Cytokines

Human Recombinant bFGF, ACF

Basic fibroblast growth factor, animal component-free

Catalog #	78134	10 µg
	78134.1	100 µg
	78134.2	1000 µg

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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 β-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 pluripotent stem cells (hPSCs) (Xu et al.; Kang et al.), stimulates hPSCs to form neural rosettes (Zhang et al.), and improves proliferation of human mesenchymal stem cells and enhances chondrogenic differentiation (Solchaga et al.). This version of bFGF is the full-length bFGF protein encoded by the human FGF2 gene consisting of 154 amino acid residues. This product is animal component-free.

Product Information

Alternative Names:	Basic fibroblast growth factor, FGF-β, FGF2, Fibroblast growth factor-basic, HBGF-2
Accession Number:	P09038
Amino Acid Sequence:	MAAGSITTLP ALPEDGGSGA FPPGHFKDPK RLYCKNGGFF LRIHPDGRVD GVREKSDPHI KLQLQAEERG VVSIKGVCAN RYLAMKEDGR LLASKCVTDE CFFFERLESN NYNTYRSRKY TSWYVALKRT GQYKLGSKTG PGQKAILFLP MSAKS
Predicted Molecular Mass:	17.3 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate and sodium chloride, pH 7.5
Source:	E. coli

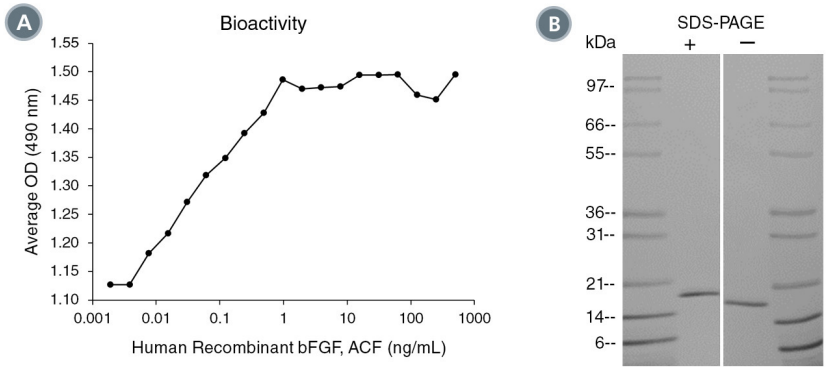
Specifications

Activity:	The specific activity is ≥ 2.0 x 10^5 units/mg (EC50 ≤ 5 ng/mL) as determined by a cell proliferation assay using NR6R-3T3 cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°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. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant bFGF, ACF was tested by its ability to promote the proliferation of NR6R-3T3 cells. Cell proliferation was measured after 48 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the example above is 0.0507 ng/mL.
(B) 1 µg of Human Recombinant bFGF, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant bFGF, ACF has a predicted molecular mass of 17.3 kDa.

Related Products

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References

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