

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Gln23-Gly252, with a C-terminal 6-His tag
Accession # AAI66603

N-terminal Sequence Analysis No results obtained: Gln23 predicted

Predicted Molecular Mass 26.5 kDa

SPECIFICATIONS

SDS-PAGE 40-43 kDa, reducing conditions

Activity Measured in a competitive binding assay.
When rrNeurexin-1 α (Catalog # 4485-NX) is immobilized at 1 μ g/mL (100 μ L/well), rrNeurexophilin-3 inhibits 50% binding of biotinylated rrNeurexophilin-1 (1 μ g/mL) at the concentration range of 1-3 μ g/mL.

Endotoxin Level <0.10 EU per 1 μ g 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 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 μ g/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-3 (NXPH3) is a neuropeptide-like secreted glycoprotein in the neurexophilin family (1, 2). The 252 amino acid (aa) NXPH3 precursor contains a 22 aa signal peptide, plus a 230 aa proprecursor that is likely cleaved at a basic motif, producing a 76 aa propeptide and a 154 aa mature protein (1). Mature rat NXPH3 shares 99%, 95% and 92% aa identity with mouse, human and bovine NXPH3, respectively. It contains motifs that are conserved among all neurexophilins, including three potential N-glycosylation sites in the N-terminal portion and six cysteines in the C-terminal portion (1). NXPH3 is expressed selectively in subplate-derived neurons in the cortex, granule cells in the vestibulocerebellum, and Cajal-Retzius cells during development (3). NXPH1 is the neurexophilin most similar to NXPH3, sharing 69% aa identity within the mature region. Expression of NXPH1 and NXPH3 does not appear to overlap, with NXPH1 expression occurring mainly by cells that resemble inhibitory interneurons (2 - 4). Both are tightly bound extracellular ligands of α -neurexins, synaptic transmembrane molecules that are essential for calcium-triggered neurotransmitter release (1, 5, 6). Genetic deletion of NXPH1 and/or NXPH3 produces no anatomical effect, although mice lacking NXPH3 show specific defects in motor coordination (3, 4). Of the other known neurexophilins, NXPH2 is not expressed in rodents, and NXPH4 does not bind α -neurexins (1, 5).

References:

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