

Human FGF basic Protein, Research Grade

Catalog # BFF-H4118



Features and Advantages

- Native Conformation: Native sequences, tag-free and natural function.
- Reliable Activity: Biological activity calibrated against WHO/NIBSC standards.
- Stringent Quality Control: Protein content, purity, and cell-based bioactivity testing for each batch.
- Lowest Endotoxin level (<0.01 EU/ug).
- Safety Assurance: Sterile filtration through 0.2 µm membrane.
- AOF: Animal origin-free raw materials throughout the production process.

Synonym

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

Source

Human FGF basic Protein, Research Grade (BFF-H4118) is expressed from *E. coli* cells. It contains AA Pro 143 - Ser 288 (Accession # [NP_001997](#)).

Predicted N-terminus: Pro 143

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 / rFC method.

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.

ACRO Quality Management System

- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

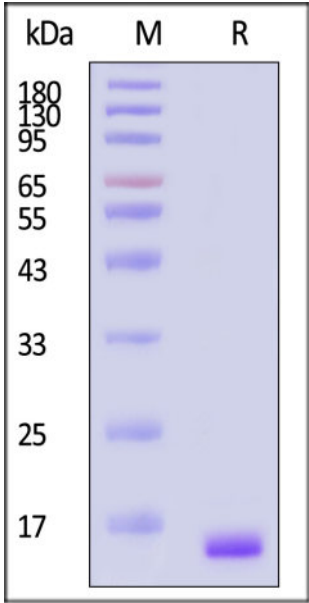
Quality Description

ACRO's Research-grade products are suitable for a wide range of cell culture applications, particularly for research use in academic institutions. These products are sterilized by filtration, followed by lyophilization where applicable. Typical specifications include endotoxin levels of <0.01 EU/

μg and purities >95%. Biological activity is calibrated against WHO/NIBSC standards when available.

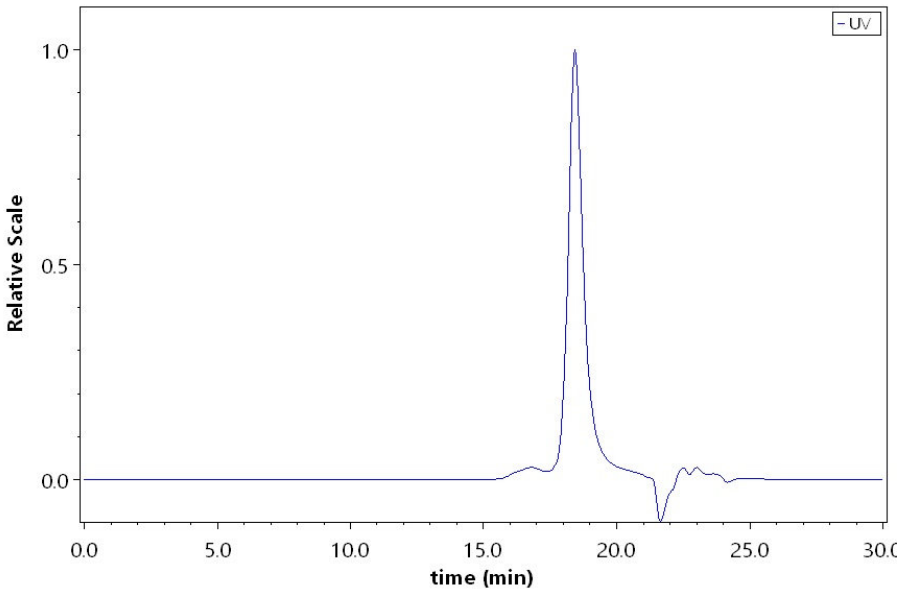
ACRO's Premium-grade (Pre-GMP) products are characterized by their high quality and enhanced safety profiles, making them ideal for early-stage discovery and manufacturing processes in cell therapy companies. A key advantage is their seamless transition to corresponding GMP-grade versions. Biological activity is calibrated against WHO/NIBSC standards when available. Typical specifications include endotoxin levels of <0.01 EU/μg and purities >95%. In addition, rigorous testing is conducted to ensure the absence of mycoplasma, HCD, and HCP, thereby guaranteeing product safety.

