



## Myostatin Human E. coli

### Product Data Sheet

**Type:** Recombinant

**Source:** E. coli

**Species:** Human

**Other names:** Growth/differentiation factor 8, GDF-8, MSTN

**Cat. No.:**

RD172005300 (0.1 mg)

### Description

Total 152AA, MW: 16.7 kDa (calculated). N-terminal His-tag including the spacer 43AA (highlighted). The AA sequence of the human myostatin part of the fusion protein is corresponding to the UniProtKB/Swiss-Prot entry O14793, AA267-375.

### Introduction to the Molecule

Myostatin (GDF 8) is expressed uniquely in human skeletal muscle as a 12 kDa mature glycoprotein consisting 109 amino acid residues secreted into plasma. Myostatin is a member of the transforming growth factor  $\beta$  superfamily of secreted growth and differentiation factors that is essential for proper regulation of skeletal muscle mass. Myostatin is important for cardiac development. In serum, myostatin circulates as part of a latent complex containing myostatin propeptide and/or follistatin-related gene. The myostatin propeptide is known to bind and inhibit myostatin in vitro. This interaction is relevant in vivo, with a majority (>70%) of myostatin in serum bound to its propeptide. The myostatin propeptide is negative regulator of myostatin in vivo.

### Research topic

Muscle growth control

### Amino Acid Sequence

MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDPSSRS AVR SRRDFGLDCD EHSTESRCCR YPLTVDFEAF GWDWIIAPKR  
YKANYCSGEC EFVFLQKYPH THLVHQANPR GSAGPCCTPT KMSPINMLYF NGKEQIIYGK IPAMVVDRCG CS

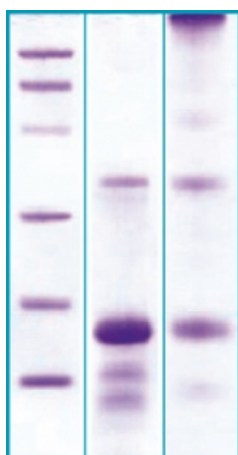
### Source

E. coli

### Purity

Purity as determined by densitometric image analysis: >95%

### SDS-PAGE gel



12% SDS-PAGE separation of Human Myostatin

1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa

2. reduced and heated sample, 10 $\mu$ g/lane

3. non-reduced and non-heated sample, 10 $\mu$ g/lane

### Endotoxin

< 1.0 EU/ $\mu$ g

### Formulation

Filtered (0,4 µm) and lyophilized from 0.5 mg/mL in 0.05 M acetate buffer, pH 4.5

### Reconstitution

Add 0.1M Acetate buffer pH4 to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10µg/mL. In higher concentrations the solubility of this antigen is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

### Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

### Storage, Stability/Shelf Life

Store lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

### Quality Control Test

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

LAL to determine quantity of endotoxin.

### Applications

ELISA, Western blotting

### Note

This product is intended for research use only. The Certificate of Analysis is available on [www.biovender.com](http://www.biovender.com)

### References to this Product

- Matsakas A, Bozzo C, Cacciani N, Caliaro F, Reggiani C, Mascarello F, Patruno M . *Effect of swimming on myostatin expression in white and red gastrocnemius muscle and in cardiac muscle of rats.* [Exp Physiol](#) . Nov;91(6):983-94 (2006)
- Artaza JN, Bhasin S, Magee TR, Reisz-Porszasz S, Shen R, Groome NP, Meerasahib MF, Gonzales-Cadavid NF . *Myostatin inhibits myogenesis and promotes adipogenesis in C3H 10T(1/2) mesenchymal multipotent cells.* [Endocrinology](#) . Aug;146(8):3547-57 (2005)
- Ramazanov Z, Jimenez del Rio M, Ziegenfuss T . *Sulfated polysaccharides of brown seaweed Cystoseira canariensis bind to serum myostatin protein.* *Acta Physiol Pharmacol Bulg* 27(2-3) . 101-106 (2003)

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