



**Synonym**

FGF2,BFGF,FGFB,FGF basic,HBGF-2

**Source**

Human FGF basic, premium grade(BFF-H4117) is expressed from E. coli cells. It contains AA Pro 143 - Ser 288 (Accession # [P09038-4](#)).

Predicted N-terminus: Pro 143

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

**Molecular Characterization**

**FGF basic(Pro 143 - Ser 288)  
P09038-4**

This protein carries no "tag".

The protein has a calculated MW of 16.5 kDa. The protein migrates as 17 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

**Endotoxin**

Less than 0.01 EU per µg by the LAL method.

**Host Cell Protein**

<0.5 ng/µg of protein tested by ELISA.

**Host Cell DNA**

<0.02 ng/µg of protein tested by qPCR.

**Sterility**

Negative

**Mycoplasma**

Negative.

**Purity**

>95% as determined by SDS-PAGE.

>95% as determined by SEC-HPLC.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

**Storage**

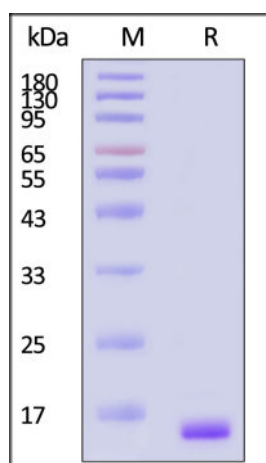
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

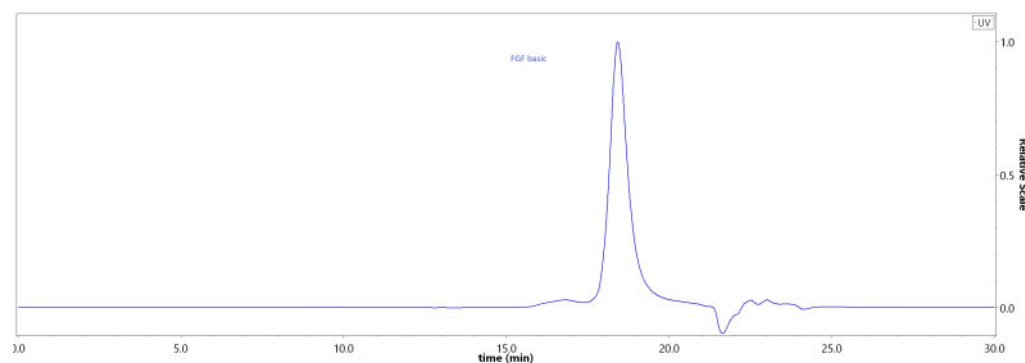
This product is stable after storage at:

- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**



**SEC-HPLC**



Discounts, Gifts,  
and more!



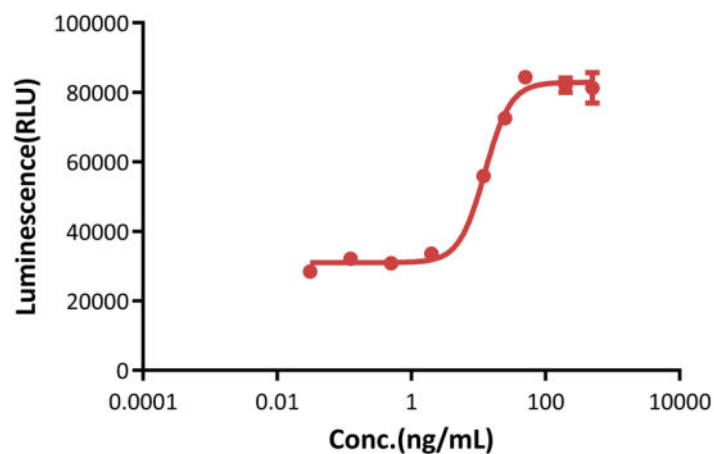


Human FGF basic, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

The purity of Human FGF basic, premium grade (Cat. No. BFF-H4117) was greater than 95% as determined by SEC-HPLC.

