SANTA CRUZ BIOTECHNOLOGY, INC.

FGFR-3 (E-7): sc-390423



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. Like other growth factors, FGFs act by binding and activating specific cell surface receptors. These include the Flg receptor or FGFR-1, the Bek receptor or FGFR-2, FGFR-3, FGFR-4, FGFR-5 and FGFR-6. 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

- Moscatelli, D., et al. 1987. M_r 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.
- Rifkin, D.B., et al. 1989. Recent developments in the cell biology of fibroblast growth factor. J. Cell Biol. 109: 1-6.

CHROMOSOMAL LOCATION

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

SOURCE

FGFR-3 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 781-806 at the C-terminus of FGFR-3 of human origin.

PRODUCT

Each vial contains 200 μg lgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FGFR-3 (E-7) is available conjugated to agarose (sc-390423 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390423 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390423 PE), fluorescein (sc-390423 FITC), Alexa Fluor[®] 488 (sc-390423 AF488), Alexa Fluor[®] 546 (sc-390423 AF546), Alexa Fluor[®] 594 (sc-390423 AF594) or Alexa Fluor[®] 647 (sc-390423 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390423 AF680) or Alexa Fluor[®] 790 (sc-390423 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390423 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

FGFR-3 (E-7) is recommended for detection of FGFR-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 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, A-431 whole cell lysate: sc-2201 or ACHN whole cell lysate: sc-364365.

DATA





FGFR-3 (E-7): sc-390423. Near-infrared western blot analysis of FGFR-3 expression in K-562 (A), A549 (B), T-47D (C), MCF7 (D), Hep G2 (E) and U-251-MG (F) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG_K BP-CFL 680: sc-516180. FGFR-3 (E-7) Alexa Fluor® 488: sc-390423 AF488. Direct fluorescent western blot analysis of FGFR-3 expression in K-562 (A), A-31 (B), ACHN (C), NTEAA-2 c.D.1 (D), A549 (E) and Hep G2 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker WW Tag-Alexa Fluor® 647: sc-516791.

SELECT PRODUCT CITATIONS

- Cheng, L., et al. 2014. Transforming growth factor-β1 (TGF-β1) induces mouse precartilaginous stem cell proliferation through TGF-β receptor II (TGFRII)-Akt-β-catenin signaling. Int. J. Mol. Sci. 15: 12665-12676.
- 2. Panchbhai, N., et al. 2021. P68 RNA helicase facilitates breast cancer progression by promoting proliferation and migration via PDGFR- β /AR axis. J. Cancer 12: 6543-6552.
- Zha, Z., et al. 2022. Preparation and characterization of 2-deacetyl-3-0sulfo-heparosan and its antitumor effects via the fibroblast growth factor receptor pathway. Int. J. Biol. Macromol. 201: 47-58.
- Chen, G., et al. 2023. Fibroblast growth factor 18 alleviates stress-induced pathological cardiac hypertrophy in male mice. Nat. Commun. 14: 1235.

STORAGE

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