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Fibroblast Growth Factor-Basic Human Recombinant GROWTH FACTOR

Catalog Number: PRP-218
Quantity: 10 micrograms, 50 micrograms, 1 milligram
Format: Sterile-filtered white lyophilized (freeze-dried) powder
Host: *E. coli*

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.

Specificity and Preparation:

Fibroblast Growth Factor-2 Human Recombinant (FGF-2) produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 155 amino acids and having a molecular mass of 17353 Dalton. The FGF-b is purified by proprietary chromatographic techniques. The protein was lyophilized from a concentrated (1mg/ml) solution in PBS, pH 7.4. Purity is greater than 96.0% as determined by RP-HPLC and SDS-PAGE. The ED₅₀, calculated by the dose-dependant proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake) is <0.5 ng/ml, corresponding to a specific activity of 2 x 10⁶ units/mg.

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.

Amino Acid Sequence: MAAGSITTLP ALPEDGGSGA FPPGHFKDPK RLYCKNGGFF LRIHPDGRVD
GVREKSDPHI KLQLQAEERG VVSIKGVCAN RYLAMKEDGR LLASKCVTDE CFFFERLESN
NYNTYRSRKY TSWYVALKRT GQYKLGSKTG PGQKAILFLP MSAKS.

Usage and Storage:

It is recommended to reconstitute the lyophilized material in sterile 18 MΩ-cm H₂O not less than 100 μg/ml, which can then be further diluted to other aqueous solutions.

Lyophilized material although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution, the material 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). Avoid repeated freezing and thawing. Gently spin down material before use; 5-10 seconds in a microfuge should be adequate.

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