

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                                              |
| <b>Specificity</b>        | Detects human GFR $\alpha$ -1/GDNF R $\alpha$ -1 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant rat GFR $\alpha$ -1 is observed and less than 5% cross-reactivity with recombinant human (rh) GFR $\alpha$ -2, rhGFR $\alpha$ -3, and r |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                                                |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                                          |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human GFR $\alpha$ -1/GDNF R $\alpha$ -1<br>Met1-Lys429<br>Accession # NP_665736                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                                                    |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.                        |

#### 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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Glial cell line-derived growth factor (GDNF), neurturin (NTN), artemin and persephin are distant members of the TGF- $\beta$  superfamily. They function as 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  $\alpha$ -1 (GFR $\alpha$ -1) or GFR $\alpha$ -2]. GFR $\alpha$ -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 to membrane-associated GFR $\alpha$ -1 or GFR $\alpha$ -2 initiates the association with and activation of the Ret tyrosine kinase. Soluble GFR $\alpha$ s released enzymatically from the cell surface-associated protein with phosphatidylinositol phospholipase C, as well as recombinantly produced soluble GFR $\alpha$ -1, can also bind with high-affinity to GDNF and trigger the activation of Ret tyrosine kinase.

Human GFR $\alpha$ -1 cDNA encodes a 465 amino acid (aa) residue protein with an N-terminal 24 aa residue hydrophobic signal peptide. Like other GPI-linked proteins, human GFR $\alpha$ -1 has a C-terminal hydrophobic region which is preceded by a three aa residue (ASS) GPI-binding site. Human GFR $\alpha$ -1 shares 93% aa identity with rat GFR $\alpha$ -1. The expression of the various GFR $\alpha$ s are differentially regulated in the central and peripheral nervous system, suggesting complementary roles for the GFR $\alpha$ s in mediating the activities of the GDNF family of neurotrophic factors.

#### PRODUCT SPECIFIC NOTICES

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