Epoto Biotech

南京艾璞拓生物科技有限公司

Recombinant Human KGF/FGF-7, Tag Free

Catalog Number: HF-2025

General Information

Synonyms	FGF7; FGF-7; fibroblast growth factor 7HBGF-7; HBGF7; HBGF-7; Heparin-binding growth factor 7;
Accession #	P21781
Source	Human embryonic kidney cell, HEK293-derived human FGF-7 protein
	Cys32-Thr194
Predicted Moleucular weight	18.9 kDa

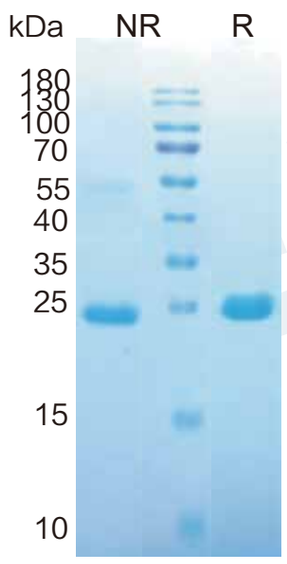
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice.

Quality

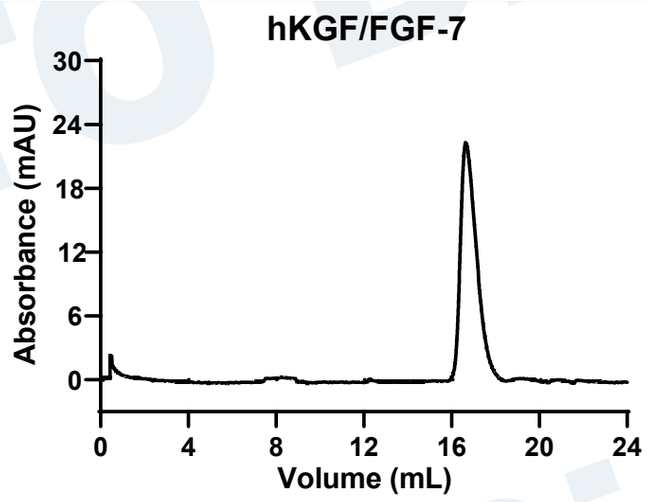
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using 4MBr-5 rhesus monkey epithelial cells.
	The EC50 for this effect is 2-20 ng/mL.

SDS-PAGE



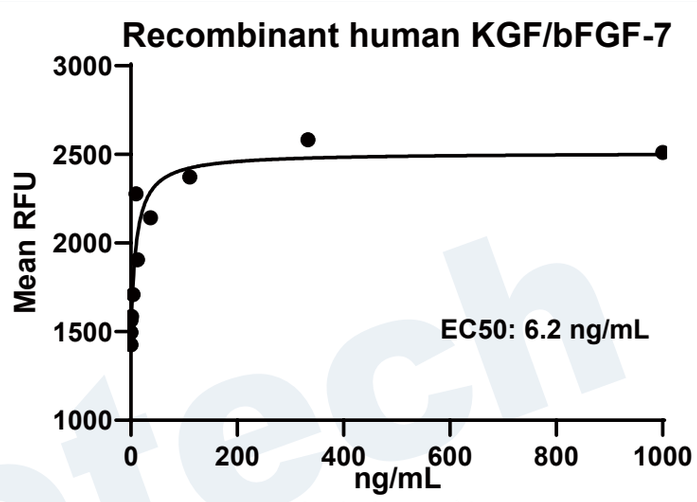
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human KGF/FGF-7 protein (280 nm absorbance)

Bioactivity



Recombinant human KGF/FGF-7 (Catalog # HF-2025) inhibits BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells.

Background

Fibroblast growth factor-7(FGF-7) is one of 22 known members of the mouse FGF family of secreted proteins that plays a key role in development, morphogenesis, angiogenesis, wound healing, and tumorigenesis (1-4). KGF expression is restricted to cells of mesenchymal origin. When secreted, it acts as a paracrine growth factor for nearby epithelial cells (1). KGF speeds wound healing by being dramatically upregulated in response to damage to skin or internal structures that results in high local concentrations of inflammatory mediators such as IL-1 and TNF-alpha. (2, 5). KGF promotes cell mig -ration and invasion, and mediates melanocyte transfer to keratinocytes upon UVB radiation (6, 7). It has been used ectopically to avoid chemotherapy -induced oral mucositis in patients with hematological malignancies (1). Deletion of KGF affects kidney development, producing abnormally small ureteric buds and fewer nephrons (8). It also impedes hair follicle differentiation (9). The 194 amino acid (aa) KGF precursor contains a 31 aa signal sequence and, like all other FGFs, an ~120 aa beta -trefoil scaffold that includes receptor- and heparin-binding sites. KGF signals only through the IIIb splice form of the tyrosine kinase receptor, FGF R2 (FGF R2-IIIb/KGF R) (10). Receptor dimerization requires an octameric or larger heparin or heparin sulfate proteoglycan (11). FGF-10, also called KGF2, shares 51% aa identity and similar function to KGF, but shows more limited expression than KGF and uses an additional receptor, FGF R2-IIIc (12). Following receptor engagement, KGF is typically degraded, while FGF-10 is recycled (12). Mature human KGF, which is active across species, shares 98% aa sequence identity with bovine, equine, ovine and canine, 96% with mouse and porcine, and 92% with rat KGF, respectively.

Reference

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