Cytokines

Human Recombinant FGF-10 (KGF-2), ACF

Fibroblast growth factor 10, animal component-free

Catalog #	78173	25 µg
	78173.1	100 µg
	78173.2	1000 µg

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Product Description

Fibroblast growth factor 10 (FGF-10) is a member of the fibroblast growth factor (FGF) family which is predominantly expressed by mesenchymal fibroblasts during embryonic development (Emoto et al.; Igarashi et al.). It binds with high affinity to fibroblast growth factor receptor 2-IIIb (FGFR2-IIIb), and also has a weaker affinity for FGFR1-IIIb (Beer et al.). FGF-10 and FGF-7 have similar receptor binding properties and target cell specificities but are differentially regulated by components of the extracellular matrix (Emoto et al.; Igarashi et al.). FGF-10 has been shown to mediate epithelial-mesenchymal interactions, which are essential to lung development (Sekine et al.; Ware & Matthay). FGF-10 also has a role in mobilization and proliferation of lung-resident mesenchymal stem cells (MSCs) and protection and repair against acute lung injury (Tong et al.; Ware & Matthay) and endodermal differentiation of human pluripotent stem cells to insulin-producing pancreatic-like cells (Takeuchi et al.). This product is animal component-free.

Product Information

Alternative Names:	Fibroblast growth factor 10, Keratinocyte growth factor 2
Accession Number:	O15520
Amino Acid Sequence:	MLGQDMVSPE ATNSSSSSFS SPSSAGRHVR SYNHLQGDVR WRKLFSFTKY FLKIEKNGKV SGTKKENCPY SILEITSVEI GVVAVKAINS NYYLAMNKKG KLYGSKEFNN DCKLKERIEE NGYNTYASFN WQHNGRQMYV ALNGKGAPRR GQKTRRKNTS AHFLPMVVHS
Predicted Molecular Mass:	19.3 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate, pH 7.5.
Source:	E. coli

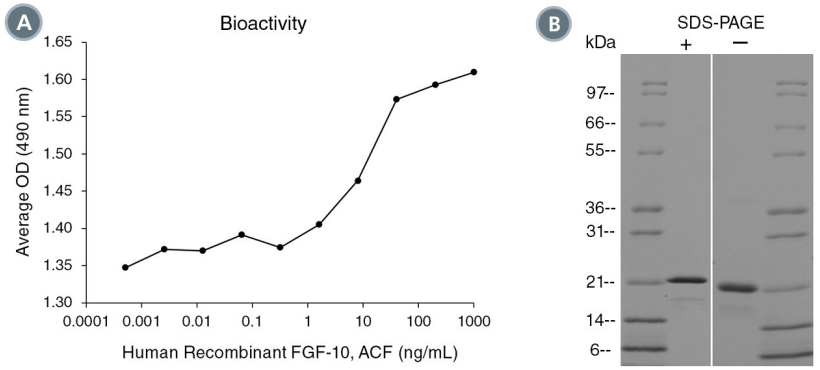
Specifications

Activity:	The specific activity is ≥ 5.0 x 10^3 units/mg (EC50 ≤ 200 ng/mL) as determined by a cell proliferation assay using 4MBr-5 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. 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 -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant FGF-10 (KGF-2), 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 6.45 ng/mL.
(B) 1 µg of Human Recombinant FGF-10 (KGF-2), ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant FGF-10 (KGF-2), ACF has a predicted molecular mass of 19.3 kDa.

Related Products

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References

Beer HD et al. (2000) Fibroblast growth factor (FGF) receptor 1-IIIb is a naturally occurring functional receptor for FGFs that is preferentially expressed in the skin and the brain. J Biol Chem 275(21): 16091–7.
Emoto H et al. (1997) Structure and expression of human fibroblast growth factor-10. J Biol Chem 272(37): 23191–4.
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Sekine K et al. (1999) Fgf10 is essential for limb and lung formation. Nat Genet 21(1): 138–41.
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Ware LB & Matthay MA. (2002) Keratinocyte and hepatocyte growth factors in the lung: roles in lung development, inflammation, and repair. Am J Physiol Lung Cell Mol Physiol 282(5): L924–40.