

# GFR $\alpha$ -3 (J135): sc-74047

## 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 $\beta$  superfamily of growth factors. Three receptors for these factors, GFR $\alpha$ -1 (also designated GDNFR- $\alpha$ , RETL1 or TrnR-1), GFR $\alpha$ -2 (also designated GDNFR- $\beta$ , RETL2, NTNR- $\alpha$  or TrnR-2) and GFR $\alpha$ -3 have been identified. The receptors do not contain transmembrane domains and are attached to the cell membrane by glycosyl-phosphoinositol linkage. Both GFR $\alpha$ -1 and GFR $\alpha$ -2 have been shown to mediate the GDNF-dependent and NTN-dependent phosphorylation and activation of the tyrosine kinase Ret. GFR $\alpha$ -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- $\alpha$ , 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 $\alpha$ -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.

## SOURCE

GFR $\alpha$ -3 (J135) is a mouse monoclonal antibody raised against a protein lacking the C-terminal domain of GFR $\alpha$ -3 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

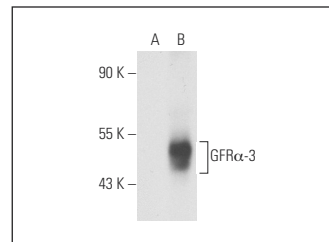
GFR $\alpha$ -3 (J135) is recommended for detection of GFR $\alpha$ -3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for GFR $\alpha$ -3 siRNA (h): sc-41972, GFR $\alpha$ -3 shRNA Plasmid (h): sc-41972-SH and GFR $\alpha$ -3 shRNA (h) Lentiviral Particles: sc-4197.

Molecular Weight of GFR $\alpha$ -3: 43-62 kDa.

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

## DATA



GFR $\alpha$ -3 (J135): sc-74047. Western blot analysis of GFR $\alpha$ -3 expression in non-transfected: sc-117752 (A) and human GFR $\alpha$ -3 transfected: sc-176344 (B) 293T whole cell lysates.

## RESEARCH USE

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