Recombinant Human FGF-10

Catalog Number: 345-FG/CF

DESCRIPTION

Source	*E. coli*-derived Cys37-Ser208 & Gly41-Ser208 Accession # O15520
N-terminal Sequence Analysis	Cys37 & Gly41
Predicted Molecular Mass	19.5 kDa

SPECIFICATIONS

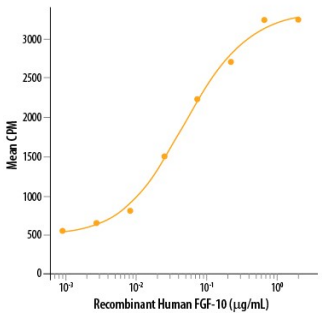
SDS-PAGE	19-22 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using 4MBr-5 rhesus monkey epithelial cells. Rubin, J.S. *et al.* (1989) Proc. Natl. Acad. Sci. USA **86**:802. The ED_{50} for this effect is 20-100 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in MOPS, Na_2SO_4, EDTA and DTT. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

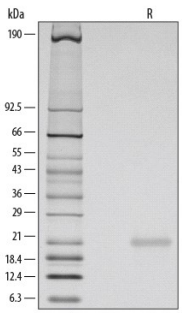
DATA

Bioactivity



Recombinant Human FGF-10 (Catalog # 345-FG/CF) stimulates cell proliferation of the 4MBr-5 rhesus monkey epithelial cell line. The ED_{50} for this effect is 20-100 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Human FGF-10 was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 21 kDa.

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BACKGROUND

The Fibroblast Growth Factors (FGFs) are heparin binding glycoproteins that exert a variety of biological activities toward cells of mesenchymal, neuronal, and epithelial origin. FGF-10 belongs to the subgroup of FGFs that also includes FGF-3, -7, and -22 (1). Mature human FGF-10 is an approximately 20 kDa protein that contains a serine-rich region near its N-terminus (2, 3). It shares 93% and 96% amino acid sequence identity with mouse and rat FGF-10, respectively. FGF-10 is secreted by mesenchymal cells and associates with extracellular FGF-BP (1, 4). It preferentially binds and activates epithelial cell FGF R2 (IIIb) and interacts more weakly with FGF R1 (IIIb) (5). The mitogenic and chemotactic properties of FGF-10 are critical in many tissues during embryogenesis. This includes limb bud initiation (6), palate development (7), branching morphogenesis and directional outgrowth of lung buds (8, 9), formation of the otic vesicle and chochlea (10), adipogenesis (11), and the development of prostate, mammary, lacrimal, and submandibular salivary glands (12 - 15). FGF R2 (IIIb) signaling in these responsive tissues is similarly important during embryogenesis (7, 10, 13 - 15). The expression and function of FGF-10 are negatively regulated by Shh and BMP-4 in the developing lung (8, 9). Overlapping expression patterns and activities with FGF-3, -7, and -8 suggest at least a partial redundancy in FGF-10 biology (7, 10, 14, 15). FGF-10 induced signaling through FGF R2 (IIIb) also contributes to the progression of pancreatic cancer (16).

References:

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