

Nociceptin (h): 293T Lysate: sc-114382

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

- Meunier, J.C., et al. 1995. Isolation and structure of the endogenous agonist of opioid receptor-like ORL1 receptor. *Nature* 377: 532-535.
- Reinscheid, R.K., et al. 1995. Orphanin FQ: a neuropeptide that activates an opioidlike G protein-coupled receptor. *Science* 270: 792-794.
- Florin, S., et al. 1996. Nociceptin stimulates locomotion and exploratory behaviour in mice. *Eur. J. Pharmacol.* 317: 9-13.
- 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.
- 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.
- Koizumi, M., et al. 2004. Exogenous, but not endogenous Nociceptin modulates mesolimbic dopamine release in mice. *J. Neurochem.* 89: 257-263.
- Marti, M., et al. 2004. Blockade of Nociceptin/orphanin FQ transmission in rat substantia nigra reverses haloperidol-induced akinesia and normalizes nigral glutamate release. *J. Neurochem.* 91: 1501-1504.
- Orsini, M.J., et al. 2005. The Nociceptin pharmacophore site for opioid receptor binding derived from the NMR structure and bioactivity relationships. *J. Biol. Chem.* 280: 8134-8142.

CHROMOSOMAL LOCATION

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

PRODUCT

Nociceptin (h): 293T Lysate represents a lysate of human Nociceptin transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Nociceptin (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Nociceptin antibodies. Recommended use: 10-20 μ l per lane.

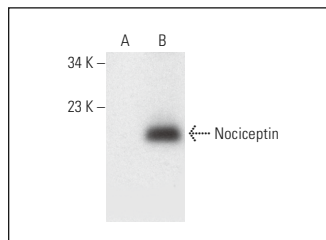
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Nociceptin (F-10): sc-398073 is recommended as a positive control antibody for Western Blot analysis of enhanced human Nociceptin expression in Nociceptin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

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.