

PRODUCT INFORMATION



GDF8 Signaling Domain (human, recombinant)

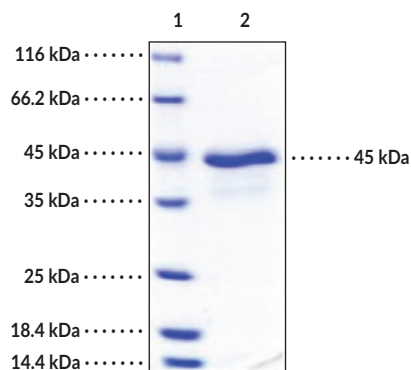
Item No. 42188

Overview and Properties

Synonyms:	Growth Differentiation Factor 8, Myostatin
Source:	Recombinant human N-terminal human IgG1 FC-tagged GDF8 signaling domain expressed in HEK293 cells
Amino Acids:	267-375
Uniprot No.:	O08689
Molecular Weight:	40.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥92% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Protein	
Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: GDF8 Signaling Domain

SDS-PAGE Analysis of GDF8 Signaling Domain. This protein has a calculated molecular weight of 40.8 kDa. It has an apparent molecular weight of approximately 45 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Growth differentiation factor 8 (GDF8) is a myokine and member of the TGF- β superfamily.^{1,2} It is produced in skeletal and cardiac muscle cells as a proprotein, which shares sequence identity between the human, mouse, and rat.^{1,5} The proprotein is cleaved in the endoplasmic reticulum into a protein containing a prodomain and C-terminal signaling domain.^{1,3,5} This protein is secreted and forms homodimers that either circulate or remain near the extracellular membrane in a latent state.⁶ The prodomain is cleaved by bone morphogenetic protein 1 (BMP1) or tolloid family metalloproteinases, releasing the signaling domain to activate TGF- β receptor type 2 (TGFB β R2) and negatively regulate muscle growth and differentiation.^{1,2,6} Knockout of *Myst*, the gene expressing *Gdf8*, increases muscle mass, muscle fiber length, bone mineral content (BMC), and bone size in *Myst*^{-/-} mice compared to wild-type mice.⁴ The levels of full-length GDF8 and GDF8 prodomain are increased in left ventricle tissue samples from patients with dilated- or ischemic cardiomyopathy.⁵ Cayman's GDF8 Signaling Domain (human, recombinant) protein is a disulfide-linked homodimer. The reduced monomer, composed of GDF8 (amino acids 267-375) fused to human IgG1 Fc at its N-terminus, consists of 369 amino acids and has a calculated molecular weight of 40.8 kDa. This protein consists of 108 amino acids and has a predicted N-terminus of Gly20 after signal peptide cleavage. As a result of glycosylation, the monomer migrates to approximately 45 kDa by SDS-PAGE under reducing conditions.

References

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4. Elkasrawy, M.N., and Hamrick, M.W. Myostatin (GDF-8) as a key factor linking muscle mass and skeletal form. *J. Musculoskelet. Neuronal. Interact.* **10(1)**, 56-63 (2010).
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