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Product Information

Fibroblast Growth Factor-Basic
human, recombinant
expressed in *E. Coli*

Catalog Number **F0291**
Storage Temperature –20 °C

CAS RN 106096-93-9
Synonyms: bFGF; FGF2

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 a 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, CNS development, wound healing, 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[6] and are biologically and immunologically cross-reactive.

This human, recombinant bFGF product is expressed by *E. coli* as a 16.0 kDa polypeptide with a 146 amino acid sequence derived from the clone described in the literature.[7] It is lyophilized from 20 mM Tris and 1 M NaCl, pH 7.0, containing 50 μg bovine serum albumin (BSA) per 1 μg bFGF.

Purity: ≥97% (SDS-PAGE)

EC_{50}: 0.05–0.6 ng/ml

The bioactivity of bFGF was measured in a fluorometric assay using the redox sensitive dye, resazurin. The EC_{50} 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 0.2 μm filtered 20 mM Tris, pH 7.0, to prepare a stock solution of ≥25 μg/ml. This stock solution may be diluted immediately before use to the final working concentration. 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 °C.

After reconstitution, the product may be stored for a maximum of two weeks at 2–8 °C or may be stored in aliquots at –20 °C for a maximum of 6 months. Prolonged storage of product or repeated freezing and thawing is not recommended.

References

1. Gospodarowicz, D., Nature, **249**, 123 (1974).
2. Gospodarowicz, D., et al., Endo. Rev., **8**, 95 (1987).
3. Esch, F., et al., Proc. Natl. Acad. Sci. USA., **82**, 6507 (1985).
4. Neufeld, G., and Gospodarowicz, D., J. Biol. Chem., **261**, 5631 (1986).
5. Lobb, R.R., et al., Anal. Biochem., **154**, 1 (1986).
6. Esch, F., et al., Proc. Natl. Acad. Sci., USA, **82**, 6507 (1985).
7. Abraham, J.A., EMBO J., **5**, 2523 (1986).
8. Rizzino, A., et al., Cancer Research, **48**, 4266 (1988).

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