

FGF-1

**Fibroblast Growth Factor, acidic
human, recombinant, *E. coli***

Cat. No.	Amount
PR-415	50 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized. Recombinant FGF-1 was lyophilized from a 1 mg/ml solution containing 10 mM sodium phosphate pH 7.5 and 75 mM NaCl.

Solubility

It is recommended to reconstitute the lyophilized FGF in sterile bidest H₂O at 4°C at a concentration of 0.1mg-0.25mg/ml. Allow sample to sit for 5min at 4°C, spin to remove precipitant.

Activity

ED₅₀: < 10 ng/ml corresponding to a specific activity of 10⁵ Units/mg, calculated by the dosedependent proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake).

Amino acid sequence

MFNLPPGNYK KPKLLYCSNG GHFLRILPDG TVDGTR-
DRSD QHIQLQLSAE SVGEVYIKST ETGQYLAMDT
DGLLYGSQTP NEECLFLERL EENHYNTYIS KKHAEKNWVF
GLKKNNGSCKR GPRTHYGQKA ILFLPLPVSS D

Molecular Weight

16 kDa

Purity

> 95% by SDS-PAGE and RP-HPLC

Description

FGF-1 is a single-chain polypeptide growth factor that plays a significant role in the process of wound healing and is a potent inducer of angiogenesis. It binds to heparin, which potentiates its biological activity and protects it from proteolysis. The growth factor is an extremely potent inducer of DNA synthesis in a variety of cell types from mesoderm and neuroectoderm lineages, and also has chemotactic and mitogenic activities. It was originally named acidic fibroblast growth factor based upon its chemical properties and to distinguish it from basic fibroblast growth factor.

Other homologous FGFs belonging to the same family are int-2 (FGF-3), FGF-5, FGF-6, K-FGF, and KGF (keratinocyte growth factor FGF-7). All factors are products of different genes, some of which are oncogene products (FGF-3, FGF-4, FGF-5).

Recombinant Human Fibroblast Growth Factor-acidic (FGF-1) produced in *E. coli* is a single, nonglycosylated, polypeptide chain containing 141 amino acids and having a molecular mass of 15.97 kDa.

The acidic FGF is purified by proprietary chromatographic techniques.

Selected References:

- Royce *et al.* (2004) Incorporation of polymer microspheres within fibrin scaffolds for the controlled delivery of FGF-1. *J Biomater. Sci. Polym. Ed.* **15**:1327.
- Forough *et al.* (2005) Role of AKT/PKB signaling in fibroblast growth factor-1 (FGF-1)-induced angiogenesis in the chicken chorioallantoic membrane (CAM). *J. Cell Biochem.* **94**:109.
- Schon *et al.* (2004) Testicular FGF-1 protein is involved in Sertoli cell-spermatid interaction in roe deer. *Gen. Comp. Endocrinol.* **139**:168.
- Zakrzewska *et al.* (2004) Design of fully active FGF-1 variants with increased stability. *Protein Eng. Des. Sel.* **17**:603.
- Caron *et al.* (2004) Human FGF-1 gene transfer promotes the formation of collateral vessels and arterioles in ischemic muscles of hypercholesterolemic hamsters. *J. Gene Med.* **6**:1033.
- Billottet *et al.* (2004) Targets of fibroblast growth factor 1 (FGF-1) and FGF-2 signaling involved in the invasive and tumorigenic behavior of carcinoma cells. *Mol. Biol. Cell* **15**:4725.