

Cytokines

Human Recombinant FGF-18



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Fibroblast growth factor 18

Catalog #	78041	10 µg
	78041.1	50 µg

Product Description

Fibroblast growth factor 18 (FGF-18) is a growth factor and member of the FGF subfamily. FGF-18 is most similar to FGF-8 and FGF-17, and is secreted in adult lung and developing tissues (Ohbayashi et al.). FGF-18 signals through FGF receptor 3 (FGFR3) to regulate proliferation, differentiation, and matrix production of articular and growth plate chondrocytes in vivo and in vitro (Davidson et al.). FGF-18 has skeletal functions and protects articular cartilage by gene expression profiling and regulates proliferation and differentiation of midline cerebellar structures (Mori et al.). Also, recombinant human FGF-18 has been shown to effectively regulate hair growth (Song et al.).

Product Information

Alternative Names:	FGFI, Fibroblast growth factor-18, zFGF5
Accession Number:	O76093
Amino Acid Sequence:	MAEENVDFRI HVENQTRARD DVSRLQLRLY QLYSRTSGKH IQVLGRRISA RGEDGDKY AQ LLVETDTFGS QVRIKGGKETE FYLCMNRKGK LVGKPDGTSK ECVFIEKVLE NNYTALMSAK YSGWYVGFTK KGRPRKGPKT RENQQDVHFM KRYPKGQPEL QKPFKYTTVT KRSR
Predicted Molecular Mass:	20.3 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

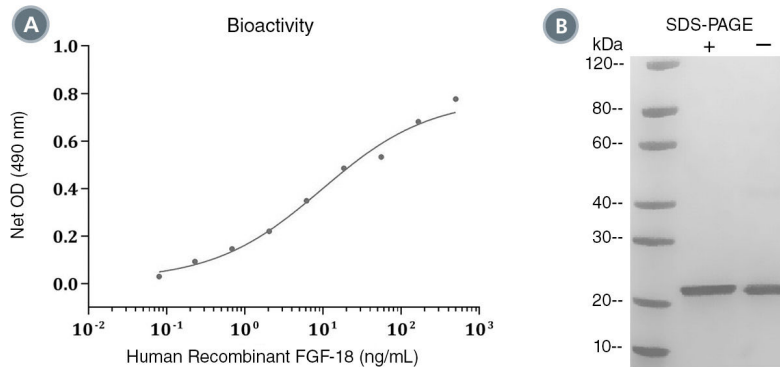
Specifications

Activity:	The specific activity is $\geq 1 \times 10^5$ units/mg ($EC_{50} \leq 10$ ng/mL) as determined by a cell proliferation assay of BALB/c 3T3 cells.
Purity:	$\geq 95\%$
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. Resuspend 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. Store at 2 - 8°C for up to 2 weeks or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant FGF-18 was tested by its ability to promote the proliferation of BALB/c 3T3 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 less than 10 ng/mL.

(B) 2 µg of Human Recombinant FGF-18 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant FGF-18 has a predicted molecular mass of 20.3 kDa.

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

- Davidson D et al. (2005) Fibroblast growth factor (FGF) 18 signals through FGF receptor 3 to promote chondrogenesis. *J Biol Chem* 280(21): 20509–15.
- Mori Y et al. (2014) Identification of fibroblast growth factor-18 as a molecule to protect adult articular cartilage by gene expression profiling. *J Biol Chem* 289(14): 10192–200.
- Ohbayashi N et al. (1998) Structure and expression of the mRNA encoding a novel fibroblast growth factor, FGF-18. *J Biol Chem* 273(29): 18161–4.
- Song L et al. (2014) High-efficiency production of bioactive recombinant human fibroblast growth factor 18 in *Escherichia coli* and its effects on hair follicle growth. *Appl Microbiol Biotechnol* 98(2): 695–704.

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