Recombinant Human/Rat/Porcine/Bovine FGF-10

Catalog Number: Qk003

DESCRIPTION

Source	*E. coli*-derived FGF-10 protein Accession # O15520.1
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

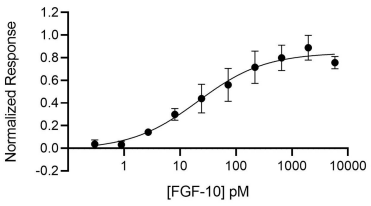
SDS-PAGE	Monomeric FGF-10 protein only
Activity	No significant difference between EC_{50} of reference and test lots
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Mass Spectrometry	Single species with expected mass
Mycoplasma	Negative when tested in both ribosomal RNA hybridization and luminescence assays
Formulation	Lyophilized from HEPES/NaCl/mannitol See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Resuspend in water at >100 µg/ml, prepare single use aliquots, add carrier protein if desired.
Shipping	The product is shipped lyophilized at ambient temperature, on ice blocks or on dryice. Shipping at ambient temperature does not affect the bioactivity or stability ofthe protein. Upon receipt, store immediately at the conditions stated below.
Stability & Storage	BulkLotPrefix assignment required for Storage Info

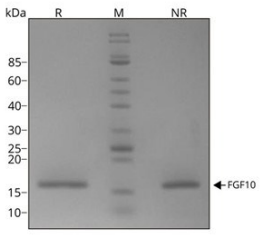
DATA

Bioactivity



Recombinant Human/Rat/Bovine FGF-10, Animal-Free Protein Bioactivity
FGF-10 activity is determined using the firefly luciferase reporter assay (*) in stably transfected HEK293T cells. Cells are treated in triplicate with a serial dilution of FGF-10. Firefly luciferase activity is measured and normalized. EC_{50} = 0.36 ng/ml (21.1 pM).
*Promega pGL4.33[luc2P/SRE/Hygro] #E1340

N/A



Recombinant Human/Rat/Bovine FGF-10, Animal-Free Protein SDS-PAGE
FGF-10 migrates as a single band at 17 kDa in non-reducing (NR) conditions and upon reduction (R). No contaminating protein bands are visible. Purified recombinant human FGF-10 protein (7 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250.

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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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PRODUCT SPECIFIC NOTICES

The above product was manufactured, tested and released by R&D System's contract manufacturer, Qkine Ltd, at 1 Murdoch House, Cambridge, UK, CB5 8HW. The product is for research use only and not for the diagnostic or theraputic use.

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