# Recombinant Human FGF basic Heat Stable

Catalog Number: BT-FGFBHS

## DESCRIPTION

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|---|---|
| **Source** | *E. coli*-derived human FGF basic/FGF2/bFGF protein<br>Ala135-Ser288 (with modifications)<br>Accession # NP_001997.5 |
| **N-terminal Sequence Analysis** | Ala135 & Ala136 |
| **Predicted Molecular Mass** | 17 kDa |

## SPECIFICATIONS

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|---|---|
| **SDS-PAGE** | 16-19 kDa, under reducing conditions. |
| **Activity** | Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. *et al.* (1985) Methods Enzymol. **109**:749.<br>The $ED_{50}$ for this effect is 0.0500-0.600 ng/mL. |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >95%, by SDS-PAGE with quantitative densitometry by Coomassie® Blue Staining. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in HEPES and Sodium Sulfate with Trehalose. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute 10 µg size at 100 µg/mL in sterile deionized water. Reconstitute all the other sizes at 500 µg/mL in sterile deionized 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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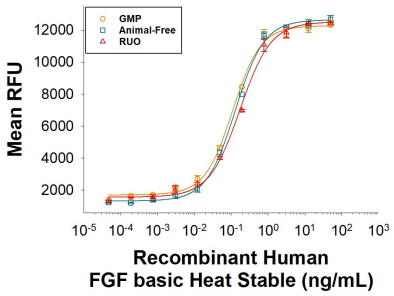
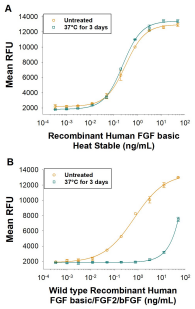
## DATA

### Bioactivity



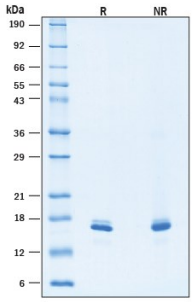

**Equivalent Bioactivity of GMP, Animal-Free, and RUO grades of Recombinant Human FGF basic Heat Stable proteins.** Equivalent bioactivity of GMP (Catalog # BT-FGFBHS-GMP), Animal-Free (Catalog # BT-FGFBHS-AFL) and RUO (Catalog # BT-FGFBHS) grades of Recombinant Human FGF basic Heat Stable proteins as measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells (orange, green, red, respectively).

### Bioactivity




**Recombinant Human FGF basic Heat Stable Protein, CF Bioactivity.** Recombinant Human FGF basic Heat Stable Protein induces NR6R 3T3 mouse fibroblast cell proliferation. (A) Recombinant Human FGF basic Heat Stable Protein (Catalog # BT-FGFBHS) or (B) wild type (WT) Recombinant Human FGF basic/FGF2/bFGF Proteins were untreated or incubated at 37°C for 3 days in media. Human FGF basic Heat Stable (HS) retained similar activity to the untreated HS protein indicating that the HS protein has increased thermal stability. In contrast, WT Recombinant Human FGF basic/FGF2/bFGF Protein significantly lost activity suggesting less thermal stability.

### SDS-PAGE




**Recombinant Human FGF basic Heat Stable Protein SDS-PAGE.** 2 µg/lane of Recombinant Human FGF basic Heat Stable Protein (Catalog # BT-FGFBHS) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 16-19 kDa, under reducing conditions.

## BACKGROUND

FGF basic (also known as FGF-2 and HBGF-2) is an 18-34 kDa, heparin-binding member of the FGF superfamily of molecules. As a growth factor, FGF basic is expressed in a variety of cell types and involved in the regulation of cell proliferation, differentiation, migration and survival. FGF basic promotes self-renewal and upregulates pluripotency markers such as Oct4, Sox2 and Nanog, making it well-known for maintenance of pluripotency in embryonic stem cells (ESCs) and induced pluripotent stem cells (iPSCs). These functions make FGF basic an important cell culture supplement in stem cell applications for regenerative medicine and clinical manufacturing protocols.

Our Heat Stable FGF basic has been engineered for thermostability and maintains its activity at 37℃ when compared to wild-type. Heat-stable FGF basic can enhance the flexibility and efficiency of cell culture by reducing the need for frequent media changes.

## PRODUCT SPECIFIC NOTICES

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