

## Product Information

### FIBROBLAST GROWTH FACTOR-ACIDIC (aFGF) From Bovine Pituitary Glands

Product No. **F 5267**

#### Product Description

Fibroblast Growth Factor-Acidic (aFGF) 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.<sup>1,2</sup> Isolated from bovine brain by a method involving heparin affinity chromatography,<sup>3,4</sup> aFGF is a 15.9 kDa protein<sup>5</sup> having two potential binding domains for heparin.<sup>6</sup> In cells not growth-inhibited by heparin (such as baby hamster kidney cells), heparin potentiates the actions of aFGF, but in cells inhibited by heparin (such as bovine brain-derived capillary endothelial cells), no such potentiation is observed.<sup>7</sup> The closely related protein Fibroblast Growth Factor-Basic (Product No. F 5392), purified from bovine pituitary glands, acts upon the same cellular receptors as aFGF but with differing specific activities, depending on the cell type.<sup>8</sup> Both aFGF and bFGF may play important roles *in vivo* in cell proliferation and differentiation associated with embryogenesis, tissue regeneration, CNS development, wound healing, angiogenesis, and tumor progression.<sup>2</sup> Although bFGF is found in a variety of organs, aFGF has been found only in brain, hypothalamus and retina. Acidic FGF has several synonyms, including endothelial cell growth factor, heparin-binding growth factor (class I or alpha), retina-derived growth factor, and astroglial growth factor I.<sup>9</sup>

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

#### Reagents

αFGF is lyophilized from 25 mM sodium phosphate, 50 mM NaCl, pH 7.0 containing Bovine Serum Albumin, 100 μg/vial as a carrier protein.

#### Reconstitution and Use

To prepare a stock solution, reconstitute with 1-5 ml sterile tissue culture media containing 0.1-1.0% BSA. This may be diluted immediately before use to the final working concentration of aFGF, generally 0.3-30 ng/ml. Additional filtration is not recommended and may result in product loss due to adsorption onto filter membrane.

#### Storage/Stability

Store vial at -20 °C 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. and Moran, J., Proc. Natl. Acad. Sci. U.S.A., **71**, 4648 (1974).
2. Gospodarowicz, D. et al., Endocrine Rev., **8**, 95 (1987).
3. Gospodarowicz, D. and Moran, J., Proc. Natl. Acad. Sci. U.S.A., **71**, 4584 (1974).

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