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# Mouse Fibroblast Growth Factor basic (FGF-2) - Purified

**Alternate names:** FGF2

**Catalog No.:** PA1018XC

**Quantity:** 1 mg

**Background:** FGF-basic is a member of the fibroblast growth factor (FGF) family. FGF family members bind heparin and possess broad mitogenic and angiogenic activities. This protein has been implicated in diverse biological processes, such as limb and nervous system development, wound healing, and tumor growth. The mRNA for this gene contains multiple polyadenylation sites, and is alternatively translated from AUG and non-AUG (CUG) initiation codons resulting in five different isoforms with distinct properties. The CUG-initiated isoforms are localized in the nucleus and are responsible for the intracrine effect, whereas, the AUG-initiated form is mostly cytosolic and is responsible for the paracrine and autocrine effects of this FGF.
The heparin-binding growth factors are angiogenic agents in vivo and are potent mitogens for a variety of cell types in vitro. there are differences in the tissue distribution and concentration of these 2 growth factors.

**Species:** Mouse

**Source:** E. coli, E. coli.

**Format:** **State:** Sterile Filtered White lyophilized powder without additives.
**Purity:** ›95% Purified by Proprietary chromatographic techniques, greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.
**Reconstitution:** In sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Description:** Fibroblast Growth Factor-basic Mouse Recombinant (FGF-2) produced in E. coli is a single, non-glycosylated, polypeptide chain containing 145 amino acids. The sequence of the first five N-terminal amino acids was determined and was found to be Pro-Ala-Leu-Pro-Glu.
**Biological Activity:** The ED50, calculated by the dose-dependant proliferation of BALB/3T3 cells is ‹ 0.1 - 1.0 ng/ml.
**Molecular weight:** 16 kDa 16320 Dalton.

**Add. Information:** Protein quantitation was carried out by two independent methods:
1. UV spectroscopy at 280 nm using the absorbency value of 0.885 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a calibrated solution of FGF-b as a Reference Standard.

**Storage:**

Lyophilized Fibroblast Growth Factor-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18 °C. Upon reconstitution FGF-basic should be stored at 2 - 8 °C between 2 - 7 days and for future use below -18 °C. For long term storage it is recommended to add a carrier protein (0.1 % HSA or BSA).
Please avoid freeze-thaw cycles.
Shelf live: One year from despatch.

**General Readings:**

1. FGF-2 suppresses cellular senescence of human mesenchymal stem cells by down-regulation of TGF-beta2. Biochem Biophys Res Commun 2007 May 21;
2. Synergistic induction of cyclin D1 in oligodendrocyte progenitor cells by IGF-I and FGF-2 requires differential stimulation of multiple signaling pathways. Glia 2007 May 16;
3. Chromatin compaction and cell death by high molecular weight FGF-2 depend on its nuclear localization, intracrine ERK activation, and engagement of mitochondria.
J Cell Physiol 2007 May 14;
4. Interaction of FGF-2 with IGF-1 and BDNF in stimulating Akt, ERK, and neuronal survival in hippocampal cultures. Brain Res 2007 Apr 19;
5. Low plasma levels of FGF-2 and PDGF-BB are associated with cardiovascular events in type II diabetes mellitus (diabetes heart study). Dis Markers 2007;23(3):173-8
6. Neuroprotection in the juvenile rat model of light-induced retinopathy: evidence suggesting a role for FGF-2 and CNTF. Invest Ophthalmol Vis Sci 2007 May;48(5):2311-20