

Nociceptin (F-10): sc-398073

BACKGROUND

Nociception, a pain response mechanism, occurs in response to stimuli that threaten the integrity of an organism. The first synapses produced as a result of the initiation of nociception are modulated by excitatory amino acids (glutamate and aspartate) and many peptides (substance P, CGRP, CCK, endogenous opioids). Nociceptin (also designated orphanin FQ) is a neuronal peptide that is similar to opioid peptides. Nociceptin activates KOR-3 (κ -type opioid receptor, also designated ORL1), a G protein-coupled receptor. Although similar to dynorphin A, a κ opioid peptide, Nociceptin functions to make animals hyperreactive to nociceptive stimulations. Nociceptin is also involved in locomotor behavior and may be involved in the modulation of synaptic plasticity in learning and memory.

REFERENCES

1. Meunier, J.C., et al. 1995. Isolation and structure of the endogenous agonist of opioid receptor-like ORL1 receptor. *Nature* 377: 532-535.
2. Reinscheid, R.K., et al. 1995. Orphanin FQ: a neuropeptide that activates an opioidlike G protein-coupled receptor. *Science* 270: 792-794.
3. Florin, S., et al. 1996. Nociceptin stimulates locomotion and exploratory behaviour in mice. *Eur. J. Pharmacol.* 317: 9-13.
4. Yu, T.P., et al. 1998. Orphanin FQ/Nociceptin inhibits synaptic transmission and long-term potentiation in rat dentate gyrus through postsynaptic mechanisms. *J. Neurophysiol.* 80: 1277-1284.
5. Mollereau, C., et al. 1999. Distinct mechanisms for activation of the opioid receptor-like 1 and κ -opioid receptors by Nociceptin and dynorphin A. *Mol. Pharmacol.* 55: 324-331.
6. Koizumi, M., et al. 2004. Exogenous, but not endogenous Nociceptin modulates mesolimbic dopamine release in mice. *J. Neurochem.* 89: 257-263.

CHROMOSOMAL LOCATION

Genetic locus: PNOG (human) mapping to 8p21.1.

SOURCE

Nociceptin (F-10) is a mouse monoclonal antibody raised against amino acids 1-176 representing full length Nociceptin of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nociceptin (F-10) is available conjugated to agarose (sc-398073 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398073 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398073 PE), fluorescein (sc-398073 FITC), Alexa Fluor[®] 488 (sc-398073 AF488), Alexa Fluor[®] 546 (sc-398073 AF546), Alexa Fluor[®] 594 (sc-398073 AF594) or Alexa Fluor[®] 647 (sc-398073 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398073 AF680) or Alexa Fluor[®] 790 (sc-398073 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Nociceptin (F-10) is recommended for detection of Nociceptin, Neuropeptide1 and Neuropeptide2 processed active peptides of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Nociceptin siRNA (h): sc-106306, Nociceptin shRNA Plasmid (h): sc-106306-SH and Nociceptin shRNA (h) Lentiviral Particles: sc-106306-V.

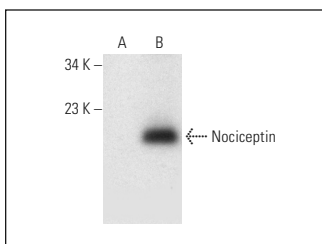
Molecular Weight of Nociceptin: 20 kDa.

Positive Controls: Nociceptin (h): 293T Lysate: sc-114382.

RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Nociceptin (F-10): sc-398073. Western blot analysis of Nociceptin expression in non-transfected: sc-117752 (A) and human Nociceptin transfected: sc-114382 (B) 293T whole cell lysates.

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 for detailed protocols and support products.