

FGF-2 (hBA-154): sc-4573

BACKGROUND

Fibroblast growth factor-1 (FGF-1), also designated acidic FGF, and fibroblast growth factor-2 (FGF-2), also referred to as basic FGF, are members of a family of growth factors that stimulate proliferation of cells of mesenchymal, epithelial and neuroectodermal origin. Additional members of the FGF family include the oncogenes FGF-3 (Int2) and FGF-4 (HST/Kaposi), FGF-5, FGF-6, FGF-7 (KGF), FGF-8 (AIGF), FGF-9 (GAF) and FGF-10-FGF-23. Members of the FGF family share 30-55% amino acid sequence identity and similar gene structure, and are capable of transforming cultured cells when overexpressed in transfected cells. Cellular receptors for FGFs are members of a second multigene family including four tyrosine kinases, designated Flg (FGFR-1), Bek (FGFR-L), TKF and FGFR-3.

REFERENCES

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- Delli Bovi, P., et al. 1987. An oncogene isolated by transfection of Kaposi's sarcoma DNA encodes a growth factor that is a member of the FGF family. *Cell* 50: 729-737.
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- Miyamoto, M., et al. 1993. Molecular cloning of a novel cytokine cDNA encoding the ninth member of the fibroblast growth factor family, which has a unique secretion property. *Mol. Cell. Biol.* 13: 4251-4259.
- Beer, H.D., et al. 1997. Mouse fibroblast growth factor 10: cDNA cloning, protein characterization and regulation of mRNA expression. *Oncogene* 15: 2211-2218.

CHROMOSOMAL LOCATION

Genetic locus: FGF2 (human) mapping to 4q27; Fgf2 (mouse) mapping to 3 B.

SOURCE

FGF-2 (hBA-154) is produced in *E. coli* as 17.2 kDa biologically active protein corresponding to 154 amino acids of FGF-2 of human origin.

PRODUCT

FGF-2 (hBA-154) is purified from bacterial lysates (> 98%); supplied as 50 µg purified protein.

BIOLOGICAL ACTIVITY

FGF-2 (hBA-154) is biologically active as determined by the dose-dependent stimulation of thymidine uptake by BaF3 cells expressing FGF receptors.

Expected ED₅₀: < 0.5 ng/ml.

Specific Activity: Greater than 2X10⁶ units/mg.

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryo-preserved (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

SELECT PRODUCT CITATIONS

- Quarto, N., et al. 2010. Origin matters: differences in embryonic tissue origin and Wnt signaling determine the osteogenic potential and healing capacity of frontal and parietal calvarial bones. *J. Bone Miner. Res.* 25: 1680-1694.
- Li, S., et al. 2010. Activation of FGF signaling mediates proliferative and osteogenic differences between neural crest derived frontal and mesoderm parietal derived bone. *PLoS ONE* 5: e14033.
- Zandberga, E., et al. 2017. Depletion of carbonic anhydrase IX abrogates hypoxia-induced overexpression of stanniocalcin-1 in triple negative breast cancer cells. *Cancer Biol. Ther.* 18: 596-605.
- Endzelinš, E., et al. 2018. Extracellular vesicles derived from hypoxic colorectal cancer cells confer metastatic phenotype to non-metastatic cancer cells. *Anticancer Res.* 38: 5139-5147.
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- Aytatli, A., et al. 2022. AZD4547 targets the FGFR/Akt/SOX2 axis to overcome paclitaxel resistance in head and neck cancer. *Cell. Oncol.* 45: 41-56.

STORAGE

Store at -20° C. 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.