SANTA CRUZ BIOTECHNOLOGY, INC.

GFRα-1 (C-20): sc-6157

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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GFRα-1 of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6157 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GFRα-1 (C-20) 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), 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).

GFRα-1 (C-20) is also recommended for detection of GFRα-1 in additional species, including equine, canine, bovine and porcine.

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 of glycosylated GFRα-1: 57-88 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

STORAGE

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

RESEARCH USE

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

SELECT PRODUCT CITATIONS

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3. Nicole, O., et al. 2001. Neuroprotection mediated by Glial cell line-derived neurotrophic factor: Involvement of a reduction of NMDA-induced calcium influx by the mitogen-activated protein kinase pathway. J. Neurosci. 21: 3024-3033.
4. Japon, M.A., et al. 2002. Glial-derived neurotropic factor and Ret gene expression in normal human anterior pituitary cell types and in pituitary tumors. J. Clin. Endocrinol. Metab. 87: 1879-1884.
5. Jomary, C., et al. 2004. Expression of neurturin, glial cell line-derived neurotrophic factor, and their receptor components in light-induced retinal degeneration. Invest. Ophthalmol. Vis. Sci. 45: 1240-1246.
6. Diensthuber, M., et al. 2004. Co-expression of transforming growth factor-β1 and glial cell line-derived neurotrophic factor in vestibular schwannoma. Otol. Neurotol. 25: 359-365.
7. Maroldt, H., et al. 2005. Immunohistochemical expression of two members of the GDNF family of growth factors and their receptors in the olfactory system. J. Neurocytol. 34: 241-255.
8. Braydich-Stolle, L., et al. 2007. Role of Src family kinases and N-Myc in spermatogonial stem cell proliferation. Dev. Biol. 304: 34-45.
9. Lucini, C., et al. 2008. Cellular localization of GDNF and its GFRα1/RET receptor complex in the developing pancreas of cat. J. Anat. 213: 565-572.
10. Roussa, E., et al. 2008. Transforming growth factor β cooperates with persephin for dopaminergic phenotype induction. Stem Cells 26: 1683-1694.
11. Garcia, N., et al. 2010. The glial cell line-derived neurotrophic factor (GDNF) does not acutely change acetylcholine release in developing and adult neuromuscular junction. Neurosci. Lett. 480: 127-131.
12. Campos-Junior, P.H., et al. 2012. The spermatogonial stem cell niche in the collared peccary *(Tayassu tajacu).* Biol. Reprod. 86: 155.

PROTOCOLS

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