

GMP Recombinant Human FGF-basic (146 aa) (carrier-free)

Catalog# / Size	792524 / 50 µg 792526 / 500 µg
Other Names	FGF-2, HBGF-2, BFGF, FGFB, Fibroblast Growth Factor 2, BasicFibroblast Growth Factor, Heparin binding growth factor 2, HBGF2
Description	<p>FGF-basic, also known as FGF-2, is a member of the fibroblast growth factor (FGF) family, which includes 22 members. FGF-acidic and FGF-basic do not have classical secretory signal peptides. The secretion of FGF-2 occurs by direct translocation across the plasma membrane. Multiple forms of FGF-2 derived by alternative translation from AUG and CUG codons from the same mRNA transcript have been described. FGF-2 is expressed in almost all tissues and plays an important role in a variety of normal and pathological processes, including development, wound healing, and neoplastic transformation. FGF-2 is mitogenic for many cell types, both epithelial and mesenchymal. It shows potent angiogenic activity and has been implicated in tumor angiogenesis. FGF-2 significantly promotes the proliferation of adipose-derived mesenchymal cells (AMC) and enhances chondrogenesis in three-dimensional micromass culture. FGF-2 binds to a family of four distinct, high affinity tyrosine kinase receptors, designated FGFR-1 to FGFR-4. In addition, FGF-2 binds to the extracellular matrix (ECM) and heparan sulfate (HS), and 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 heparan sulphate enables FGF and FGF receptor (FGFR) to assemble into a functional dimer on the cell surface, although there is controversy regarding the exact manner by which this occurs. FGF-2, αvβ3 integrin, and FGFR-1, form a trimolecular complex required for ERK1/2 activation. MT1-MMP (MMP-14) downregulates the amount of FGF-2 bound to the cell surface, and therefore, it reduces FGF-2 signaling.</p>

Product Details

Source	Human FGF-basic (146 aa), amino acid (Pro143-Ser288) (Accession: # P09038), was expressed in <i>E.coli</i> .
Molecular Mass	The 146 amino acid recombinant protein has a predicted molecular mass of approximately 16.5 kD. The DTT-reduced and non-reduced protein migrates at approximately 17 kD by SDS-PAGE. The predicted N-terminal amino acid is Pro.
Purity	> 95%, as determined by Coomassie stained SDS-PAGE.
Formulation	Protein was lyophilized from 0.1 µm filtered solution contain 0.15M NaCl, 20mM Tris, pH 7.5.
Endotoxin Level	Less than 0.1 EU per µg of protein as determined by the LAL method.
Concentration	50 µg and 500 µg sizes are lyophilized
Storage & Handling	<p>Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C or colder until the expiration date. Reconstitute lyophilized protein in sterile PBS, pH 7.2. Before reconstitution, make sure sterile PBS and product are at room temperature. Quickly spin the vial or gently tap down on the vial to make sure the lyophilized product is at the bottom of the vial before opening. Use aseptic techniques to add the required volume of reconstitution buffer (sterile PBS) to the vial, to obtain the recommended stock concentration 250 µg/mL. Close the vial and leave at ambient temperature for 15-20 minutes. Then gently invert the vial several times or until all of the lyophilized product dissolves. Leave the vial at room temperature for another 15 minutes. If small particulates are still observed after 15 minutes, incubate at room temperature for an additional 30 minutes, and leave the vial at 2°C - 8°C overnight. Next day, invert the vial several times or gently pipette the solution up and down before use. If needed, transfer the reconstituted stock solution to a sterile container for additional dilution to no less than 100 µg/mL. Small working aliquots in polypropylene tubes can be made after reconstitution and store the vials at -20°C or lower.</p> <p>Avoid freeze/thaw cycles. Carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to two weeks or stored at -20°C or colder for up to 3 months.</p>
Activity	GMP recombinant human FGF-basic (146 aa) induces the proliferation of NIH/3T3 cells in a dose-dependent manner. The ED ₅₀ for this effect is 0.015 - 0.075 ng/mL.
Application	Bioassay

Application Notes

Our lyophilized proteins are validated in-house to maintain activity after shipping at ambient temperature and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Disclaimer

GMP Recombinant Proteins. BioLegend GMP recombinant proteins are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or *ex vivo* cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include:

- Batch-to-batch consistency
- Material traceability
- Documented procedures
- Documented employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

BioLegend GMP recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12.

Antigen Details

Structure

Monomer

Distribution

Brain, retina, pituitary, kidney, placenta, testis, corpus luteum, adrenal glands, monocytes, prostate, bone, liver, cartilage, endothelial cells, and epithelial cells

Function

Possesses broad mitogenic and potent angiogenic activity, plays a key role in physiological and pathological conditions, including embryonic development, wound repair, inflammation, and tumor growth. MT1-MMP downregulates fibroblast growth factor-2 (FGF-2) signaling.

Interaction

FGF-basic binds to $\alpha\beta 3$ integrin. Fibroblasts, myoblasts, osteoblasts, neuronal cells, endothelial cells, keratinocytes, chondrocytes, astrocytes, oligodendrocytes, and smooth muscle cells.

Ligand/Receptor

FGFR1, FGFR2, FGFR3 and FGFR4. Low affinity coreceptor heparan sulfate (HS) and heparan sulfate proteoglycans (HSPG) required for full activity.

Bioactivity

Recombinant human FGF-basic (146 aa) induces the proliferation of NIH/3T3 cells in a dose-dependent manner.

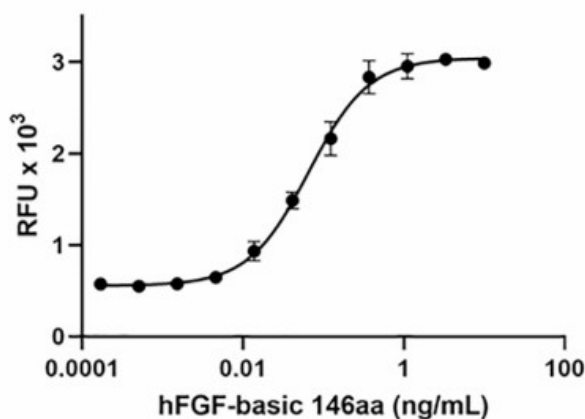
Antigen References

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Gene ID

[2247](#)

Product Data



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