

Recombinant Bovine Fibroblast Growth Factor-basic (rb FGF-basic)

Synonyms: HBGH-2, HBGF-2, Prostatropin, FGF-2, FGB-b.

Introduction: FGF-basic is a member of the fibroblast growth factor (FGF) family. FGF family members bind heparin and possess broad mitogenic and angiogenic activities. FGF-b 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 FGF-b.

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: Recombinant bovine 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 17250 Dalton. The rb FGF-basic is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 1% HSA.

Solubility: It is recommended to reconstitute the lyophilized rb FGF-basic in sterile H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rb FGF-basic although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rb FGF-basic 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 prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by:

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

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Met-Ala-Ala-Gly-Ser.

Biological Activity: The ED₅₀ measured in a mitogenic assay using quiescent NR6R-3T3 fibroblasts was found to be < 0.1 ng/ml, corresponding to a specific activity of 3 x 10⁶ Units/mg.

Protein content: Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.
2. Analysis by RP-HPLC, using a calibrated solution of bovine FGF-basic as a Reference Standard.

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<i>small</i>	10 µg	Cat.N°	17343623
<i>medium</i>	50 µg	Cat.N°	17343625

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