

Fibroblast Growth Factor-basic

Mouse, Recombinant (rmFGF-basic)

Expressed in *E. coli*

Cat. No. CRP0829

Lot. No. (See product label)

PRODUCT INFORMATION

Description: 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.

Amino-Acid Sequence: 154aa (The sequence of the first five N-terminal amino acids was determined and was found to be Phe-Asn-Leu-Pro-Leu.), non-glycosylated.

M. W. : 17,153 Da

Recombinant: Expressed in *E. coli*

Purity: >95% as determined by HPLC and SDS-PAGE .

Formulation: Mouse FGF-basic was lyophilized from 1mg/ml solution after extensive dialysis against 20 mM phosphate buffer, pH 7.2, 50 mM Na₂SO₄, 0.2 mM DTT and 0.2 mM EDTA.

Specific 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 x 10⁶ IU/mg.

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

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

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). Aliquot to avoid repeated freeze-thaw cycles.



[PDB](#) rendering based on 1bas.

GENE INFORMATION

Gene Name: [FGF2](#)

Gene Alias: DN-452A22.6, Fgf-2, Fgfb, bFGF

Gene Type: protein coding

mRNA Refseq: [NM_008006](#)

Protein Refseq: [NP_032032](#)

MIM: [134920](#)

GeneID: [14173](#)

Chromosome Location: 3 19.3 cM

Pathway: MAPK signaling pathway; Prostate cancer; Regulation of actin cytoskeleton

Function: growth factor activity; heparin binding; protein binding

REFERENCES

- 1.Liu Y, Song Z, et al. A novel chemical-defined medium with bFGF and N2B27 supplements supports undifferentiated growth in human embryonic stem cells. *Biochem Biophys Res Commun.* 2006; 346 (1): 131-139
- 2.Vincent T, Saklatvala J. Basic fibroblast growth factor: an extracellular mechanotransducer in articular cartilage *Biochem. Soc. Trans.* 2006; 34 (Pt 3): 456-457
- 3.Watson R, Anthony F, Pickett M, et al. Reverse transcription with nested polymerase chain reaction shows expression of basic fibroblast growth factor transcripts in human granulosa and cumulus cells from in vitro fertilisation patients. *Biochem. Biophys. Res. Commun.* 1992; 187 (3): 1227-1231

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