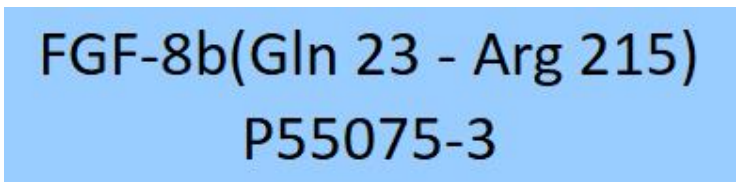
Synonym

FGF8,Fibroblast growth factor 8,FGF-8，Androgen-induced growth factor，Heparin-binding growth factor 8 ,AIGF

Source

Human FGF-8b Protein, premium grade(FGB-H5115) is expressed from E. coli cells. It contains AA Gln 23 - Arg 215 (Accession # P55075-3).
Predicted N-terminus: Met
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



This protein carries no "tag".

The protein has a calculated MW of 22.5 kDa. The protein migrates as 25 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.

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

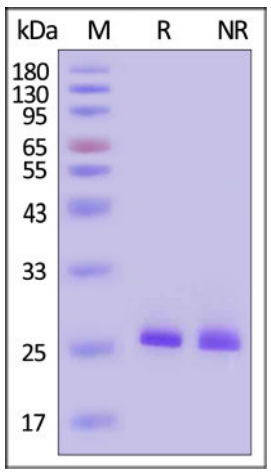
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

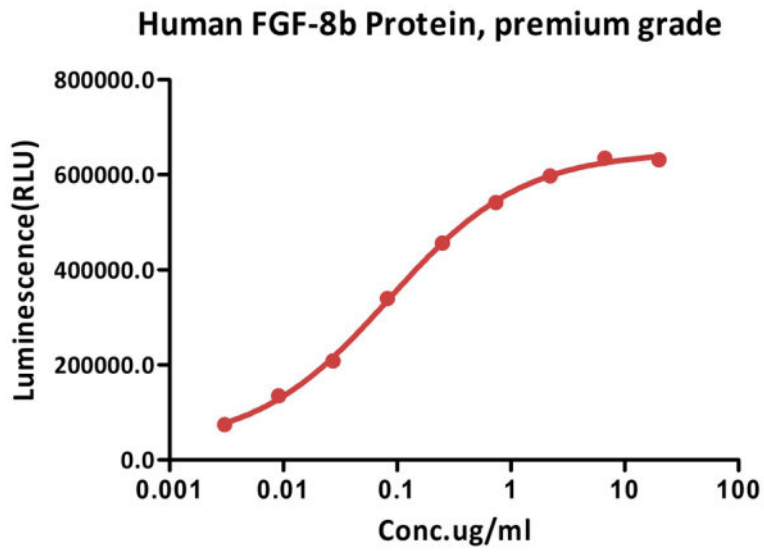
- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



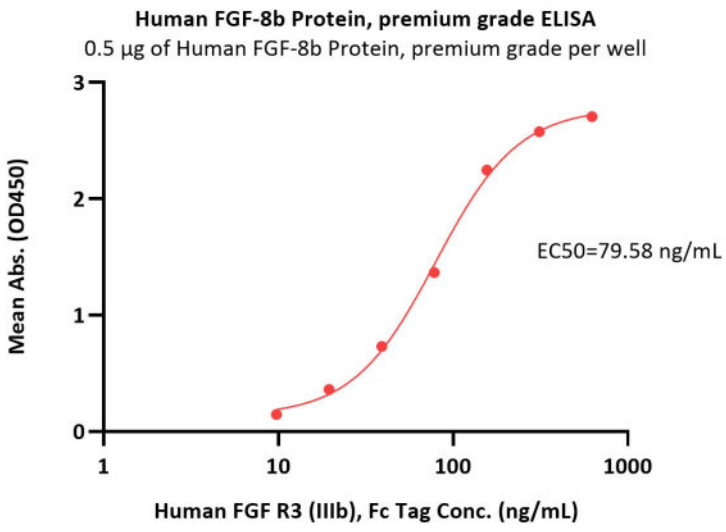
Human FGF-8b Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-Bioactivity CELL BASE



