

Cytokines

Human Recombinant FGF-7, ACF

Fibroblast growth factor 7, animal
component-free



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Catalog #	78186	10 µg
	78186.1	100 µg
	78186.2	1000 µg

Product Description

Fibroblast growth factor 7 (FGF-7) is a member of the FGF family, and acts exclusively through a subset of FGF receptor isoforms expressed predominantly by epithelial cells (Finch & Rubin). FGF-7 seems to act specifically on epithelial cells and stimulates proliferation, migration, and differentiation of these cells, and also participates in epithelial protection and repair both in vitro and in vivo (Finch & Rubin; Werner). In contrast, FGF-7 is produced solely by cells of mesenchymal origin, and functions as a paracrine mediator of mesenchymal-epithelial communication (Rubin et al.). FGF-7 has also been shown to supplement several wound-healing properties of bioengineered skin (Erdag et al.) and to induce autophagy in human keratinocytes (Belleudi et al.). Additionally, FGF-7 has a role in the differentiation of pluripotent stem cell to endodermal pancreatic-like insulin-producing cells and thymic epithelial cells (Inami et al.; Niu et al.). This product is animal component-free.

Product Information

Alternative Names:	Fibroblast growth factor 7, HBGF-7, Heparin-binding growth factor 7, Keratinocyte growth factor, KGF
Accession Number:	P21781
Amino Acid Sequence:	MCNDMTPEQM ATNVNCSPE RHTRSVDYME GGDIRVRLRF CRTQWYLRID KRGKVKGTQE MKNNYNIMEI RTVAVGIVAI KGVSEFYLA MNKEGKLYAK KECNEDCNFK ELILENHNT YASAKWTHNG GEMFVALNQQ GIPVRGKGTK KEQKTAHFLP MAIT
Predicted Molecular Mass:	19.0 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate and sodium chloride, pH 7.5.
Source:	E. coli

Specifications

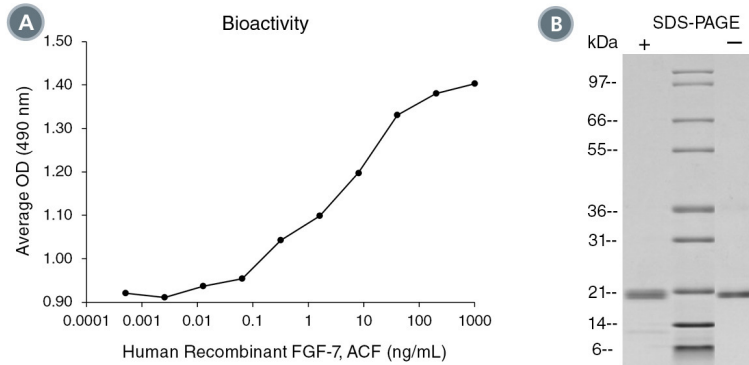
Activity:	The specific activity is $\geq 1.7 \times 10^4$ units/mg ($EC_{50} \leq 60$ ng/mL) as determined by a cell proliferation assay using 4MBr-5 cells.
Purity:	$\geq 90\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

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 FGF-7, ACF was tested by its ability to promote proliferation of 4MBr-5 cells. 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 2.5 ng/mL.

(B) 1 µg of Human Recombinant FGF-7, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant FGF-7, ACF has a predicted molecular mass of 19.0 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

- Belleudi F et al. (2014) FGF7/KGF regulates autophagy in keratinocytes: A novel dual role in the induction of both assembly and turnover of autophagosomes. *Autophagy* 10(5): 803–21.
- Erdag G et al. (2004) FGF-7 expression enhances the performance of bioengineered skin. *Mol Ther* 10(1): 76–85.
- Finch PW & Rubin JS. (2004) Keratinocyte growth factor/fibroblast growth factor 7, a homeostatic factor with therapeutic potential for epithelial protection and repair. *Adv Cancer Res* 91: 69–136.
- Inami Y et al. (2011) Differentiation of induced pluripotent stem cells to thymic epithelial cells by phenotype. *Immunol Cell Biol* 89(2): 314–21.
- Niu J et al. (2007) Keratinocyte growth factor/fibroblast growth factor-7-regulated cell migration and invasion through activation of NF- κ B transcription factors. *J Biol Chem* 282(9): 6001–11.
- Rubin JS et al. (1995) Keratinocyte growth factor. *Cell Biol Int* 19(5): 399–411.
- Werner S. (1998) Keratinocyte growth factor: a unique player in epithelial repair processes. *Cytokine Growth Factor Rev* 9(2): 153–65.

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