

# Cytokines

## Human Recombinant bFGF



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### Basic fibroblast growth factor

Catalog #	78003.1	10 µg
	78003	50 µg
	78003.2	1000 µg

## Product Description

Basic fibroblast growth factor (bFGF) is a prototypic member of the fibroblast growth factor family. Cytokines in the FGF family possess broad mitogenic and cell survival activities (Folkman & Klagsbrun; Kimelman & Kirschner) and are involved in a variety of biological processes including cell proliferation, differentiation, survival, and apoptosis (Folkman & Klagsbrun; Klagsbrun; Rifkin & Moscatelli). bFGF has the  $\beta$ -trefoil structure (Ponting & Russell), binds to the four FGF receptor (FGFR) family members, and activates JAK/STAT, PI3K, ERK1/2, and other receptor tyrosine kinase (RTK) signaling pathways. It supports the maintenance of undifferentiated human embryonic stem cells (Kang et al.; Xu et al.), stimulates human embryonic stem cells to form neural rosettes (Zhang et al.), and improves proliferation of human mesenchymal stem cells and enhances chondrogenic differentiation (Solchaga et al.).

## Product Information

Alternative Names:	Basic fibroblast growth factor, FGF- $\beta$ , FGF2, Fibroblast growth factor-basic, HBGF-2
Accession Number:	P09038
Amino Acid Sequence:	AAGSITTLPA LPEDGGSGAF PPGHFHKDPKR LYCKNGGFFL RIHPDGRVDG VREKSDPHIK LQLQAEERGV VSIKGVCANR YLAMKEDGRL LASKCVTDEC FFFERLESNN YNTYRSRKYT SWYVALKRTG QYKLGSKTGP GQKAILFLPM SAKS
Predicted Molecular Mass:	17.1 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

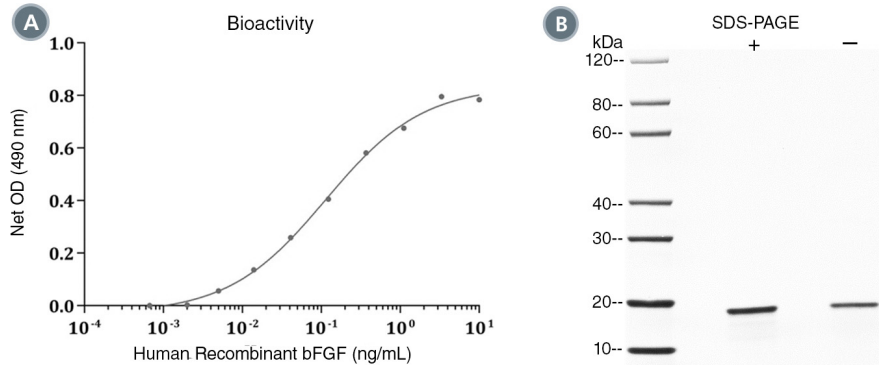
## Specifications

Activity:	The specific activity is $\geq 4 \times 10^6$ units/mg ( $EC_{50} \leq 0.25$ ng/mL) as determined by a cell proliferation assay using BALB/c 3T3 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 0.2$ EU/ $\mu$ g protein.

## Preparation and Storage

Storage:	Store at $-80^{\circ}\text{C}$ .
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at $2 - 8^{\circ}\text{C}$ for up to 2 weeks or at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ for up to 3 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Human Recombinant bFGF was tested by its ability to promote the proliferation of BALB/c 3T3 cells. Cell proliferation was measured using a fluorometric assay method. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the above example is 0.1 ng/mL.

(B) 2 µg of Human Recombinant bFGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant bFGF has a predicted molecular mass of 17.1 kDa.

## Related Products

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## References

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