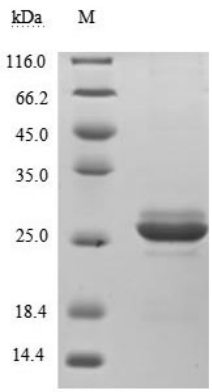
Recombinant Human Somatotropin (GH1) (Active)

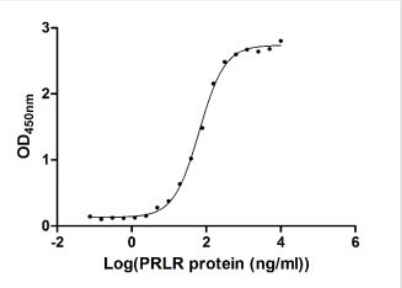
Product Code	CSB-MP009407HU
Relevance	Plays an important role in growth control. Its major role in stimulating body growth is to stimulate the liver and other tissues to secrete IGF-1. It stimulates both the differentiation and proliferation of myoblasts. It also stimulates amino acid uptake and protein synthesis in muscle and other tissues.
Abbreviation	Recombinant Human GH1 protein (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P01241
Storage Buffer	Lyophilized from a 0.2 μm filtered 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0
Product Type	Others
Immunogen Species	Homo sapiens (Human)
Biological Activity	①Measured by its binding ability in a functional ELISA. Immobilized GH1 at 1 μg/ml can bind human PRLR(CSB-MP018727HU1), the EC50 of the protein is 60.71-69.65 ng/ml.②Measured by its binding ability in a functional ELISA. Immobilized GH1 at 1 μg/ml can bind human GHR(CSB-MP009411HU), the EC50 of the protein is 19.28-25.29 ng/ml.③Human GH1 protein his/myc tag (CSB-MP009407HU) captured on COOH chip can bind Human GHR protein Fc tag (CSB-MP009411HU) with an affinity constant of 6.1 nM as detected by LSPR Assay.④Measured by its binding ability in a functional ELISA. Immobilized human GH1 at 2 μg/ml can bind Biotinylated human GHR (CSB-MP009411HUj1-B), the EC_{50} is 2.067-3.208 ng/ml.
Purity	Greater than 95% as determined by SDS-PAGE. Greater than 95% as determined by SEC-HPLC.
Sequence	FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCF SESIPTPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSN VYDLLKDLEEGIQTLMGRLEDGSPRTGQIFKQTYSKFDTNSHNDDALLKNYGL LYCFRKDMDKVETFLRIVQCRSVEGSCGF
Research Area	Developmental Biology
Source	Mammalian cell
Target Names	GH1
Expression Region	27-217aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged

Mol. Weight	27.2 kDa
Protein Length	Full Length of Mature Protein

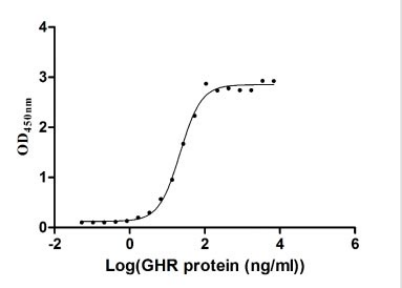
Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Activity
Measured by its binding ability in a functional ELISA. Immobilized GH1 at 1 μg/ml can bind human PRLR(CSB-MP018727HU1), the EC_{50} of the protein is 60.71-69.65 ng/ml.



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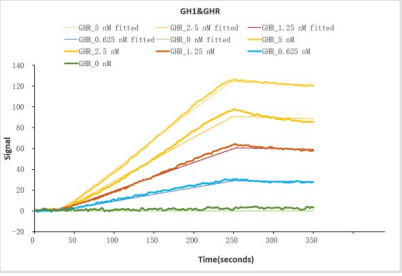
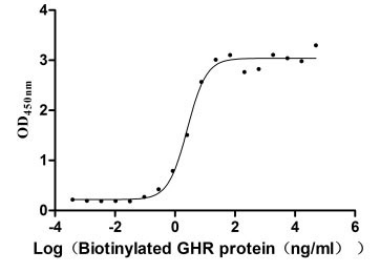
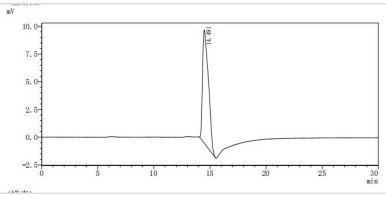


Human GH1 protein his/myc tag (CSB-MP009407HU) captured on COOH chip can bind Human GHR protein Fc tag (CSB-MP009411HU) with an affinity constant of 6.1 nM as detected by LSPR Assay.



Activity
Measured by its binding ability in a functional ELISA. Immobilized human GH1 at 2 μg/ml can bind Biotinylated human GHR (CSB-MP009411HUj1-B), the EC_{50} is 2.067-3.208 ng/ml.



The purity of GH1 was greater than 95% as determined by SEC-HPLC

Description

The Recombinant Human Somatotropin GH1 is a recombinant hormone formed in mammalian cells. A DNA sequence encoding the growth hormone 1 (Phe21-Phe217) was fused with a polyhistidine tag at N-terminal and a Myc-tag at C-terminal. This sequence codes for the protein with 191 amino acids, and has a calculated molecular mass of 27.2 kDa (191 amino acids).
Human Somatotropin/Growth Hormone belongs to the growth factor family of hormones. It is secreted and stored in the anterior pituitary gland. It stimulates growth by aiding the uptake of amino acids, facilitating protein synthesis, and stimulating cellular proliferation. Most of its effects are accomplished through IGF-1.
Deletions and mutations in the gene coding for growth hormone lead to growth hormone deficiency. Growth hormone deficiency, in turn, plays a part in a couple of diseases.
The Recombinant Human Somatotropin GH1 finds application in studies involving growth hormone deficiency, Kowarski disease, Turner syndrome, cancer, metabolic disorders, and congestive heart failure.
It has an endotoxin content lower than 1 EU/μg and purity over 90%, as verified by LAL and SDS-PAGE, respectively.

Endotoxin

Less than 1.0 EU/ug as determined by LAL method.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.