SANTA CRUZ BIOTECHNOLOGY, INC.

GFRα-1 (H-70): sc-10716

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 TGFβ superfamily of growth factors. Three receptors for these factors, GFRα-1 (also designated GDNFR-α, RETL1 or TrnR-1), GFRα-2 (also designated GDNFR-β, RETL2, NTNR-α or TrnR-2) and GFRα-3 have been identified. The receptors do not contain transmembrane domains and are attached to the cell membrane by glycosyl-phosphoinositol linkage. Both GFRα-1 and GFRα-2 have been shown to mediate the GDNF-dependent and NTN-dependent phosphorylation and activation of the tyrosine kinase Ret. GFRα-3 is expressed only during development.

CHROMOSOMAL LOCATION

Genetic locus: GFRA1 (human) mapping to 10q25.3; Gfra1 (mouse) mapping to 19 D2.

SOURCE

GFRα-1 (H-70) is a rabbit polyclonal antibody raised against amino acids 368-437 mapping near the C-terminus of GFRα-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GFRα-1 (H-70) is recommended for detection of GFRα-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 GFRα-1 siRNA (h): sc-35469, GFRα-1 siRNA (m): sc-35470, GFRα-1 shRNA Plasmid (h): sc-35469-SH, GFRα-1 shRNA Plasmid (m): sc-35470-SH, GFRα-1 shRNA (h) Lentiviral Particles: sc-35469-V and GFRα-1 shRNA (m) Lentiviral Particles: sc-35470-V.

Molecular Weight of GFRα-1 isoforms: 47/53 kDa.

Molecular Weight observed of glycosylated GFRα-1: 57-88 kDa.

Positive Controls: rat eye extract: sc-364805, HeLa whole cell lysate: sc-2200 or GFRα-1 (h2): 293T lysate: sc-159194.

STORAGE

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

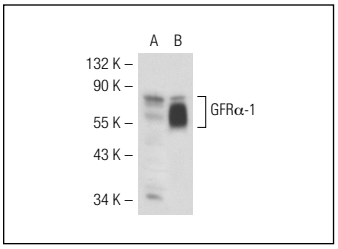
PROTOCOLS

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

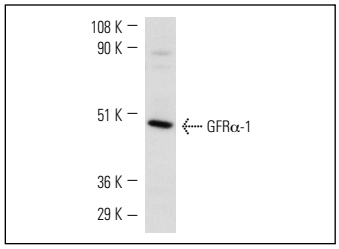
RESEARCH USE

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

DATA



GFRα-1 (H-70): sc-10716. Western blot analysis of GFRα-1 expression in non-transfected: sc-117752 (**A**) and human GFRα-1 transfected: sc-159194 (**B**) 293T whole cell lysates.



GFRα-1 (H-70): sc-10716. Western blot analysis of GFRα-1 expression in rat eye tissue extract.

SELECT PRODUCT CITATIONS

1. Wang, L.M., et al. 2004. Identification of the key amino acids of glial cell line-derived neurotrophic factor family receptor α-1 involved in its biological function. J. Biol. Chem. 279: 109-116.
2. Alladi, P.A., et al. 2010. Expression of GDNF receptors GFRα-1 and RET is preserved in substantia nigra pars compacta of aging Asian Indians. J. Chem. Neuroanat. 40: 43-52.
3. Farhi, J., et al. 2010. Glial cell line-derived neurotrophic factor (GDNF) and its receptors in human ovaries from fetuses, girls, and women. Fertil. Steril. 93: 2565-2571.
4. Lucini, C., et al. 2010. Distribution of glial cell line-derived neurotrophic factor receptor α-1 in the brain of adult zebrafish. J. Anat. 217: 174-185.
5. Simon, L., et al. 2010. ETV5 regulates sertoli cell chemokines involved in mouse stem/progenitor spermatogonia maintenance. Stem Cells 28: 1882-1892.
6. Gassei, K., et al. 2010. Magnetic activated cell sorting allows isolation of spermatogonia from adult primate testes and reveals distinct GFRα1-positive subpopulations in men. J. Med. Primatol. 39: 83-91.
7. Qi, H., et al. 2010. Potential localization of putative stem/progenitor cells in human bulbar conjunctival epithelium. J. Cell. Physiol. 225: 180-185.
8. Kubota, H., et al. 2011. Glial cell line-derived neurotrophic factor and endothelial cells promote self-renewal of rabbit germ cells with spermatogonial stem cell properties. FASEB J. 25: 2604-2614.