Recombinant Human Neurexophilin-1/NXPH-1

Catalog Number: 4957-NX

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Ala22-Gly271, with a C-terminal 6-His tag Accession # P58417
N-terminal Sequence Analysis	Ala22
Predicted Molecular Mass	29.4 kDa

SPECIFICATIONS

SDS-PAGE	40-60 kDa, reducing conditions
Activity	Measured in a competitive binding assay. When rrNeurexin-1α (Catalog # 4485-NX) is immobilized at 1 µg/mL (100 µL/well), rhNeurexophilin-1 inhibits 50% binding of biotinylated rrNeurexophilin-1 (250 ng/mL) at the concentration range of 1-3 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Neurexophilin-1 (NXPH1) is one of at least four vertebrate neuropeptide-like secreted glycoproteins in the neurexophilin family (1, 2). The 271 amino acid (aa) NXPH1 sequence contains a 21 aa signal peptide, an 86 aa propeptide that is cleaved at a basic motif, and a 164 aa mature protein that contains three potential N-glycosylation sites in the N-terminal portion and six conserved cysteines in the C-terminal portion (1). Mature human NXPH1 shares 99% aa identity with mouse, rat, equine, bovine and canine NXPH1. NXPH1 is expressed selectively in subpopulations of neurons within the cerebral cortex, cerebellum and olfactory bulb that are thought to be inhibitory interneurons (2, 3). In humans, NXPH-2 and -3 are most similar to NXPH1, sharing 84% and 64% aa identity within the mature region, respectively. In rodents, which do not express NXPH-2, expression of NXPH1 and NXPH-3 does not appear to coincide. However, both serve as tightly bound extracellular ligands for α-neurexins, synaptic transmembrane molecules that are essential for calcium-triggered neurotransmitter release (1, 4, 5). By contrast, NXPH-4 does not bind α-neurexins (1, 4). Genetic deletion of NXPH1 and/or NXPH-3 produces no anatomical effect, although mice lacking NXPH-3 show defects in motor coordination (4, 6).

References:

1. Missler, M. *et al.* (1998) J. Neurosci. **18**:3630.
2. Petrenko, A. G. *et al.* (1996) J. Neurosci. **16**:4360.
3. Clarris, H. J. *et al.* (2002) Int. J. Dev. Biol. **46**:649.
4. Missler, M. *et al.* (1998) J. Biol. Chem. **273**:34716.
5. Dudanova, I. *et al.* (2006) J. Neurosci. **26**:10599.
6. Beglopoulos, V. *et al.* (2005) Mol. Cell. Biol. **25**:7278.

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