# Animal-Free™ Recombinant Human KGF/FGF-7

Catalog Number: BT-KGF-AFL

## DESCRIPTION

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|---|---|
| **Source** | *E. coli*-derived human KGF/FGF-7 protein<br>Cys32-Thr194, with an N-terminal Met<br>Accession # P21781.1<br>Produced using non-animal reagents in an animal-free laboratory. |
| **N-terminal Sequence Analysis** | Cys32 & Asn33 |
| **Predicted Molecular Mass** | 19 kDa |

## SPECIFICATIONS

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| **SDS-PAGE** | 20 kDa, under reducing conditions. |
| **Activity** | Measured in a cell proliferation assay using Ba/F3 mouse pro B cells transfected with human FGF RIIb.<br>The $ED_{50}$ for this effect is 6.00-60.0 ng/mL.<br>The specific activity of Animal-Free™ Recombinant Human KGF/FGF-7 is >8.16 x $10^5$ units/mg, which is calibrated against the human KGF/FGF-7 WHO Standard (NIBSC code: 03/150). |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >97%, by SDS-PAGE with 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

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| **Reconstitution** | Reconstitute at 500 µg/mL in water. |
| **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.**<br>• 12 months from date of receipt, -20 to -70 °C as supplied.<br>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>• 3 months, -20 to -70 °C under sterile conditions after reconstitution. |



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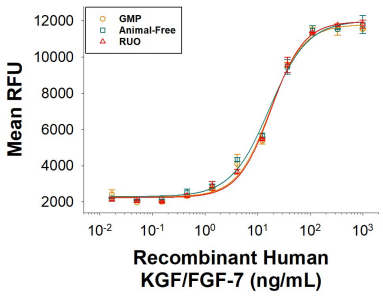
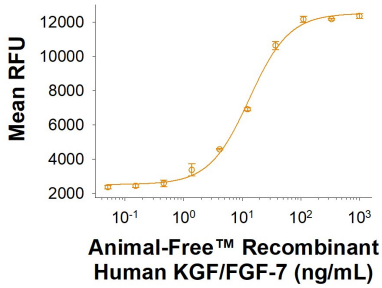
## DATA

### Bioactivity



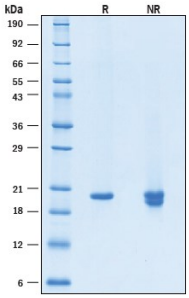

**Equivalent Bioactivity of GMP, Animal-Free and RUO grades of Recombinant Human KGF/FGF-7 Protein.** Equivalent bioactivity of GMP (Catalog # BT-KGF-GMP), Animal-Free (Catalog # BT-KGF-AFL) and RUO (Catalog # BT-KGF) grades of Recombinant Human KGF/FGF-7 GMP protein as measured in a cell proliferation assay using Ba/F3 mouse pro B cells transfected with human FGF RIIb (orange, green, red, respectively).

### Bioactivity




**Animal-Free™ Recombinant Human KGF/FGF-7 Protein Bioactivity.** Animal-Free™ Recombinant Human KGF/FGF-7 Protein (Catalog # BT-KGF-AFL) induced cell proliferation in Ba/F3 mouse pro B cells transfected with human FGF RIIb. The $ED_{50}$ for this effect is 6.00-60.0 ng/mL.

### SDS-PAGE




**Animal-Free™ Recombinant Human KGF/FGF-7 Protein SDS-PAGE.** 2 µg/lane of Animal-Free™ Recombinant Human KGF/FGF-7 Protein (Catalog # BT-KGF-AFL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 20 kDa.

## BACKGROUND

Keratinocyte Growth Factor (KGF), or Fibroblast Growth Factor-7 (FGF-7), is an important component in many cell culture protocols. It is widely used to promote the growth and differentiation of epithelial cells, including skin keratinocytes, and lung, corneal, and intestinal epithelia. It is a part of tissue engineering and organoid culture protocols, where it can enhance the generation of complex tissues such as liver, gastrointestinal tract, lung, and mammary gland. Furthermore, KGF/FGF-7 has been shown to stimulate the proliferation of pancreatic endocrine progenitor cells and promote their differentiation into mature insulin-secreting beta cells. In these capacities KGF/FGF-7 has significant clinical relevance in studies to better understand gastrointestinal disorders, wound healing, respiratory disease, and diabetes.

## MANUFACTURING SPECIFICATIONS

Animal-Free Manufacturing Conditions

Our dedicated controlled-access animal-free laboratories ensure that at no point in production are the products exposed to potential contamination by animal components or byproducts. Every stage of manufacturing is conducted in compliance with R&D Systems' stringent Standard Operating Procedures (SOPs). Production and purification procedures use equipment and media that are confirmed animal-free.

Production

- All molecular biology procedures use animal-free media and dedicated labware.
- Dedicated fermentors are utilized in committed animal-free areas.

Purification

- Protein purification columns are animal-free.
- Bulk proteins are filtered using animal-free filters.
- Purified proteins are stored in animal-free containers in a dedicated cold storage room.

Quality Assurance

- Low Endotoxin Level.
- No impairment of biological activity.
- High quality product obtained under stringent conditions.
- For *ex vivo* research or bioproduction, **additional documentation** can be provided.

Please read our complete Animal-Free Statement



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