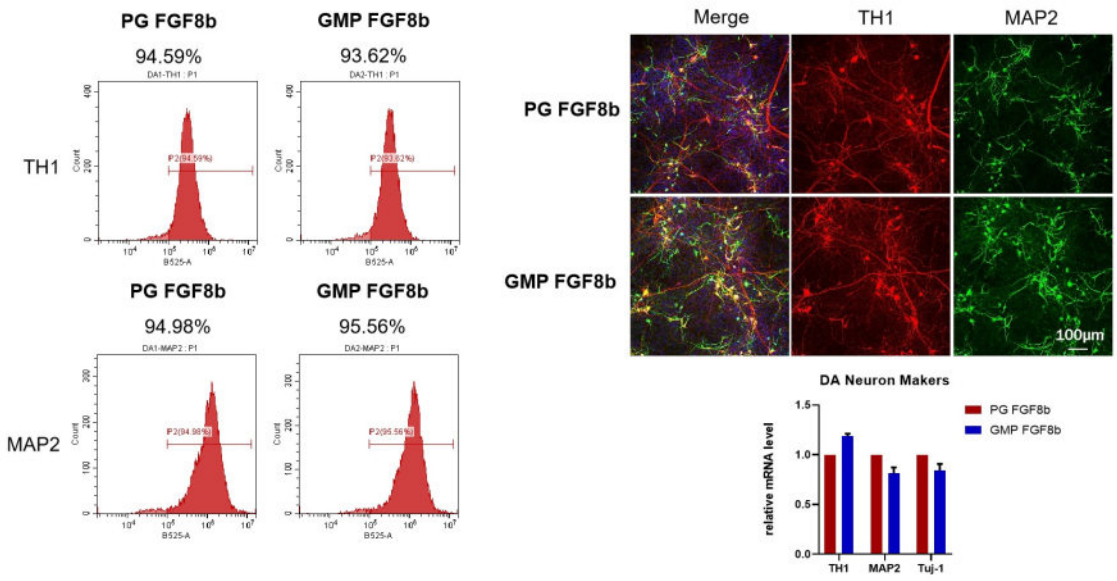
Human FGF-8b Protein, premium grade (Cat. No. FGB-H5115) stimulates proliferation of NIH-3T3 cells. The EC50 for this effect is 0.085 μg/mL (Routinely tested).

Bioactivity-ELISA



Immobilized Human FGF-8b Protein, premium grade (Cat. No. FGB-H5115) at 5 μg/mL (100 μL/well) can bind Human FGF R3 (IIIb), Fc Tag (Cat. No. FGB-H5259) with a linear range of 10-156 ng/mL (QC tested).

Application Data



GMP Human FGF-8b Protein (Cat. No. GMP-FGBH16) and Human FGF-8b Protein, premium grade (Cat. No. FGB-H5115) have similar bioactivity to efficiently induce the neuron progenitor cell into dopaminergic neurons differentiation, highly expressed TH1 and MAP2 in immunofluorescence staining and FACS (Routinely tested).

Background

FGF-8 is a member of the fibroblast growth factor family that was originally discovered as a growth factor essential for the androgen-dependent growth of mouse mammary carcinoma cells (1-3). Alternate splicing of mouse FGF-8 mR generates eight secreted isoforms, designated a-h, but only FGF-8a, b, e and f exist in humans (4). FGF-8 contains a 22 amino acid (aa) signal sequence, an N-terminal domain that varies according to the isoform (30 aa for FGF-8b; 20 aa for the shortest, FGF-8a), a 125 aa FGF domain and a 37 aa proline-rich C-terminal sequence. The FGF domain of FGF-8 shares the most aa identity with FGF17 (75%) and FGF-18 (67%), and the three form an FGF subfamily (2). Mouse FGF-8b shares 100% aa identity with human FGF-8b. FGF-8 is widely expressed during embryogenesis, and mediates epithelial-mesenchymal transitions. It plays an organizing and inducing role during gastrulation, and regulates patterning of the midbrain/hindbrain, eye, ear, limbs and heart in the embryo (2, 5 - 8). The isoforms may play different roles in development. FGF-8b shows the strongest receptor affinity and oncogenic transforming capacity although FGF-8a and FGF-8e are also transforming and have been found in human prostate, breast or ovarian tumors (1, 5, 9-12). FGF-8 shows limited expression in the normal adult, but low levels are found in the reproductive and genitourinary tract, peripheral leukocytes and bone marrow hematopoietic cells (3, 9, 13).

Clinical and Translational Updates