

# Rat Growth Hormone Receptor / GHR / GHBP Protein (His Tag)

Catalog Number: 80029-R08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

GHR

### Protein Construction:

A DNA sequence encoding the rat GHR (P16310-1) extracellular domain (Met 1-Arg 265) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

## QC Testing

Purity: > 95 % as determined by SDS-PAGE

### Bio Activity:

Measured by its ability to inhibit proliferation of INS-1 cells. The  $ED_{50}$  for this effect is 0.6-3 $\mu$ g/mL in the presence of 50 ng/mL human growth hormone.

### Endotoxin:

< 1.0 EU per  $\mu$ g of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Phe 19

### Molecular Mass:

The recombinant rat GHR comprises 258 amino acids and predicts a molecular mass of 29.6 kDa. The apparent molecular mass of the ratGHR is approximately 35-45 kDa in SDS-PAGE under reducing conditions due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

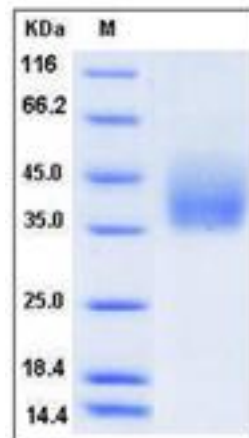
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Growth hormone receptor, also known as GH receptor and GHR, is a single-pass type I membrane protein which belongs to the type I cytokine receptor family and type 1 subfamily. GHR contains one fibronectin type-III domain. Growth hormone receptor / GHR is expressed in various tissues with high expression in liver and skeletal muscle. Isoform4 of GHR is predominantly expressed in kidney, bladder, adrenal gland and brain stem. Isoform1 expression of GHR in placenta is predominant in chorion and decidua. Isoform4 is highly expressed in placental villi. Isoform2 of GHR is expressed in lung, stomach and muscle. Growth hormone receptor / GHR is a receptor for pituitary gland growth hormone. It is involved in regulating postnatal body growth. On ligand binding, it couples to the JAK2 / STAT5 pathway. Isoform2 of GHR up-regulates the production of GHBP and acts as a negative inhibitor of GH signaling. Defects in GHR are a cause of Laron syndrome (LARS) which is a severe form of growth hormone insensitivity characterized by growth impairment, short stature, dysfunctional growth hormone receptor, and failure to generate insulin-like growth factor I in response to growth hormone. Defects in GHR may also be a cause of idiopathic short stature autosomal (ISSA) which is defined by a subnormal rate of growth.

## References

1. Leung DW. et al., 1987, Nature. 330:537-43.
2. Sobrier M-L. et al., 1997, J Clin Endocrinol Metab. 82: 435-7.
3. Enberg B. et al., 2000, Eur J Endocrinol. 143: 71-6.

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