K2 ONCOLOGY

DataSheet

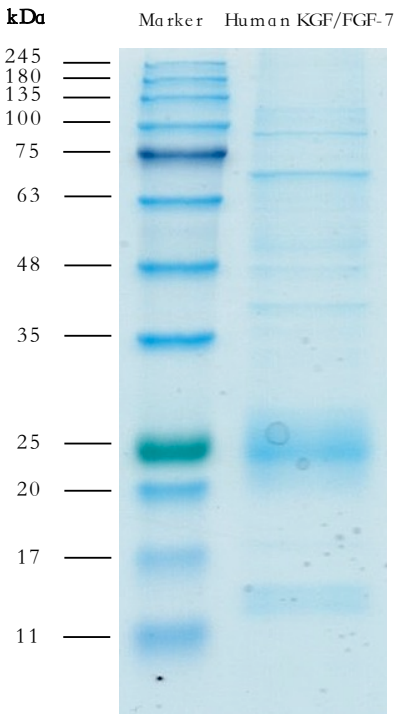
Recombinant Human KGF/FGF-7 Protein

Cat. No.: FG07-100 Size: 100μg
Cat. No.: FG07-1000 Size: 1mg

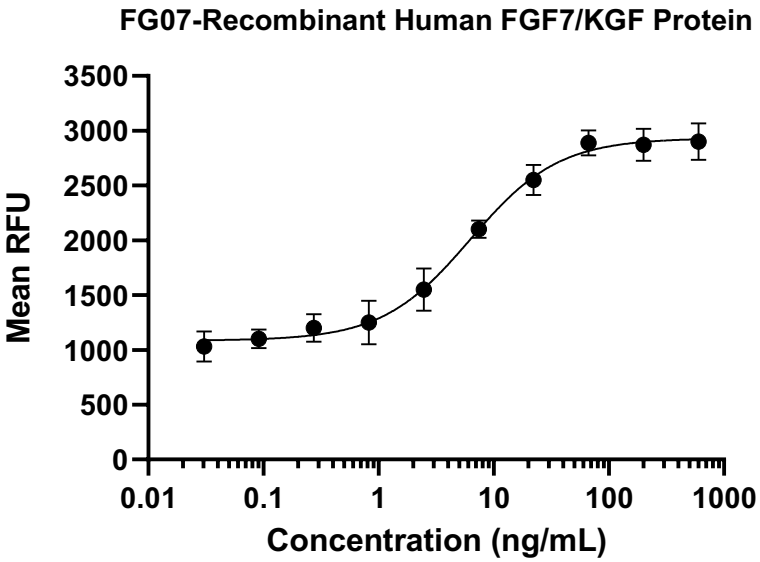
Product Specifications

Source:	Human KGF/FGF-7 (Cys32-Thr194) Accession # P21781 N-terminus C-terminus Human HEK293 cell line, HEK293-derived human FGF-7 protein
Accession:	P21781
Purity:	>85%, by SDS-PAGE under reducing conditions.
Endotoxin Level:	<0.10 EU/μg of the protein by the LAL method.
Activity:	The activity was determined by the dose-dependent stimulation of the proliferation of the monkey 4MBr-5 cell line. The ED50 for this effect is 5-50 ng/mL.
Organoids Culture Test:	Pass
Structure:	Monomer
Predicted Molecular Weight	19.0 kDa (monomer).
SDS-PAGE	14 and 24 to 29 kDa, reducing conditions.
Sterile:	0.22μm sterile filtration.
Product Form:	Lyophilized powder.
Shipping & Storage:	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below: ➢ To the date of expiration, -20°C to -80°C as supplied. ➢ 3 months, -20°C to -80°C under sterile conditions after reconstitution. ➢ 1 month, 2 to 8 °C under sterile conditions after reconstitution. **Avoid repeated freeze-thaw cycles.**

Scientific Data



The purity of the recombinant human FGF-7 protein was analyzed using SDS-PAGE under reducing conditions and stained using Coomassie blue.



The activity was determined by the dose-dependent stimulation of the proliferation of the monkey 4MBr-5 cell line. The ED50 for this effect is 5-50 ng/mL.

Product Background:

FGF-7, also known as KGF (keratinocyte growth factor), is a member of the fibroblast growth factor (FGF) family involved in various aspects of development, morphogenesis, angiogenesis, wound healing, and tumorigenesis. It is primarily expressed in mesenchymal cells and acts as a paracrine growth factor for adjacent epithelial cells. KGF plays a crucial role in wound healing, as its expression is significantly upregulated in response to tissue damage, leading to the accumulation of inflammatory mediators like IL-1 and TNF-alpha. It promotes cell migration, invasion, and facilitates melanocyte transfer to keratinocytes upon UVB radiation exposure.

KGF signals through the FGF receptor 2 isoform IIIb (FGFR2-IIIb/KGFR) and requires the presence of heparin or heparan sulfate proteoglycan for receptor dimerization. FGF-10, also known as KGF2, shares functional similarity with KGF but exhibits more limited expression and utilizes the FGF receptor 2 isoform IIIc (FGFR2-IIIc). After receptor engagement, KGF is typically degraded, while FGF-10 is recycled. KGF shares a high degree of amino acid sequence identity with KGF from other species, such as bovine, equine, ovine, canine, mouse, porcine, and rat (98%, 98%, 98%, 98%, 96%, 96%, and 92%, respectively). This conservation highlights the functional importance of KGF across different organisms.

In the context of organoid culture, KGF has been utilized to mitigate chemotherapy-induced oral mucositis in patients with hematological malignancies. Its absence affects kidney development, resulting in smaller ureteric buds and reduced nephron formation. Additionally, KGF plays a role in hair follicle differentiation.

References:

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RUO Statement:

Recombinant Human KGF/FGF-7 Protein for Research Use Only. It is not intended for diagnostic, therapeutic, or any other clinical applications.

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