Cytokines

Human Recombinant FGF-acidic

Fibroblast growth factor-acidic

Catalog #	78187	10 µg
	78187.1	50 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 (Jaye et al.; Galzie 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 CNS, 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 through protein kinase C and promotes cell survival by inhibiting p53 and proapoptotic signaling (Bouleau et al.).

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:	FNLPPGNYKK PKLLYCSNGG HFLRILPDGT VDGTRDRSDQ HIQLQLSAES VGEVYIKSTE TGQYLAMDTD GLLYGSQTPN EECLFLERLE ENHYNTYISK KHAEKNWFVG LKKNGSCKRG PRTHYGQKAI LFLPLPVSSD
Predicted Molecular Mass:	15.8 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

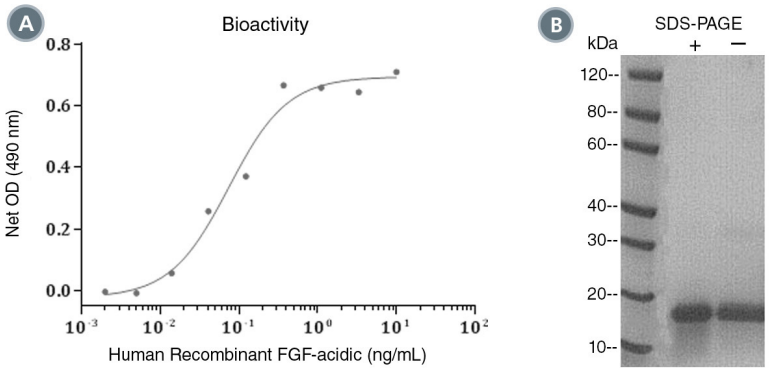
Specifications

Activity:	The specific activity is ≥ 3.3 x 10^6 units/mg (EC50 ≤ 0.3 ng/mL) as determined by a cell proliferation assay using BALB/c 3T3 cells in the presence of 10 µg/mL heparin.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -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. As a general guide, do not store at 2 - 8°C for more than 2 weeks or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant FGF-acidic was tested by its ability to promote the proliferation of BALB/c 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 less than 0.3 ng/mL.
(B) 2 µg of Human Recombinant FGF-acidic was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant FGF-acidic has a predicted molecular mass of 15.8 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.