SDS-PAGE



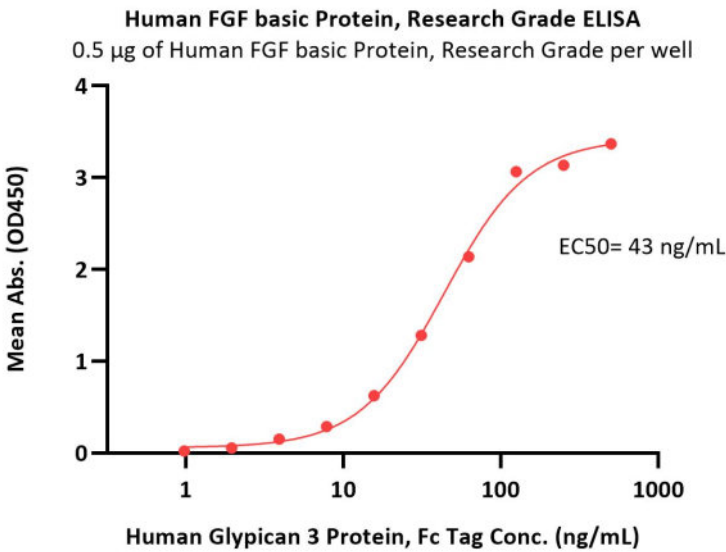
Human FGF basic Protein, Research Grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

SEC-HPLC



The purity of Human FGF basic Protein, Research Grade (Cat. No. BFF-H4118) was greater than 95% as determined by SEC-HPLC.

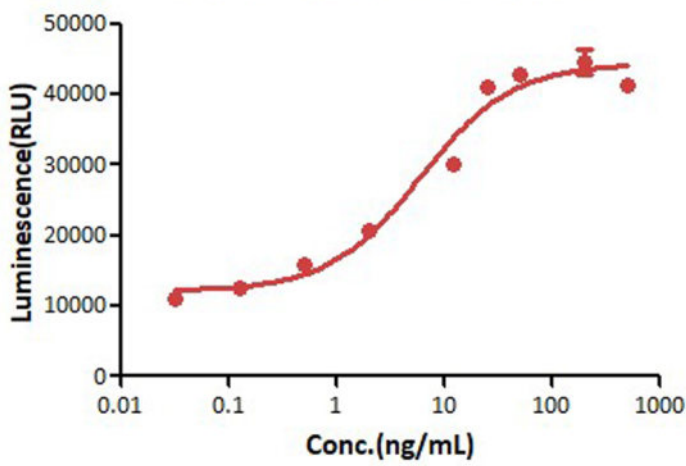
Bioactivity-ELISA



Immobilized Human FGF basic Protein, Research Grade (Cat. No. BFF-H4118) at 5 μg/mL (100 μL/well) can bind Human Glypican 3 Protein, Fc Tag (Cat. No. GP3-H5258) with a linear range of 4-125 ng/mL (QC tested).

Bioactivity-CELL BASE

Human FGF basic Protein, Research Grade stimulates proliferation of NIH-3T3 cells



Human FGF basic Protein, Research Grade (Cat. No. BFF-H4118) stimulates proliferation of NIH/3T3 cells. Human FGF basic Protein, Research Grade is > 2.5 x 10^6 IU/mg, which is calibrated against human FGF basic WHO International Standard (NIBSC code: 90/712) (QC tested).

Background

FGF basic (also known as FGF2 and HBGF-2) is an 18-34 kDa, heparin-binding member of the FGF superfamily of molecules (1-3). Superfamily members are characterized by the presence of a centrally placed beta -trefoil structure. FGF acidic (FGF-1) and FGF basic (FGF2) were the first two identified FGFs, and the designations acidic and basic refer to their relative isoelectric points. Human FGF basic is 288 amino acids (aa) in length. There are multiple start sites, four of which utilize atypical CUG codons, and one that initiates at an AUG start site (4 - 6). The four CUG start sites generate high molecular weight (HMW) FGF basic. There is a 34 kDa, 288 aa form, a 24 kDa, 210 aa form, a 22.5 kDa, 201 aa form, and a 22 kDa, 196 aa form. All are retained intracellularly, undergo extensive methylation, and possess one or more nuclear localization signals (NLS) (7-9). The AUG initiating form is 18 kDa and 155 aa in length. There is no signal sequence (ss). It is, however, secreted directly through the plasma membrane via a mechanism that appears to be dependent upon tertiary structure (10). In place of a ss, there is purportedly a 9 aa N-terminal prosegment that precedes a 146 aa mature segment (11). Early isolations of 18 kDa bovine FGF basic yielded 146 aa molecules, an effect attributed to the presence of acid proteases (12). The molecule contains a heparin-binding site (aa residues 128-144), and undergoes phosphorylation at Ser117 (13). There is also an ill-defined C-terminal NLS that may be more “functional” (or 3-dimensional) than structural (7). Human 146 aa FGF basic is 97% aa identical to mouse FGF basic (14).



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