

Product Information

Fibroblast Growth Factor-Basic, human recombinant, expressed in *E. coli* carrier free

Catalog Number **F3685**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 106096-93-9
Synonyms: FGF-2, HBGH-2, HBGF-2, Prostatropin, FGB-b, bFGF

Product Description

Fibroblast Growth Factor-Basic (bFGF) is a potent mitogenic agent for a wide variety of mesoderm-derived cells including BALB/c 3T3 fibroblasts, capillary and endocardial endothelial cells, myoblasts, vascular smooth muscle cells, mesothelial cells, glial and astroglial cells, and adrenal cortex cells.^{1,2} Fibroblast Growth Factor-Acidic (aFGF) and bFGF share 55% homology in amino acid sequence,³ and act upon the same cellular receptors but with differing specific activities, depending on the cell type.⁴ These two mitogens may play important roles *in vivo* in cell proliferation and differentiation associated with embryogenesis, tissue regeneration, wound healing, CNS development, angiogenesis, and tumor progression.²

Since bFGF is found in a variety of organs, acts on a wide range of cell types, and has multifunctional actions, it has acquired numerous synonyms, including heparin-binding growth factor (class II or beta), eye-derived growth factor I, cartilage-derived growth factor, and astroglial growth factor II.⁵ Purified bovine and human bFGF differ by 3 amino acids in sequence,³ and are biologically and immunologically cross-reactive.

This human, recombinant bFGF product is expressed in *E. coli* as a 16.0 kDa polypeptide with a 146 amino acid sequence derived from the clone described in the literature.⁶ The product is lyophilized from 20 mM Tris and 1 M NaCl, pH 7.0.

Purity: $\geq 97\%$ (SDS-PAGE)

EC₅₀: $< 1\text{ ng/mL}$

The bioactivity of bFGF is measured in a fluorometric assay using the redox sensitive dye, resazurin. The EC₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the product using a 0.2 μm sterile filtered 20 mM Tris, pH 7.0, solution to prepare a stock solution of $\geq 25\text{ }\mu\text{g/mL}$. This stock solution may be further diluted to the final working concentration, immediately before use. Additional filtration is not recommended and may result in product loss due to adsorption onto the filter membrane.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$.

After reconstitution, the product may be stored for a maximum of two weeks at $2\text{--}8\text{ }^{\circ}\text{C}$ or may be stored in aliquots at $-20\text{ }^{\circ}\text{C}$ for a maximum of 6 months. Prolonged storage of product, or repeated freezing and thawing is not recommended.

References

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2. Gospodarowicz, D. et al., Structural characterization and biological functions of fibroblast growth factor. *Endo. Rev.*, **8**, 95-114 (1987).
3. Esch, F. et al., Primary structure of bovine pituitary basic fibroblast growth factor (FGF) and comparison with the amino-terminal sequence of bovine brain acidic FGF. *Proc. Natl. Acad. Sci. USA*, **82**, 6507-6511 (1985).
4. Neufeld, G., and Gospodarowicz, D., Basic and acidic fibroblast growth factors interact with the same cell surface receptors. *J. Biol. Chem.*, **261**, 5631-5637 (1986).
5. Lobb, R.R. et al., Purification of heparin-binding growth factors. *Anal. Biochem.*, **154**, 1-14 (1986).
6. Abraham, J.A., Human basic fibroblast growth factor: nucleotide sequence and genomic organization. *EMBO J.*, **5**, 2523- 2528 (1986).

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