

GHR (3H2186): sc-71146

BACKGROUND

GHR (growth hormone receptor) binds growth hormone (GH), which is produced by the anterior pituitary and regulates body growth and other metabolic processes. GHR is an integral membrane protein and a member of the cytokine receptor family. A common characteristic of the cytokine receptor family is having soluble forms of the protein. The soluble form of GHR is GH-binding protein (GHBP), which is generated by the proteolytic cleavage of the extracellular domain of GHR. Reduced levels of GHBP are associated with GH insensitivity syndrome (GHIS). GHR has been shown to be transcribed via at least two different promoters, resulting in GHR 1A and GHR 1B. Both GHR 1A and 1B are expressed in liver, whereas GHR 1B is also expressed in muscle, uterus and ovary tissues.

REFERENCES

1. Dastot, F., Sobrier, M.L., Duquesnoy, P., Duriez, B., Goossens, M. and Amselem, S. 1996. Alternatively spliced forms in the cytoplasmic domain of the human growth hormone (GH) receptor regulate its ability to generate a soluble GH-binding protein. *Proc. Natl. Acad. Sci. USA* 93: 10723-10728.
2. Bick, T., Amit, T., Mansur, M., Bar-Am, O., Youdim, M.B. and Hochberg, Z. 1996. Regulation of cellular rabbit growth hormone (GH) receptor and GH-binding protein generation *in vitro*. *Endocrinology* 137: 3977-3985.
3. Iida, K., Takahashi, Y., Kaji, H., Nose, O., Okimura, Y., Abe, H. and Chihara, K. 1998. Growth hormone (GH) insensitivity syndrome with high serum GH-binding protein levels caused by a heterozygous splice site mutation of the GH receptor gene producing a lack of intracellular domain. *J. Clin. Endocrinol. Metab.* 83: 531-537.
4. Ross, R.J. 1999. The GH receptor and GH insensitivity. *Growth Horm. IGF Res.* 9: 42-45.
5. Amit, T., Youdim, M.B. and Hochberg, Z. 2000. Clinical review 112: does serum growth hormone (GH) binding protein reflect human GH receptor function? *J. Clin. Endocrinol. Metab.* 85: 927-932.
6. Liu, J., Carroll, J.A., Matteri, R.L. and Lucy, M.C. 2000. Expression of two variants of growth hormone receptor messenger ribonucleic acid in porcine liver. *J. Anim. Sci.* 78: 306-317.

CHROMOSOMAL LOCATION

Genetic locus: GHR (human) mapping to 5p13.1; Ghr (mouse) mapping to 15 A1.

SOURCE

GHR (3H2186) is a mouse monoclonal antibody raised against purified GHR of rabbit and rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for partial blocking of binding of GH in rabbit and rat, and has been used as a growth hormone agonist, sc-71146 L, 200 µg/0.1 ml.

GHR (3H2186) is available conjugated to either phycoerythrin (sc-71146 PE) or fluorescein (sc-71146 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

GHR (3H2186) is recommended for detection of GHR of mouse, rat, human and rabbit origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for GHR siRNA (h): sc-40015, GHR siRNA (m): sc-40016, GHR shRNA Plasmid (h): sc-40015-SH, GHR shRNA Plasmid (m): sc-40016-SH, GHR shRNA (h) Lentiviral Particles: sc-40015-V and GHR shRNA (m) Lentiviral Particles: sc-40016-V.

Molecular Weight of GHR precursor: 110 kDa.

Molecular Weight of glycosylated mature GHR: 140 kDa.

Positive Controls: rat liver extract: sc-2395, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Bielohuby, M., Sawitzky, M., Stoehr, B.J., Stock, P., Menhofer, D., Ebensing, S., Bjerre, M., Frystyk, J., Binder, G., Strasburger, C., Wu, Z., Christ, B., Hoefflich, A. and Bidlingmaier, M. 2011. Lack of dietary carbohydrates induces hepatic growth hormone (GH) resistance in rats. *Endocrinology* 152: 1948-1960.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **GHR (B-10): sc-137185** for GHR antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.