Cytokines

Human Recombinant FGF-acidic, ACF

Fibroblast growth factor-acidic, animal component-free

Catalog #	78188	10 µg
	78188.1	100 µg
	78188.3	500 µg
	78188.2	1000 µg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Fibroblast growth factor acidic (FGF-acidic), also known as FGF-1, is a potent activator of DNA synthesis, cell proliferation, and chemotaxis and is known to play numerous roles in development, regeneration, and angiogenesis (Galzie et al.; Jaye et al.; Presta et al.). FGF-acidic is produced by multiple cell types and is capable of activating all cells of mesodermal origin and many cells of neuroectodermal, ectodermal, and endodermal origin. It is found in large quantities in the brain, but is also expressed in hepatocytes, vascular smooth muscle cells, neurons of the central nervous system, skeletal muscle cells, fibroblasts, keratinocytes, endothelial cells, intestinal columnar epithelial cells, and pituitary basophils and acidophils. FGF-acidic is secreted as a disulfide-linked homodimer and is stored in complex with heparan sulfate, a requirement for its interaction with FGF receptors (Guerrini et al.; Mohammadi et al.). Internalized FGF-acidic signals via protein kinase C and promotes cell survival by inhibiting p53 and proapoptotic signaling (Bouleau et al.). This product is animal component-free.

Product Information

Alternative Names:	Acidic fibroblast growth factor, aFGF, ECGF, Endothelial cell growth factor, FGF-1, FGF-alpha, Fibroblast growth factor 1, GLIO703, HBGF-1, Heparin-binding growth factor 1
Accession Number:	P05230
Amino Acid Sequence:	MFNLPPGNYK KPKLLYCSNG GHFLRILPDG TVDGTRDRSD QHIQLQLSAE SVGEVYIKST ETGQYLAMDT DGLLYGSQTP NEECLFLERL EENHYNTYIS KKHAEKNWFV GLKKNGSCKR GPRTHYGQKA ILFLPLPVSS D
Predicted Molecular Mass:	16.0 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate and sodium sulfate, pH 7.5.
Source:	E. coli

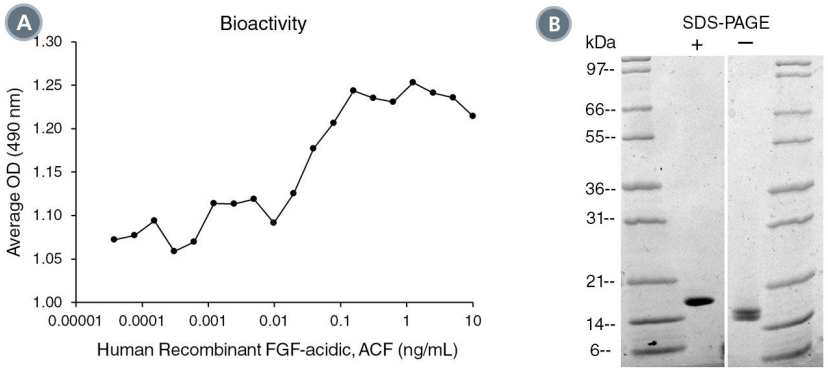
Specifications

Activity:	The specific activity is ≥ 5.0 x 10^5 units/mg (EC50 ≤ 2 ng/mL) as determined by a cell proliferation assay using NR6R-3T3 cells in the presence of 10 µg/mL heparin.
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. Bring vial and sterile water to room temperature (15 - 25°C). 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. Let solution sit for 1 minute at room temperature (15 - 25°C). If precipitate is observed, centrifuge at 16,000 x g for 1 minute. Remove supernatant and transfer to a new tube, taking care not to disturb the pellet. Discard the pellet. A 10% overfill has been added to compensate for any loss of protein in the precipitate. 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 FGF-acidic, ACF was tested by its ability to promote proliferation of NR6R-3T3 cells in the presence of 10 µg/mL heparin. Cell proliferation was measured 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 0.0277 ng/mL.
(B) 1 µg of Human Recombinant FGF-acidic, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant FGF-acidic, ACF has a predicted molecular mass of 16.0 kDa.

Related Products

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

References

Bouleau S et al. (2005) FGF1 inhibits p53-dependent apoptosis and cell cycle arrest via an intracrine pathway. Oncogene 24(53): 7839–49.
Galzie Z et al. (1997) Fibroblast growth factors and their receptors. Biochem Cell Biol 75(6): 669–85.
Guerrini M et al. (2007) Interaction of heparins with fibroblast growth factors: conformational aspects. Curr Pharm Des 13(20): 2045–56.
Jaye M et al. (1986) Human endothelial cell growth factor: cloning, nucleotide sequence, and chromosome localization. Science 233(4763): 541–5.
Mohammadi M et al. (2005) Structural basis for fibroblast growth factor receptor activation. Cytokine Growth Factor Rev 16(2): 107–37.
Presta M et al. (2005) Fibroblast growth factor/fibroblast growth factor receptor system in angiogenesis. Cytokine Growth Factor Rev 16(2): 159–78.