

# GFR alpha 1 Antibody

Catalog # ASC10018

## Product Information

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|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>           | WB, E, IHC-P                                                                                                                                                      |
| <b>Primary Accession</b>     | <a href="#">P56159</a>                                                                                                                                            |
| <b>Other Accession</b>       | <a href="#">P56159</a> , <a href="#">20141405</a>                                                                                                                 |
| <b>Reactivity</b>            | Human, Mouse, Rat                                                                                                                                                 |
| <b>Host</b>                  | Rabbit                                                                                                                                                            |
| <b>Clonality</b>             | Polyclonal                                                                                                                                                        |
| <b>Isotype</b>               | IgG                                                                                                                                                               |
| <b>Calculated MW</b>         | 51456                                                                                                                                                             |
| <b>Concentration (mg/ml)</b> | 1 mg/mL                                                                                                                                                           |
| <b>Conjugate</b>             | Unconjugated                                                                                                                                                      |
| <b>Application Notes</b>     | GFR alpha 1 antibody can be used for detection of GFR alpha 1 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 1 µg/mL. |

## Additional Information

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| <b>Gene ID</b>                      | 2674                                                                                                                                                                                                                                                |
| <b>Other Names</b>                  | GFR alpha 1 Antibody: GDNFR, RET1L, RETL1, TRNR1, GDNFRA, GFR-ALPHA-1, GDNF family receptor alpha-1, RET ligand 1, GDNF receptor alpha-1, GDNF family receptor alpha 1                                                                              |
| <b>Target/Specificity</b>           | GFRA1; GFR alpha 1 antibody is predicted to not cross-react with other members of the GFR alpha family of proteins.                                                                                                                                 |
| <b>Reconstitution &amp; Storage</b> | GFR alpha 1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| <b>Precautions</b>                  | GFR alpha 1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.                                                                                                                                              |

## Protein Information

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| <b>Name</b>     | GFRA1                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Synonyms</b> | GDNFRA, RETL1, TRNR1                                                                                                                                                                                                                                                                                                                                                    |
| <b>Function</b> | Coreceptor for GDNF, a neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake (PubMed: <a href="#">10829012</a> , PubMed: <a href="#">31535977</a> ). GDNF-binding leads to autophosphorylation and activation of the RET receptor (PubMed: <a href="#">31535977</a> ). |

## Cellular Location

Cell membrane {ECO:0000250|UniProtKB:Q62997}; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:Q62997}. Golgi apparatus, trans-Golgi network {ECO:0000250|UniProtKB:Q62997}. Endosome {ECO:0000250|UniProtKB:Q62997}. Endosome, multivesicular body {ECO:0000250|UniProtKB:Q62997}. Note=Localizes mainly to the plasma membrane. In the presence of SORL1, shifts to vesicular structures, including trans-Golgi network, endosomes and multivesicular bodies {ECO:0000250|UniProtKB:Q62997}

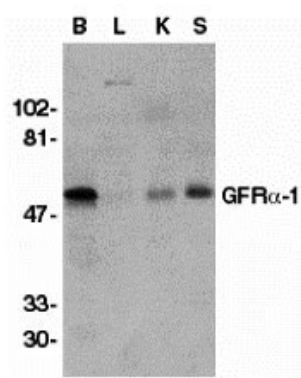
## Background

GFR alpha 1 Antibody: Glial cell line-derived neurotrophic factor (GDNF) is a potent survival factor for central and peripheral neurons and is essential for the development of kidneys and the enteric nerves system. Physiological responses to GDNF require the presence of a novel glycosylphosphatidylinositol linked protein GDNFRalpha, which is a cell surface receptor for GDNF. The cDNAs encoding GDNFRalpha from human, rat, chicken and mouse have been cloned recently. GDNFRalpha was also termed Ret ligand 1 (RETL1) or TGF-beta-related neurotrophic factor receptor 1 (TrnR1) and nominated as GFR $\alpha$ -1 recently. GFR $\alpha$ -1 binds GDNF specifically and mediates activation of the Ret protein tyrosine kinase (PTK). Thus, GDNF, GFR $\alpha$  and the Ret PTK form a complex to transduce GDNF signal and to mediate GDNF function.

## References

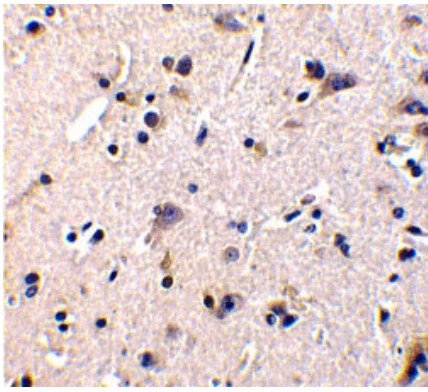
- Jing S, Wen D, Yu Y, et al. GDNF-induced activation of the Ret protein tyrosine kinase is mediated by GDNFR-a, a novel receptor for GDNF. *Cell* 1996; 85:1113-24.
- Treanor JJS, Goodman L, Sauvage FD, et al. Characterization of a multicomponent receptor for GDNF. *Nature* 1996;82:80-83.
- Sanicola M, Hession C, Worley D, et al. Glial cell line-derived neurotrophic factor-dependent RET activation can be mediated by two different cell-surface accessory proteins. *Proc. Natl. Acad. Sci. USA* 1997; 94:6238-43.
- Buj-Bello A, Adu J, Pinon LG, et al. Neurturin responsiveness requires a GPI-linked receptor and the Ret receptor tyrosine kinase. *Nature* 1997; 387:721-4

## Images



Western blot analysis of GFR alpha 1 in crude membrane fractions of human brain (B), liver (L), kidney (K), and spleen (S), respectively, with GFR alpha 1 antibody at 1  $\mu$ g/mL.

Immunohistochemistry of GFR alpha 1 in human brain tissue with GFR alpha 1 antibody at 1  $\mu$ g/mL.



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