# Recombinant Human MSTN

**Cat No:HR2R1768**

For research use only

## Overview

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| Quantity | 10 ?g |
| Gene Symbol | MSTN |
| Gene ID | 2660 |
| Accession | O14793 |
| Alternative Name | MSTN, Growth differentiation factor 8, GDF-8<br/>Recombinant Human Myostatin (MSTN) |
| Species | Human |
| Source | E. coli |
| Description | Growth differentiation Factor 8 (GDF-8), also known as myostatin, is a secreted protein that is expressed specifically in developing and adult skeletal muscle. It controls myoblast proliferation and is a potent negative regulator of skeletal muscle mass. GDF-8 belongs to the transforming growth factor beta (TGF-beta) superfamily, which includes the TGF-betas, bone morphogenetic proteins (BMPs), growth differentiation factors (GDFs), activins, inhibins, leftys, nodal, Mullerian inhibitory substance (MIS) and the glial cell line-derived neurotrophic factors (GDNFs). All TGF-? superfamily members are synthesized and secreted as a homodimeric prepropeptide that is cleaved by proprotein convertases such as furin to generate the dimeric N-terminal propeptide and the dimeric C-terminal mature active protein. The C-terminal mature protein contains the characteristic conserved cysteine residues involved in the formation of the cysteine knot domain. Mouse GDF-8 cDNA encodes a 376 amino acid residue (aa) preproprotein with a putative 24 aa signal peptide, a 243 aa propeptide and a 109 aa mature protein. As is the case with most TGF-beta family proteins, GDF-8 is highly conserved across species. Mature human, mouse, rat, and cow GDF-8 share 100% aa sequence identity. Among TGF-beta family members, GDF-8 is most closely related to GDF- 11/BMP-11. The two proteins share 65% overall aa sequence, within their mature regions, the two proteins differ only by 11 aa.residues. Similarly to TGF-beta-1, 2, and 3, the GDF-8 homodimeric propeptide and mature protein remained non- covalently linked after proteolytic cleavage, and is released as a biologically inactive latent complex that does bind its receptor. In serum, GDF-8 has also been found to exist in a large latent complex that also included FLGR (follistatin-related gene) and GASP-1 (growth and differentiation factor- associated serum protein-1) in addition to the propeptide. Recombinant GDF-8 propeptide is capable of associating with the active GDF-8 with high-affinity to reconstitute the latent complex and is potent GDF-8 antagonist. |
| Functions | The ED(50) was determined by the dose-dependent proliferation inhibition of human MPC-11 cells was found to be in the range of 20-40 ng/mL. |
| Formulation | Recombinant Myostatin was lyophilized from a 0.2 ?m filtered Tris solution pH 8.0. |
| Solubility | A quick spin of the vial followed by reconstitution in distilled water to a concentration not less than 0.1 mg/mL. This solution can then be diluted into other buffers. |
| Appearance | Lyophilized Powder |

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| Molecular Weight | 13 |
| Purity | >95% as determined by SDS-PAGE |
| Concentration | <1.0 EU/?g of recombinant protein as determined by the LAL method. |
| Shipping Condition | Ambient Temperature |
| Storage Condition | The lyophilized protein is stable for at least one year from date of receipt at -70?C. Upon reconstitution, this cytokine can be stored in working aliquots at 2? - 8?C for one month, or at -20?C for six months, with a carrier protein without detectable loss of activity. Avoid repeated freeze/thaw cycles. |