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 (Xu et al.; Kang et al.), stimulates human pluripotent stem cells 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

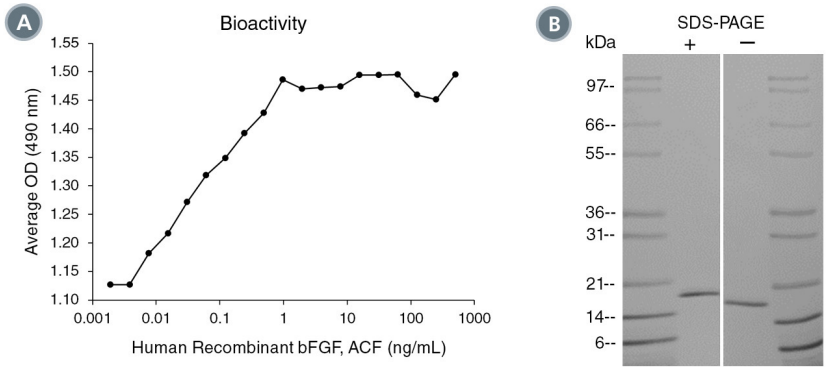
Specifications

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. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Upon reconstitution, a small amount of precipitate can be expected. A 10% overfill has been added to compensate for this loss. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately, BSA is not required.

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.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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