

Human Fibroblast Growth Factor 7 (FGF-7, KGF) - Purified

Alternate names: FGF-7, KGF

Catalog No.: PA1101

Quantity: 2 µg

Concentration: 1 mg/ml

Background: KGF is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. FGF7 is a potent epithelial cell-specific growth factor, whose mitogenic activity is predominantly exhibited in keratinocytes but not in fibroblasts and endothelial cells. Studies of mouse and rat homologs of this gene implicated roles in morphogenesis of epithelium, reepithelialization of wounds, hair development and early lung organogenesis.

Species: Human

Source: E. coli, E.coli

Format: **State:** Lyophilized

Purity: >98% Proprietary chromatographic techniques, sterile filtered,
> 98.0 % as determined by:

(a) Analysis by RP-HPLC.

(b) Analysis by SDS-PAGE.

Reconstitution: Sterile 18MOMega-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Description: Keratinocyte Growth Factor-1 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 164 amino acids.

AA Sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Cys-Asn-Asp-Met.

Biological Activity: The ED50, calculated by the dose-dependant stimulation of KGF-responsive BaF3 indicator cells (measured by 3H-thymidine uptake) is < 10 ng/ml corresponding to a specific activity of 105 Units/mg. ProSpec's Keratinocyte Growth Factor biological activity was measured by the KGF's mitogenic activity on BaF3 cells expressing the KGF receptor.

Molecular weight: 19 kDa 18995 Dalton.

Add. Information: Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.9 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a calibrated solution of KGF as a Reference Standard.

Storage:

Lyophilized product is stable at room temperature for one month, should be stored desiccated below -20 °C. Upon reconstitution FGF7 should be stored at 2 - 8 °C up to one week and for future use below -20 °C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.
Shelf life: one year from despatch.

General Readings:

1. Jeschke MG, Herndon DN. The combination of IGF-I and KGF cDNA improves dermal and epidermal regeneration by increased VEGF expression and neovascularization. *Gene Ther.* 2007 Aug;14(16):1235-42. Epub 2007 May 31. PubMed PMID: 17538636.
2. Lotti LV, Rotolo S, Francescangeli F, Frati L, Torrisi MR, Marchese C. AKT and MAPK signaling in KGF-treated and UVB-exposed human epidermal cells. *J Cell Physiol.* 2007 Sep;212(3):633-42. PubMed PMID: 17458890.
3. Sobral CS, Gragnani A, Morgan J, Ferreira LM. Inhibition of proliferation of *Pseudomonas aeruginosa* by KGF in an experimental burn model using human cultured keratinocytes. *Burns.* 2007 Aug;33(5):613-20. Epub 2007 Apr 6. PubMed PMID: 17418954.
4. Tillie-Leblond I, Gosset P, Le Berre R, Janin A, Prangère T, Tonnel AB, et al. Keratinocyte growth factor improves alterations of lung permeability and bronchial epithelium in allergic rats. *Eur Respir J.* 2007 Jul;30(1):31-9. Epub 2007 Mar 28. PubMed PMID: 17392324.
5. Robinson CJ, Das RG, Maile P. The World Health Organization reference reagent for keratinocyte growth factor, KGF. *Growth Factors.* 2006 Dec;24(4):279-84. PubMed PMID: 17381069.
6. Waldeck H, Chung AS, Kao WJ. Interpenetrating polymer networks containing gelatin modified with PEGylated RGD and soluble KGF: synthesis, characterization, and application in in vivo critical dermal wound. *J Biomed Mater Res A.* 2007 Sep 15;82(4):861-71. PubMed PMID: 17335014.

Pictures:

Precursor- Protein structure and amino acid sequence

