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**Cat#**                **SP-88230-5**

**Description:** bFGF (119 - 126), Basic Fibroblast Growth Factor, human, bovine (AA: Lys-Arg-Thr-Gly-Gln-Tyr-Lys-Leu) (MW: 993.18)

**Size:**                5 mg

**Purity:**             >95%

**Store:**              Desiccated at -20oC.

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Basic fibroblast growth factor, also known as bFGF, FGF2 or FGF- $\beta$ , is a member of the fibroblast growth factor family. In normal tissue, basic fibroblast growth factor is present in basement membranes and in the sub endothelial extracellular matrix of blood vessels. It stays membrane-bound as long as there is no signal peptide. Proteins of this family play a central role during prenatal development and postnatal growth and regeneration of a variety of tissues, by promoting cellular proliferation and differentiation, 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 non-AUG (CUG) and AUG 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 this FGF.

The action of heparan sulfate-degrading enzymes activates bFGF, thus mediating the formation of new blood vessels, a process known as angiogenesis. bFGF has been shown in preliminary animal studies to protect the heart from injury associated with a heart attack, reducing tissue death and promoting improved function after reperfusion.

Additionally, bFGF is a critical component of human embryonic stem cell culture medium; the growth factor is necessary for the cells to remain in an undifferentiated state. FGF-Basic is induced early in the development of the embryo where it is necessary (but not sufficient) for pluripotency and self-renewal of embryonic stem cells (ESC) and lineage defined stem cells.

Reference: Kim HS (1998) Cytogenet. Cell Genet. 83 (1-2): 73; Kühn MC (2012) Mol Cell Endocrinol. 349 (2): 180–188

\*For invitro research only\*

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**Related items:**

AR-209-U	Basic Fibroblast Growth Factor (26A-t) , RNA Aptamer, unlabeled
MCL-2001	Mouse 3T3 (Embryonic Fibroblast) Whole Cell lysate
MCLS-17201	NIH/3T3 BALB Cell Slide (Fibroblast from 14- to 17-day-old BALB/c mouse embryos) (5 slides/pk)
MCLS-17202	NIH/3T3 Cell Slide (Fibroblast from NIH Swiss mouse embryos) (5 slides/pk)
RP-687	Recombinant (insect cells) Human Fibroblast Growth Factor Receptor-1
RP-688	Recombinant (insect cells) Human Fibroblast Growth Factor Receptor-2
RP-689	Recombinant (Insect Cells) Human Fibroblast Growth Factor Receptor-3
RP-690	Recombinant Human Fibroblast Growth Factor Receptor-4
SP-101815-2	Brain Derived Acidic Fibroblast Growth Factor (102-111); FGF acidic (102-111) (bovine brain) ( MW: 1223.4)
SP-101817-5	Brain Derived Acidic Fibroblast Growth Factor (1-11); FGF acidic (1-11) (bovine brain) (MW: 1290.53)
SP-101818-1	Brain Derived Basic Fibroblast Growth Factor (1-24) (MW: 2553.86)
SP-88230-5	rev140806P

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