



Product Information

FIBROBLAST GROWTH FACTOR-BASIC (bFGF) From Bovine Pituitary Glands

Product No. **F 5392**

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} Isolated from bovine pituitary glands by a method involving heparin affinity chromatography,^{3,4} bFGF is a 16.4 kDa⁵ protein responsible for most of the mitogenic activity present in the less purified FGF preparation (Product No. F 3133).

The closely related protein Fibroblast Growth Factor-Acidic (aFGF, Product No. F 5267), also purified from bovine brain, acts upon the same cellular receptors as bFGF but with differing specific activities, depending on the cell type.⁶ 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 numerous synonyms, including heparin-binding growth factor (class II or beta), eye-derived growth factor I, cartilage-derived growth factor, and astroglial growth factor II⁷.

Performance Characteristics

The biological activity of Fibroblast Growth Factor-basic is determined in a cell proliferation assay using fetal bovine heart endothelial cells. The EC₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

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Biological Activity: EC₅₀ = 0.03 - 3 ng/ml

Immunological Identity: Single band at approximately 16-18 kD by Western blot using Anti-FGF-Basic.

No reaction versus Anti-FGF-Acidic.

Purity: >90% by SDS-PAGE.

Package Size: 1 µg/vial

Lyophilization buffer: 25 mM sodium phosphate, 50 mM NaCl, pH 7.0.

Carrier Protein: Bovine Serum Albumin, 100 µg/vial

Endotoxin: <10 EU/vial

Reconstitution and Use

To prepare a stock solution, reconstitute with 1-5 ml sterile tissue culture media. This may be diluted immediately before use to the final working concentration of bFGF, generally 0.1-10 ng/ml. Additional filtration is not recommended and may result in product loss due to adsorption onto filter membrane.

Storage

Prior to reconstitution, store vial frozen. After reconstitution, store aliquots at 2-8 °C for two weeks or frozen. Prolonged storage of product or repeated freezing and thawing is not recommended.

References

1. Gospodarowicz, D., *Nature*, **249**, 123 (1974).
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4. Lobb, R. and Fett, J., *Biochem.*, **23**, 6295 (1984).
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6. Neufeld, G. and Gospodarowicz, D., *J. Biol. Chem.*, **261**, 5631 (1986).
7. Lobb, R., et al., *Anal. Biochem.*, **154**, 1 (1986).

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