**Bioactivity-Bioactivity CELL BASE**

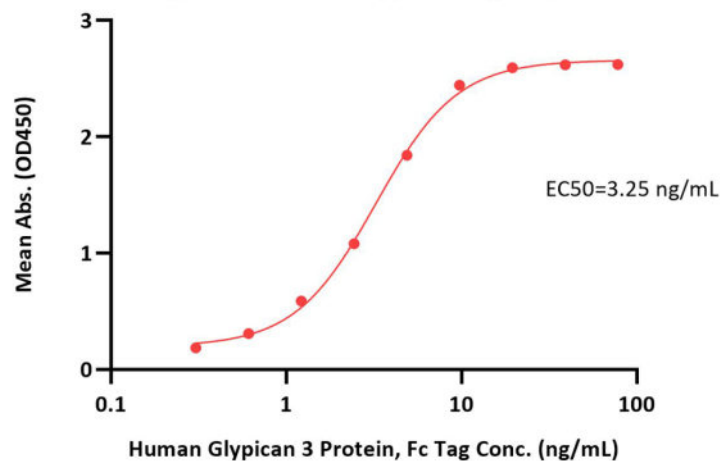
**Human FGF basic, premium grade stimulates proliferation of NIT-3T3 cells**



Human FGF basic, premium grade (Cat. No. BFF-H4117) stimulates proliferation of NIH/3T3 cells. The specific activity of Human FGF basic, premium grade is  $> 2.50 \times 10^6$  IU/mg, which is calibrated against human FGF basic WHO International Standard (NIBSC code: 90/712) (QC tested).

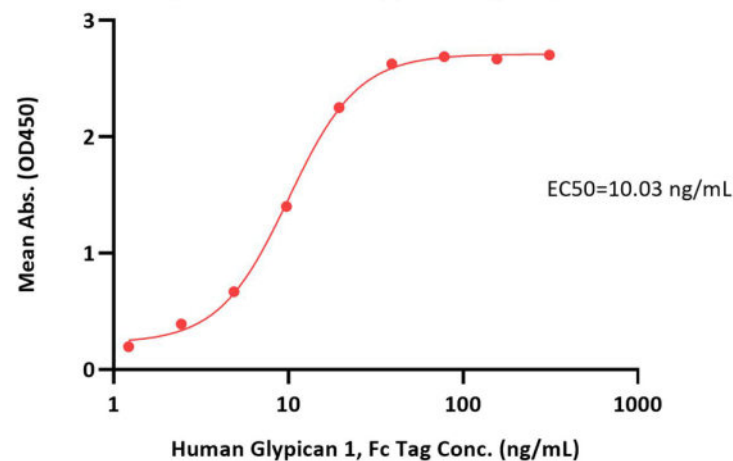
**Bioactivity-ELISA**

**Human FGF basic, premium grade ELISA**  
0.5 µg of Human FGF basic, premium grade per well



Immobilized Human FGF basic, premium grade (Cat. No. BFF-H4117) at 5 µg/mL (100 µL/well) can bind Human Glypican 3 Protein, Fc Tag (Cat. No. GP3-H5258) with a linear range of 0.3-5 ng/mL (QC tested).

**Human FGF basic, premium grade ELISA**  
0.5 µg of Human FGF basic, premium grade per well



Immobilized Human FGF basic, premium grade (Cat. No. BFF-H4117) at 5 µg/mL (100 µL/well) can bind Human Glypican 1, Fc Tag (Cat. No. GP1-H5254) with a linear range of 1-20 ng/mL (Routinely tested).

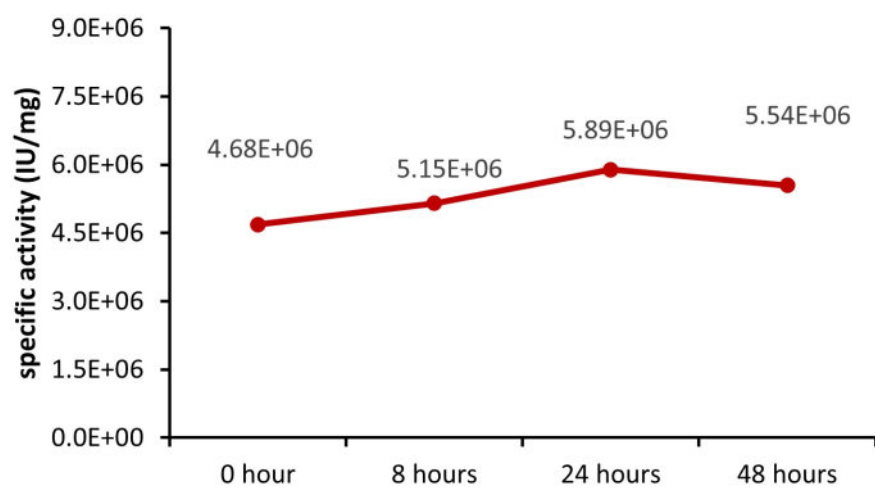
**Bioactivity-Stability**

Discounts, Gifts, and more!



