plasmid (h): sc-35957-SH, MOR-1 shRNA Plasmid (m): sc-35958-SH, MOR-1 shRNA (h) Lentiviral Particles: sc-35957-V and MOR-1 shRNA (m) Lentiviral Particles: sc-35958-V.

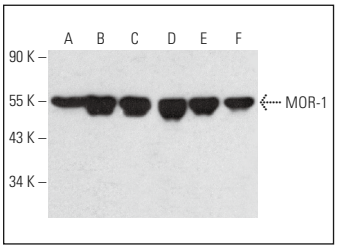
Molecular Weight of MOR-1: 50 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Neuro-2A whole cell lysate: sc-364185 or C6 whole cell lysate: sc-364373.

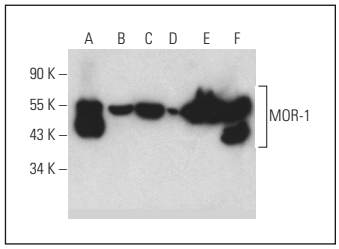
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MOR-1 (D-12): sc-515933. Western blot analysis of MOR-1 expression in Neuro-2A (**A**), C6 (**B**), EOC 20 (**C**), BC_3H1 (**D**), Sol8 (**E**) and L8 (**F**) whole cell lysates.



MOR-1 (D-12): sc-515933. Western blot analysis of MOR-1 expression in C6 (**A**), K-562 (**B**), Neuro-2A (**C**), Sol8 (**D**), EOC 20 (**E**) and BC_3H1 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Sanna, M.D., et al. 2020. μ opioid receptor-triggered Notch-1 activation contributes to morphine tolerance: role of neuron-glia communication. Mol. Neurobiol. 57: 331-345.
2. Haas, B., et al. 2021. Methadone-mediated sensitization of glioblastoma cells is drug and cell line dependent. J. Cancer Res. Clin. Oncol. 147: 779-792.
3. Lee, J., et al. 2021. D,L-methadone causes leukemic cell apoptosis via an OPRM1-triggered increase in IP3R-mediated ER Ca^{2+} release and decrease in Ca^{2+} efflux, elevating $[Ca^{2+}]_i$. Sci. Rep. 11: 1009.
4. Milanesi, L.H., et al. 2021. Topiramate-chitosan nanoparticles prevent morphine reinstatement with no memory impairment: dopaminergic and glutamatergic molecular aspects in rats. Neurochem. Int. 150: 105157.
5. Toti, A., et al. 2023. Ultramicronized N-palmitoylethanolamine regulates mast cell-astrocyte crosstalk: a new potential mechanism underlying the inhibition of morphine tolerance. Biomolecules 13: 233.
6. Murlanova, K., et al. 2023. Loss of astrocytic μ opioid receptors exacerbates aversion associated with morphine withdrawal in mice: role of mitochondrial respiration. Cells 12: 1412.

RESEARCH USE

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