

neuropsin (C-13): sc-48599

BACKGROUND

The opsin family of proteins are G protein-coupled receptors that function in a light-dependent manner. neuropsin is a 354-amino acid extracellular matrix serine protease expressed by neurons and glial cells involved in learning and memory. neuropsin bears a lysine that forms a schiff base with a chromophore, a C-terminal tail with sites for serine and threonine phosphorylation and a conserved DRY motif that is important for G protein-binding. neuropsin has a role in neuronal plasticity, and its expression is upregulated in response to injury to the CNS. Its neuronal plasticity also plays a role in the formation of both the Schaffer-collateral long-term potentiation (LTP) effect and hippocampus-dependent forms of memory. The proteolytic function of neuropsin may also regulate the early phase of LTP. neuropsin deficiency may be involved in the pathogenesis of multiple sclerosis caused by demyelination and oligodendroglial death.

REFERENCES

1. Komai, S., et al. 2000. neuropsin regulates an early phase of Schaffer-collateral long-term potentiation and Shiosa in the murine hippocampus. *Eur. J. Neurosci.* 12: 1479-1486.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609042. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Li, Y., et al. 2004. Recent origin of a hominoid-specific splice form of neuropsin, a gene involved in learning and memory. *Mol. Biol. Evol.* 21: 2111-2115.
4. Terayama, R., et al. 2004. Differential expression of neuropsin and protease M after injury to the spinal cord. *Glia* 48: 91-101.
5. Terakita, A. 2005. The opsins. *Genome Biol.* 6: 213.
6. Terayama, R., et al. 2005. Involvement of neuropsin in the pathogenesis of experimental autoimmune encephalo-myelitis. *Glia* 52: 108-118.
7. Kumbalasar, T. and Provencio, I. 2005. Melanopsin and other novel mammalian opsins. *Exp. Eye Res.* 81: 368-375.
8. Tamura, H., et al. 2006. Neuropsin is essential for early processes of memory acquisition and Schaffer collateral long-term potentiation in adult mouse hippocampus *in vivo*. *J. Physiol.* 570: 541-551.

CHROMOSOMAL LOCATION

Genetic locus: OPN5 (human) mapping to 6p12.3; Opn5 (mouse) mapping to 17 B3.

SOURCE

neuropsin (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of neuropsin of human origin.

STORAGE

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

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-48599 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

neuropsin (C-13) is recommended for detection of neuropsin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

neuropsin (C-13) is also recommended for detection of neuropsin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for neuropsin siRNA (h): sc-61189, neuropsin siRNA (m): sc-61190, neuropsin shRNA Plasmid (h): sc-61189-SH, neuropsin shRNA Plasmid (m): sc-61190-SH, neuropsin shRNA (h) Lentiviral Particles: sc-61189-V and neuropsin shRNA (m) Lentiviral Particles: sc-61190-V.

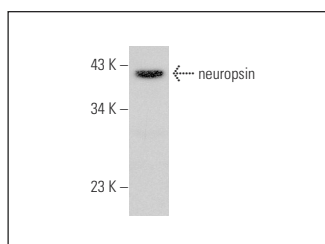
Molecular Weight of neuropsin: 40 kDa.

Positive Controls: RPE-J cell lysate: sc-24771.

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

DATA



neuropsin (C-13): sc-48599. Western blot analysis of neuropsin expression in RPE-J whole cell lysate.

RESEARCH USE

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