SANTA CRUZ BIOTECHNOLOGY, INC.

FGFR-3 (P-18): sc-31162

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acidic and basic fibroblast growth factors (FGFs) are members of a family of multifunctional polypeptide growth factors that stimulate proliferation of cells of mesenchymal, epithelial and neuroectodermal origin. These receptors usually contain an extracellular ligand-binding region containing three immunoglobulin-like domains, a transmembrane domain and a cytoplasmic tyrosine kinase domain. The gene encoding human FGFR-3 maps to chromosome 4p16.3 and is alternatively spliced to produce three isoforms that are expressed in brain, kidney and testis. Defects in FGFR-3 are associated with several diseases, including crouzon syndrome, achondroplasia, thanatophoric dysplasia, craniosynostosis adelaide type and hypochondroplasia. Mutations in FGFR-3 are also a cause of some bladder and cervical cancers.

REFERENCES

1. Moscatelli, D., et al. 1987. Mr 25,000 heparin-binding protein from guinea pig brain is a high molecular weight form of basic fibroblast growth factor. Proc. Natl. Acad. Sci. USA 84: 5778-5782.
2. Rifkin, D.B., et al. 1989. Recent developments in the cell biology of fibroblast growth factor. J. Cell Biol. 109: 1-6.
3. Dionne, C.A., et al. 1990. Cloning and expression of two distinct high-affinity receptors cross-reacting with acidic and basic fibroblast growth factors. EMBO J. 9: 2685-2692.
4. Mansukhani, A., et al. 1992. Characterization of the murine BEK fibroblast growth factor (FGF) receptor: activation by three members of the FGF family and requirement for heparin. Proc. Natl. Acad. Sci. USA 89: 3305-3309.
5. Scotet, E., et al. 1995. The choice between alternative IIIb and IIIc exons of the FGFR-3 gene is not strictly tissue-specific. Biochim. Biophys. Acta 1264: 238-242.
6. Superti-Furga, A., et al. 1995. A glycine 375-to-cysteine substitution in the transmembrane domain of the fibroblast growth factor receptor-3 in a newborn with achondroplasia. Eur. J. Pediatr. 154: 215-219.
7. Tavormina, P.L., et al. 1995. Thanatophoric dysplasia (types I and II) caused by distinct mutations in fibroblast growth factor receptor 3. Nat. Genet. 9: 321-328.
8. Bellus, G.A., et al. 1995. A recurrent mutation in the tyrosine kinase domain of fibroblast growth factor receptor 3 causes hypochondroplasia. Nat. Genet. 10: 357-359.

CHROMOSOMAL LOCATION

Genetic locus: FGFR3 (human) mapping to 4p16.3; Fgfr3 (mouse) mapping to 5 B2.

SOURCE

FGFR-3 (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of FGFR-3 of human origin.

RESEARCH USE

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

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-31162 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FGFR-3 (P-18) is recommended for detection of FGFR-3 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).

FGFR-3 (P-18) is also recommended for detection of FGFR-3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for FGFR-3 siRNA (h): sc-29314, FGFR-3 siRNA (m): sc-35367, FGFR-3 shRNA Plasmid (h): sc-29314-SH, FGFR-3 shRNA Plasmid (m): sc-35367-SH, FGFR-3 shRNA (h) Lentiviral Particles: sc-29314-V and FGFR-3 shRNA (m) Lentiviral Particles: sc-35367-V.

Molecular Weight of non-glycosylated FGFR-3: 97 kDa.

Molecular Weight of FGFR-3 precursor: 125 kDa.

Molecular Weight of mature FGFR-3: 135 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, T-47D cell lysate: sc-2293 or A549 cell lysate: sc-2413.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.