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## Recombinant Mouse Fibroblast Growth Factor-basic (FGF-basic)

(Cat. No.: C044)

### Background:

FGF basic (FGF-2, HBGF-2) is one of at least 22 mitogenic proteins of the FGF family, which show 35-60% amino acid conservation. Unlike other FGFs, FGF acidic and basic lack signal peptides and are secreted by an alternate pathway. The 17 kDa mouse sequence has 98% aa identity with rat, and 95% identity with human, bovine and sheep FGF basic. Binding of FGF to heparin or cell surface HSPG is necessary for binding, dimerization and activation of tyrosine kinase FGF receptors. FGF basic binds other proteins, polysaccharides and lipids with lower affinity. Expression of FGF basic is nearly ubiquitous but disruption of the mouse FGF basic gene gives a relatively mild phenotype, suggesting compensation by other FGF family members. FGF basic modulates such normal processes as angiogenesis, wound healing and tissue repair, embryonic development and differentiation, neuronal function and neural degeneration. Transgenic overexpression of FGF basic results in excessive proliferation and angiogenesis reminiscent of a variety of pathological conditions.

### Description:

Recombinant Mouse FGF-basic produced in *E. coli* is a non-glycosylated polypeptide chain containing 154 amino acids and having a molecular mass of 17153 Dalton.

### Quality Control:

**Biological activity:** The ED50 as determined by the dose-dependant proliferation of BALB/3T3 cells was found to be less than 0.5 ng/ml, corresponding to a Specific Activity of  $2.0 \times 10^6$  IU/mg.

**Purity:** Greater than 95% as determined by

(a) Analysis by HPLC.

(b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel..

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

**Endotoxin:** Less than 0.1ng/μg (1IEU/μg) of FGF-basic.

**Formulation:** Mouse FGF-basic was lyophilized from 1mg/ml solution after extensive dialysis against 20 mM phosphate buffer, pH 7.2, 50 mM Na<sub>2</sub>SO<sub>4</sub>, 0.2 mM DTT and 0.2 mM EDTA.

**Storage:** Lyophilized rmFGF-basic although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rmFGF-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 avoid freeze-thaw cycles.**

**Reconstitution:** It is recommended to reconstitute the lyophilized rmFGF-basic in sterile 18MΩ-cm H<sub>2</sub>O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

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