

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse GFR α -2/GDNF R α -2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human GFR α -3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse GFR α -2/GDNF R α -2 Ser22-Ser441 Accession # Q3UUD8
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	0.1 μ g/mL	Recombinant Mouse GFR α -2/GDNF R α -2 Fc Chimera (Catalog # 429-FR)
Immunohistochemistry	5-15 μ g/mL	Perfusion fixed frozen sections of rat spinal cord and dorsal root ganglia
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1-3 μ g/mL of this antibody will block 50% of the binding of 2 ng/mL of Recombinant Human GDNF (Catalog # 212-GD) to immobilized Recombinant Mouse GFR α -2 Fc Chimera (Catalog # 429-FR) coated at 1 μ g/mL (100 μ L/well). At 15 μ g/mL, this antibody will block >90% of the binding.	

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 (PSP) and artemin, 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 GDNF and NTN are mediated through a receptor complex composed of the non ligand-binding signaling subunit (c-Ret receptor tyrosine kinase) and either of two ligand binding subunits, GDNF receptor α -1 (GFR α -1, also known as Trn R1) or GFR α -2 (also known as Trn R2). GFR α -1 and -2 are members of a family of at least four cysteine-rich glycosyl-phosphatidylinositol (GPI)-linked cell surface proteins that share conserved placements of many of their cysteine residues. Binding of GDNF or NTN to membrane-associated GFR α -1 or GFR α -2 initiates the association with and activation of the Ret tyrosine kinase.

Mouse GFR α -2 cDNA encodes a 463 amino acid (aa) residue protein with a putative N-terminal 21 aa residue hydrophobic signal peptide. Like other GPI-linked proteins, rat GFR α -2 has a C-terminal hydrophobic region which is preceded by a 3 aa residue (SGS) GPI-binding site. Human GFR α -2 shares 96.5% amino acid identity with mouse GFR α -2. The expression of the various GFR α s are differentially regulated in the central and peripheral nervous system, suggesting complementary roles for the GFR α s in mediating the activities of the GDNF family of neurotrophic factors.

References:

1. Thompson, J. *et al.* (1998) Mol. Cell Neurosci. **11**:117.
2. Trupp, M. *et al.* (1998) Mol. Cell Neurosci. **11**:47.
3. Baloh, R.H. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:5801.
4. Baloh, R.H. *et al.* (1998) Neuron **21**:1291.