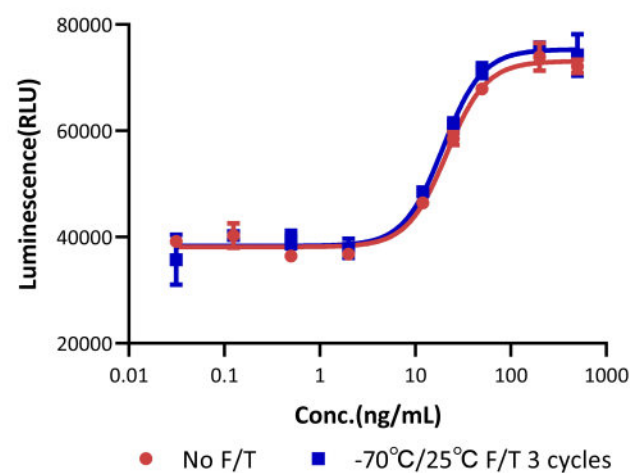


37°C Accelerated Stability (Reconstituted protein)



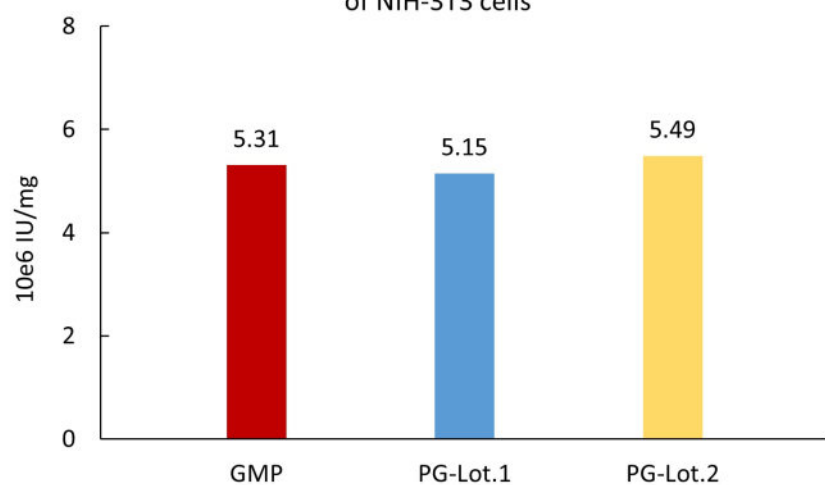
The Cell based assay shows that Human FGF basic, premium grade (Cat. No. BFF-H4117) is stable at 37°C for 48 hours.

Freeze & Thaw stability (Reconstituted protein)



The Cell based assay shows that Human FGF basic, premium grade (Cat. No. BFF-H4117) is stable after freezing and thawing 3 times.

FGF basic stimulates proliferation of NIH-3T3 cells



The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG FGF basic.

### Background

FGF basic is a member of the FGF family of at least 23 related mitogenic proteins which show 35-60% amino acid conservation. FGF acidic and basic, unlike the other members of the family, lack signal peptides and are apparently secreted by mechanisms other than the classical protein secretion pathway. FGF basic has been isolated from a number of sources, including neural tissue, pituitary, adrenal cortex, corpus luteum, and placenta. This factor contains four cysteine residues, but reduced FGF basic retains full biological activity, indicating that disulfide bonds are not required for this activity. bFGF is a critical component of human embryonic stem cell culture medium; the growth factor is necessary for the cells to remain in an undifferentiated state, although the mechanisms by which it does this are poorly defined. It has been demonstrated to induce gremlin expression which in turn is known to inhibit the induction of differentiation by bone morphogenetic proteins. It is necessary in mouse-feeder cell dependent culture systems, as well as in feeder and serum-free culture systems.

### Clinical and Translational Updates

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