



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Fibroblast Growth Factor from bovine pituitary cell culture tested

Catalog Number **F3133**
Storage Temperature -20°C

Synonym: FGF

Product Description

Fibroblast Growth Factor (FGF) 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} Purified from bovine pituitary glands, FGF is less pure than Fibroblast Growth Factor-Basic (bFGF, Catalog Number F5392), the 16.4 kDa protein³ responsible for most of the bioactivity of FGF. The closely related protein Fibroblast Growth Factor-Acidic (aFGF, Catalog Number F5267), also purified from bovine brain, acts upon the same cellular receptors as bFGF, 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, found in a variety of organs, acts on a wide range of cell types and has multi-functional 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 II.⁵

FGF is supplied as $\sim 10\ \mu\text{g}$ of protein lyophilized from 50 μl of a solution containing 25 mM sodium phosphate, pH 7.0, with 50 mM NaCl and 100 μg of bovine serum albumin as a carrier protein.

Identity and purity of FGF are established by immunoblotting. FGF is observed as a single 16 kDa band using anti-FGF-basic for detection. There is only a slight reaction against anti-FGF acidic.

The proliferative activity of FGF-TC is tested in culture using fetal bovine heart endothelial cells (ATCC CRL 1395) seeded at low density. After incubation with various concentrations of FGF for 3 days and with MTT for 4 hours, a dose-dependant increase in A_{540} was observed.

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

To prepare a stock solution, reconstitute the contents of the vial in a solution of 0.1–1.0% BSA or 1–10% serum in buffered saline or tissue culture medium. This may be diluted immediately before use to the final working concentration of FGF, generally 1–100 ng/ml. Additional filtration is not recommended and may result in product loss due to adsorption onto filter membrane.

Storage/Stability

Store the product at -20°C .

After reconstitution, the product may be stored for two weeks at $2-8^{\circ}\text{C}$ or may be stored as aliquots at -20°C . 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., *Endocr. Rev.*, **8**, 95 (1987).
3. Esch, F., et al., *Proc. Natl. Acad. Sci. U.S.A.*, **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).

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