

Recombinant Human Fibroblast Growth Factor-basic(FGF-2)

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Background: Basic fibroblast growth factor is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. This protein functions as a modifier of endothelial cell migration and proliferation, as well as an angiogenic factor. It acts as a mitogen for a variety of mesoderm- and neuroectoderm-derived cells in vitro, thus is thought to be involved in organogenesis. Three alternatively spliced variants encoding different isoforms have been described. 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.

Description: Fibroblast Growth Factor-2 Human Recombinant (FGF-2) produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 154 amino acids and having a molecular mass of 17.2kDa. The FGF-b is purified by proprietary chromatographic techniques.

Source: *E.Coli*

Presentation: sterile filtered white powder lyophilized from a concentrated (1 mg/ml) sterile solution in PBS, pH 7.4.

Reconstitution: It is recommended to reconstitute the lyophilized bFGF in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized bFGF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution bFGF should be stored at 4 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.**

Purity: Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC
- (b) Analysis by SDS-PAGE

Amino acid sequence: AAGSITTLPA LPEDGGSGAF PPGHFKDPKR
LYCKNGGFFL RIHPDGRVDG VREKSDPHIK LQLQAEERGV VSIKGVCANR
YLAMKEDGRL LASKCVTDEC FFFERLESNN YNTYRSRKYT SWYVALKRTG
QYKLGSKTGP GQKAILFLPM SAKS.

Biological Activity: The ED₅₀, calculated by the dose-dependent proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake) is < 0.5 ng/ml, corresponding to a specific activity of (2 x10⁶) Units/mg.

Protein content:

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.8511 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 Fibroblast Growth Factor-b as a Reference Standard.

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