Data Sheet (Cat.No.TMPY-00977)

TargetMol

GHR/Growth Hormone R Protein, Mouse, Recombinant (His & hFc)

General Information

Synonyms:	growth hormone receptor;GHR/BP;GHBP
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Gln 273) of mouse GHR (NP_034414.2) precursor was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus. Predicted N terminal: Thr 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q3UP14
Molecular Weight:	56.8 kDa (predicted); 70-80 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to inhibit proliferation of INS-1 cells induced by human growth hormone. The ED50 for this effect is 0.5-2 μg/mL in the presence of 50 ng/mL human growth hormone.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Growth hormone receptor, also known as GH receptor and GHR, is a single-pass type I membrane protein which belongs to thetype I cytokine receptor family and type 1 subfamily. GHR contains onefibronectin type-III domain. Growth hormone receptor / GHR is expressed in various tissues with high expression in liver and skeletal muscle.

Isoform4of GHR is predominantly expressed in kidney, bladder, adrenal gland and brain stem. Isoform1 expression of GHR in placenta is predominant in chorion and decidua. Isoform4is highly expressed in placental villi. Isoform2of 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. Isoform2of 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.

Reference

Leung DW. et al., 1987, Nature. 330:537-43.
Sobrier M-L. et al., 1997, J Clin Endocrinol Metab. 82: 435-7.
Enberg B. et al., 2000, Eur J Endocrinol. 143: 71-6.
Pantel J. et al., 2000, J Biol Chem. 275: 18664-9.
Jorge AAL. et al., 2004, Clin Endocrinol. (Oxf.) 60: 36-40.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481