

FGF-2

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

Cat. No.	Amount
PR-416	50 µg

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

Avoid freeze / thaw cycles

Form

Lyophilized. Recombinant FGF-2 was lyophilized from a 1 mg/ml solution in PBS pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized FGF in sterile bidest H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

ED₅₀: < 0.5 ng/ml corresponding to a specific activity of 2 x 10⁶ Units/mg, calculated by the dose-dependent proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake).

Molecular Weight

17 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

FGF-2 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. Several different forms of the human protein exist ranging from 18-24 kDa in size due to the use of alternative start sites within the *fgf-2* gene. It has a 55% amino acid residue identity to FGF-1 and has potent heparinbinding activity. The growth factor is an extremely potent inducer of DNA synthesis in a variety of cell types from mesoderm and neuroectoderm lineages. It was originally named basic fibroblast growth factor based upon its chemical properties and to distinguish it from acidic 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 FGF-basic (FGF-2) produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 155 amino acids and having a molecular mass of 17.35 kDa.

Recombinant FGF-2 is purified by proprietary chromatographic techniques.

Selected References:

- Sabbieti *et al.* (2005) Prostaglandins differently regulate FGF-2 and FGF receptor expression and induce nuclear translocation in osteoblasts via MAPK kinase. *Cell Tissue Res.* **319**:267.
- Frank *et al.* (2004) Effect of a dextran derivative associated with TGF-beta1 or FGF-2 on dermal fibroblast behaviour in dermal equivalents. *J. Biomater. Sci. Polym. Ed.* **15**:1463.
- Warzecha *et al.* (2004) Immunohistochemical expression of FGF-2, PDGF-A, VEGF and TGFbeta RII in the pancreas in the course of ischemia/reperfusion-induced acute pancreatitis. *J. Physiol. Pharmacol.* **55**:791.
- Hortala *et al.* (2004) Identification of c-Jun as a critical mediator for the intracrine 24 kDa FGF-2 isoform-induced cell proliferation. *Int. J. Cancer* **17**; [Epub ahead of print].
- Conconi *et al.* (2004) Ghrelin inhibits FGF-2-mediated angiogenesis *in vitro* and *in vivo*. *Peptides* **25**:2179.
- Chadi *et al.* (2004) FGF-2 and S100beta immunoreactivities increase in reactive astrocytes, but not in microglia, in ascending dopamine pathways following a striatal 6-OHDA-induced partial lesion of the nigrostriatal system. *Cell Biol. Int.* **28**:849.