

## GFR $\alpha$ -1 Antibody

*GFR $\alpha$ -1: GDNFR $\alpha$ , RETL1, TrnR1*

**CATALOG NO.: 1133**

### BACKGROUND:

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 GDNFR $\alpha$ , which is a cell surface receptor for GDNF (1,2). The cDNAs encoding GDNFR $\alpha$  from human, rat, chicken and mouse have been cloned recently (1-5). GDNFR $\alpha$  was also termed Ret ligand 1 (RETL1) or TGF- $\beta$ -related neurotrophic factor receptor 1 (TrnR1) and nominated as GFR $\alpha$ -1 recently (5-7). 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.

### SOURCE:

Rabbit polyclonal GFR $\alpha$ -1 antibody was raised against a peptide corresponding to amino acids near the center of human GFR $\alpha$ -1.

### APPLICATION:

GFR $\alpha$ -1 antibody can be used for detection of GFR $\alpha$ -1 by Western blot. (Optimal dilution should be determined by user.) GFR $\alpha$ -1 antibody is human, mouse and rat reactive.

**For research use only.**

### STORAGE:

GFR $\alpha$ -1 antibody is supplied as purified IgG, in PBS containing 0.02% sodium azide. Store at -20°C. Stable for one year at 4°C.

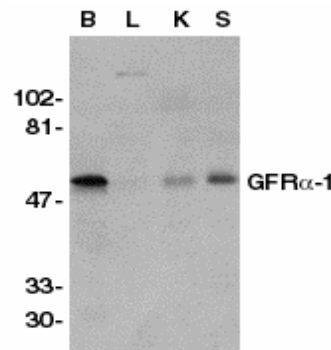
### RELATED PRODUCTS:

Blocking peptide, Catalog No. **1133P**.

Human Brain Tissue Lysate, Catalog No. **1303**.

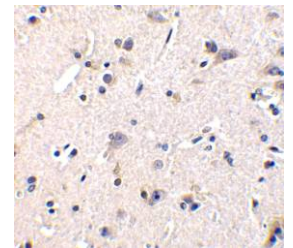
GFR $\alpha$ -2 Antibody (IN), Catalog No. **1135**.

GFR $\alpha$ -3 Antibody (IN), Catalog No. **1137**.



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 dilution.

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



### REFERENCES:

1. Jing S, Wen D, Yu Y, et al. GDNF-induced activation of the Ret protein tyrosine kinase is mediated by GDNFR $\alpha$ , a novel receptor for GDNF. *Cell* 1996; 85:1113-24.
2. Treanor JJS, Goodman L, Sauvage FD, et al. Characterization of a multicomponent receptor for GDNF. *Nature* 1996; 382:80-3.
3. 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. U. S.* 1997; 94:6238-43.
4. 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.
5. Dey, B.K., Wong, Y.W. et al. Cloning of a novel murine isoform of the glial cell line-derived neurotrophic factor receptor. *Neuroreport* 1998; 9:37-42.
6. Baloh RH, Tansey MG, Golden JP, et al. TrnR2, a novel receptor that mediates neurturin and GDNF signaling through Ret. *Neuron* 1997; 18:793-802.
7. Nomenclature Committee. Nomenclature of GPI-linked receptors for the GDNF ligand family. GFR $\alpha$ . *Neuron* 1997; 19:485. (06-01D)