Rat Growth Hormone Receptor / GHR / GHBP Protein (Fc Tag)

Catalog Number: **80029-R02H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

GHBP; GHIP; GHBP; GHR/BP

Protein Construction:

A DNA sequence encoding the rat GHR (P16310-1) (Met1-Arg265) was expressed with the Fc region of human IgG1 at the C-terminus.

Source: Rat

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to inhibit proliferation of INS-1 cells induced by human growth hormone. The ED_{50} for this effect is 0.075-0.3 μg/mL in the presence of 50 ng/mL human growth hormone.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

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

Predicted N terminal: Phe 19

Molecular Mass:

The recombinant rat GHR/Fc is a disulfide-linked homodimer. The reduced monomer comprises 488 amino acids and has a predicted molecular mass of 55.4 kDa. The apparent molecular mass of the protein is approximately 66 kDa in SDS-PAGE under reducing conditions.

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:

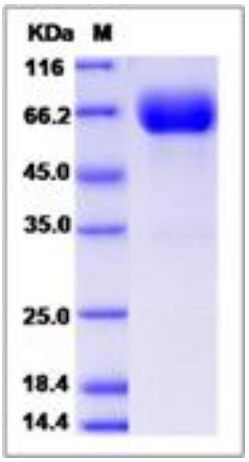
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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. Isoform 4 of GHR is predominantly expressed in kidney, bladder, adrenal gland and brain stem. Isoform 1 expression of GHR in placenta is predominant in chorion and decidua. Isoform 4 is highly expressed in placental villi. Isoform 2 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. Isoform 2 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.