

GFR α -3 (G-3): sc-393563

BACKGROUND

Glial cell line-derived neurotrophic factor (GDNF) and the related neurotrophic factor neurturin (NTN) are potent survival factors for central and peripheral neurons. GDNF is a glycosylated, disulfide-bonded homodimer that is distantly related to the TGF β superfamily of growth factors. Three receptors for these factors, GFR α -1 (also designated GDNFR- α , RETL1 or TrnR-1), GFR α -2 (also designated GDNFR- β , RETL2, NTN- α or TrnR-2) and GFR α -3 have been identified. The receptors do not contain transmembrane domains and are attached to the cell membrane by glycosyl-phosphoinositol linkage. Both GFR α -1 and GFR α -2 have been shown to mediate the GDNF-dependent and NTN-dependent phosphorylation and activation of the tyrosine kinase Ret. GFR α -3 is expressed only during development.

REFERENCES

1. Lin, L.F., et al. 1993. GDNF: a glial cell line-derived neurotrophic factor for midbrain dopaminergic neurons. *Science* 260: 1130-1132.
2. Jing, S., et al. 1996. GDNF-induced activation of the ret protein tyrosine kinase is mediated by GDNFR- α , a novel receptor for GDNF. *Cell* 85: 1113-1124.
3. Treanor, J.J., et al. 1996. Characterization of a multi-component receptor for GDNF. *Nature* 382: 80-83.
4. Kotzbauer, P.T., et al. 1996. Neurturin, a relative of glial-cell-line-derived neurotrophic factor. *Nature* 384: 467-470.
5. Baloh, R.H., et al. 1997. TrnR2, a novel receptor that mediates neurturin and GDNF signaling through Ret. *Neuron* 18: 793-802.
6. Naveilhan, P., et al. 1998. Expression and regulation of GFR α -3, a glial cell line-derived neurotrophic factor family receptor. *Proc. Natl. Acad. Sci. USA* 95: 1295-1300.

CHROMOSOMAL LOCATION

Genetic locus: GFRA3 (human) mapping to 5q31.2; Gfra3 (mouse) mapping to 18 B1.

SOURCE

GFR α -3 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 333-368 within an internal region of GFR α -3 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393563 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GFR α -3 (G-3) is recommended for detection of GFR α -3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GFR α -3 siRNA (h): sc-41972, GFR α -3 siRNA (m): sc-41973, GFR α -3 shRNA Plasmid (h): sc-41972-SH, GFR α -3 shRNA Plasmid (m): sc-41973-SH, GFR α -3 shRNA (h) Lentiviral Particles: sc-41972-V and GFR α -3 shRNA (m) Lentiviral Particles: sc-41973-V.

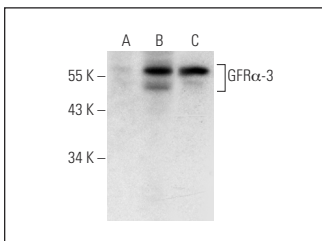
Molecular Weight of glycosylated GFR α -3: 43-62 kDa.

Positive Controls: GFR α -3 (h3): 293T Lysate: sc-176344 or A-673 cell lysate: sc-2414.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GFR α -3 (G-3): sc-393563. Western blot analysis of GFR α -3 expression in non-transfected 293T: sc-117752 (A), human GFR α -3 transfected 293T: sc-176344 (B) and A-673 (C) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.