



## Glia Maturation Factor beta, human recombinant (rHuGMF-beta)

**Catalog No:** 97061  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** Glia maturation factor beta, GMFB, GMF-B, GMF-beta, GMF

### Background

Glia Maturation Factor-Beta (GMF-Beta) is a 17 kDa protein nerve growth factor identified as a growth and differentiation factor in the vertebrate brain. Glia Maturation Factor-Beta stimulates differentiation of normal neurons as well as glial cells. GMFB inhibits the proliferation of the N-18 neuroblastoma line and the C6 glioma line while promoting their phenotypic expression. GMF-beta enhances the phenotypic expression of glia & neurons thus inhibits the proliferation of their respective tumors when added to cell culture. Although astrocytes produce GMF-b and stores it inside the cells, they don't secrete the GMF-B into the cultured medium. Cell- surface GMFb acts on the target cells at close range when cells are in direct contact. GMF-Beta is produced by thymic epithelial cells and plays an important role in T cell development in favor of CD4+ T cells. GMF-Beta is a brain-specific protein which belongs to the actin-binding proteins (ADF) family. GMF-beta appears to play a role in the differentiation, maintenance, and regeneration of the nervous system. It also supports the progression of certain auto-immune diseases, possibly through its ability to induce the production and secretion of various pro-inflammatory cytokines.

### Description

Glia Maturation Factor-Beta (GMF-Beta) human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 141 amino acids and having a total molecular mass of 16.5 kDa. Glia Maturation Factor-Beta is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

The GMF-beta protein was lyophilized after dialysis against 20 mM PBS pH 7.4 and 130 mM NaCl.

### Solubility

It is recommended to reconstitute the lyophilized GMFB in sterile 18 M $\Omega$ -cm H<sub>2</sub>O not less than 100  $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized GMF-B, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution GMF-beta should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

### Amino Acid Sequence

SESLVVCDVA EDLVEKLRKF RFRKETNNA IIMKIDKDKR LVLDEELEG ISPDELKELP ERQPRFIVYS YKYQHDDGRV  
SYPLCFIFSS PVGCKPEQQM MYAGSKNKLV QTAELTKVFE IRNTEDLTEE WLREKLGFFH

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### Usage

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