

DESCRIPTION

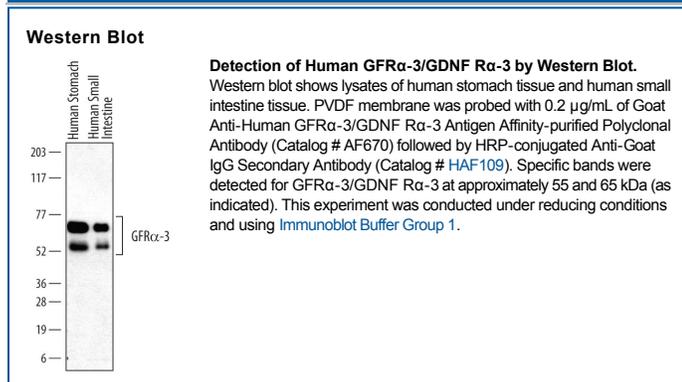
Species Reactivity	Human
Specificity	Detects human GFR α -3/GDNF R α -3 in direct ELISAs and Western blots. In direct ELISA and Western blots, no cross-reactivity with recombinant human GFR α -2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human GFR α -3/GDNF R α -3 Met1-Trp382 Accession # AAC24355
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.2 μ g/mL	See Below
Immunohistochemistry	5-15 μ g/mL	Immersion fixed paraffin-embedded sections of human spinal cord

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Glial cell line-derived growth factor (GDNF), neurturin (NTN), persephin (PEP) and artemin (ART), distant members of the TGF- β superfamily, are neurotrophic factors for a variety of neuronal populations in the central and peripheral nervous systems. The bioactivities of these neurotrophic factors are mediated through a receptor complex composed of the non ligand-binding signaling subunit (c-Ret receptor tyrosine kinase) and one of four ligand binding cysteine-rich glycosyl-phosphatidylinositol (GPI)-linked cell surface proteins (GFR α -1, 2, 3 or 4). These four GFR α proteins share conserved placements of many of their cysteine residues. GFR α -1, 2, 3 or 4 have been shown to preferentially bind GDNF, NTN, ART and PSP, respectively. While the GFR α -3/Ret complex is highly specific for ART, the GFR α -1 /Ret complex is extremely promiscuous and may also be utilized by NTN and ART.

Human GFR α -3 cDNA encodes a 400 amino acid (aa) residue precursor protein with an N-terminal signal peptide and C-terminal hydrophobic domain. GFR α -3 is approximately 34% and 36% identical to GFR α -1 and GFR α -2, respectively. Human and mouse GFR α -3 share approximately 76% amino acid sequence homology. The gene encoding GFR α -3 has been localized to human chromosome 5. GFR α -3 is expressed at high levels only in the developing and adult sensory and sympathetic ganglia of the peripheral nervous system. In the trigeminal ganglions, the expression of GFR α -3 is found in a population of neurons distinct from those expressing GFR α -1 or 2.

References:

1. Baloh, R. *et al.* (1998) *Neuron* **21**:1291.
2. Baloh, R. *et al.* (1998) *Proc. Natl. Acad. Sci. USA* **95**:5801.
3. Worby, C. *et al.* (1998) *J. Biol. Chem.* **273**:3502.