

Recombinant Human FGF-basic/145aa (carrier-free)

Catalog# / Size	571502 / 10 µg 571504 / 25 µg 571506 / 100 µg 571508 / 500 µg
Regulatory Status	RUO
Other Names	Fibroblast Growth Factor-basic, bFGF, FGF-2, Heparin-binding growth factor
Description	FGFb is a member of the fibroblast growth factor (FGF) family which includes 23 members. FGFb is expressed in almost all tissues and play important roles in a variety of normal and pathological processes, including development, wound healing, and neoplastic transformation. FGFb is mitogenic for many cell types, both epithelial and mesenchymal. FGFb shows potent angiogenic activity and has been implicated in tumor angiogenesis (2). In prostate, bladder, and renal cancers, FGFb regulates the induction of metalloproteinases (MMP) that degrade extracellular matrix proteins, thus facilitating tumor metastasis (3). FGFb binds to a family of four distinct, high affinity tyrosine kinase receptors, designated FGFR-1 to -4 (4). In addition, FGFb binds to the ECM, and heparan sulfate (HS) that is an essential and dynamic regulator of fibroblast growth factor (FGF) signaling. Two fundamentally different crystallographic models have been proposed to explain, at the molecular level, how HS/heparin enables FGF and FGF receptor (FGFR) to assemble into a functional dimer on the cell surface (5), although there is controversy regarding the exact manner by which this occurs.

Product Details

Source	Human FGF-basic, amino acids Ala144-Ser288 (Accession # NM_002006) was expressed in <i>E. coli</i> .
Molecular Mass	The 145 amino acid recombinant protein has a predicted molecular mass of 16,310 Da. The DTT-reduced and non-reduced protein migrate at approximately 18kDa by SDS-PAGE. This protein may or may not contain an N-terminal methionine.
Purity	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10mM NaH ₂ PO ₄ , 150mM NaCl, pH 7.2, 1mM DTT.
Endotoxin Level	Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED50 = 1 - 4 ng/ml, corresponding to a specific activity of 1 - 0.25 x 10 ⁶ units/mg, as determined by the dose dependent stimulation of NIH 3T3 cell proliferation. The bioactivity is equivalent to competitor reported values.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Application References

1. Wang J, *et al.* 2013. *Biosens Bioelectron.* 41:143. [PubMed](#)

(PubMed link indicates
BioLegend citation)

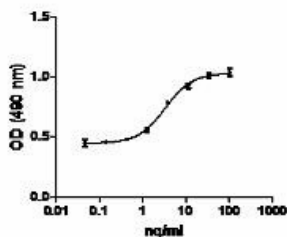
Product Citations

1. Stoyas CA, *et al.* 2020. *Neuron*. 630:105. [PubMed](#)
2. Revkova VA, *et al.* 2021. *ACS Omega*. 6:15264. [PubMed](#)
3. Hubka KM, *et al.* 2019. *Acta Biomater*. 97:385. [PubMed](#)
4. Wang J, Mountziaris T 2013. *Biochem Biophys Res Commun*. 41:143. [PubMed](#)
5. Gospodinova KO, *et al.* 2021. *Cell Mol Neurobiol*. Online ahead of print. [PubMed](#)
6. Lee EC, *et al.* 2020. *Int J Mol Sci*. 21:00. [PubMed](#)

Antigen Details

Structure	FGF
Distribution	Brain, retina, pituitary, kidney, placenta, testis, corpus luteum, adrenal glands, monocytes, prostate, bone, liver, cartilage, endothelial cells, epithelial cells
Function	FGFb is a potent angiogenic factor, and plays a key role in various physiological and pathological conditions, including embryonic development, wound repair, inflammation, and tumor growth (1).
Interaction	Fibroblasts, myoblasts, osteoblasts, neuronal cells, endothelial cells, keratinocytes, chondrocytes, astrocytes, oligodendrocytes, smooth muscle
Ligand/Receptor	FGFR-1 (flg), FGFR-2 (bek, K-sam), FGFR3, and FGFR-4 (flg-2); low affinity coreceptor heparin sulfate and heparin sulfate proteoglycans required for full activity.
Bioactivity	FGFb is a heparin-binding growth factor that is an angiogenic agent in vivo and also a potent mitogen for a variety of cell types in vitro.
Cell Type	Neural Stem Cells, Mesenchymal Stem Cells, Hematopoietic stem and progenitors, Embryonic Stem Cells
Biology Area	Cell Biology, Neuroscience, Stem Cells, Synaptic Biology
Molecular Family	Growth Factors, Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Rusnati M and Presta M <i>Current Pharm Des</i> 13:2025-2044 2007.2. Chaffer CL, <i>et al. Differentiation</i> 75(9):831-42 2007.3. Cronauer NV, <i>et al. Eur Urol</i> 43:309-319 2003.4. Shimizu A, <i>et al. J. Biol. Chem.</i> 276:11031-11040 2001.5. Mohammadi M, <i>et al. Curr Opin Struct Biol</i> 15:506-516 2005.
Gene ID	2247

Product Data



3NIH/3T3 cell proliferation induced by human FGFb.

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