Recombinant Human KGF/FGF-7

Catalog Number: 11537-KG

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human KGF/FGF-7 protein Ser55-Thr194 Accession # P21781.1
N-terminal Sequence Analysis	Ser55
Predicted Molecular Mass	16 kDa

SPECIFICATIONS

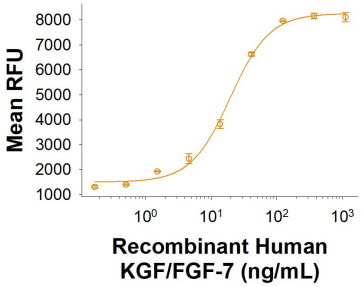
SDS-PAGE	15-18 kDa, under reducing conditions
Activity	Measured in a cell proliferation assay using Ba/F3 mouse pro B cells transfected with human FGF RIIb. The ED_{50} for this effect is 4.00-40.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in MOPS, Na_2SO_4 and EDTA with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute 10 µg size at 100 µg/mL and the other sizes at 200 µg/mL in 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.

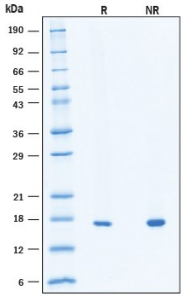
DATA

Bioactivity



Recombinant Human KGF/FGF-7 Protein Bioactivity. Measured in a cell proliferation assay using Ba/F3 mouse pro B cells transfected with human FGF RIIb. The ED_{50} for this effect is 4.00-40.0 ng/mL.

SDS-PAGE



Recombinant Human KGF/FGF-7 Protein SDS-PAGE. 2 µg/lane of Recombinant Human KGF/FGF-7 Protein (Catalog # 11537-KG) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 15-18 kDa, under reducing conditions.

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BACKGROUND

Fibroblast growth factor 7 (FGF7), also known as keratinocyte growth factor (KGF), is a member of the FGF family of secreted glycoproteins which are involved in key roles from development, morphogenesis, and angiogenesis to wound healing and tumorigenesis (1-4). FGF7, along with FGF3, FGF10, and FGF22, form a subfamily of the larger FGF family whose expression is restricted to cells of mesenchymal origin and function as paracrine growth factors for nearby epithelial cells (1). The FGF family is characterized by a core heparin-binding FGF domain of approximately 120 amino acids (aa) that exhibits a conserved beta -trefoil structure (2). Mature human FGF7 shares 96% and 92% aa sequence identity with mouse and rat FGF7, respectively. FGF7 signals only through the IIIb splice form of the receptor FGFR2, whose expression is restricted primarily to epithelial cells (5). FGF7 is noticeably upregulated in response to damage to skin or internal structures and is proposed to help speed-up wound healing (6). Deletion of FGF7 affects kidney development, producing abnormally small ureteric buds and fewer nephrons (7). FGF7 has been proposed as a potential cancer therapeutic by targeting the intermolecular interaction site between FGF7 and FGFR2b (3). Additionally, the use of FGF7 is being explored as novel treatment options for cartilage diseases, such as Osteoarthritis and Rheumatoid arthritis (8). An N-terminally truncated version of FGF7 with improved thermal stability, named Palifermin (brand name Kepivance), is approved for treatment for reducing and/or healing damages caused by cancer chemotherapy and radiotherapy, such as severe oral mucositis (OM) (9,10).

References:

1. Mohammadi, M. *et al.* (2005) Cytokine Growth Factor Rev. **16**:107.
2. Itoh, N. and D.M. Ornitz (2008) Dev. Dyn. **237**:18.
3. Vadija, R. *et al.* (2016) J. Chem. Biol. **9**:69.
4. Itoh, N. and D.M. Ornitz (2004). Trends Genet. **20**:563.
5. Steiling, H. and S. Werner (2003) Curr. Opin. Biotechnol. **14**:533.
6. Geer, D.J. *et al.* (2005) Am. J. Pathol. **167**:1575.
7. Qiao, J. *et al.* (1999) Development **126**:547.
8. Zhang, X. *et al.* (2023) Life Sci. **326**:121804.
9. Hsu, E. *et al.* (2006) PEDS **19**:147.
10. Sadeghi, S. *et al.* (2021) Int. J. Biol. Macromol. **191**:1175.

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