Product datasheet

Anti-Growth hormone receptor antibody ab202964

2 References  1 Image

Overview

Product name  Anti-Growth hormone receptor antibody
Description  Rabbit polyclonal to Growth hormone receptor
Host species  Rabbit
Tested applications  Suitable for: WB, IHC-P
Species reactivity  Reacts with: Mouse, Rat, Human, Pig
Immunogen  Synthetic peptide within Human Growth hormone receptor aa 290-340 conjugated to Keyhole Limpet Haemocyanin (KLH). The exact sequence is proprietary.
Sequence: QQRIKMLILPPVPKPICKGIPDLLLKEGKLEEVTILAIHD SYKPEFHD D

Database link: P10912

Positive control  Rat liver tissue

Properties

Form  Liquid
Storage buffer  Preservative: 0.09% Sodium azide
Constituents: 50% Glycerol, 0.01% BSA
Purity  Protein A purified
Clonality  Polyclonal
Isotype  IgG

Applications

Our Abpromise guarantee covers the use of ab202964 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function
Receptor for pituitary gland growth hormone involved in regulating postnatal body growth. On ligand binding, couples to the JAK2/STAT5 pathway.
The soluble form (GHBP) acts as a reservoir of growth hormone in plasma and may be a modulator/inhibitor of GH signaling.
Isoform 2 up-regulates the production of GHBP and acts as a negative inhibitor of GH signaling.

Tissue specificity
Expressed in various tissues with high expression in liver and skeletal muscle. Isoform 4 is predominantly expressed in kidney, bladder, adrenal gland and brain stem. Isoform 1 expression in placenta is predominant in chorion and decidua. Isoform 4 is highly expressed in placental villi. Isoform 2 is expressed in lung, stomach and muscle. Low levels in liver.

Involvement in disease
Defects in GHR are a cause of Laron syndrome (LARS) [MIM:262500]. 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 be a cause of idiopathic short stature autosomal (ISSA) [MIM:604271]. Short stature is defined by a subnormal rate of growth.

Sequence similarities
Belongs to the type I cytokine receptor family. Type 1 subfamily. Contains 1 fibronectin type-III domain.

Domain
The WSXWS motif appears to be necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding.
The box 1 motif is required for JAK interaction and/or activation.
The extracellular domain is the ligand-binding domain representing the growth hormone-binding protein (GHBP).
The ubiquitination-dependent endocytosis motif (UbE) is required for recruitment of the ubiquitin conjugation system on to the receptor and for its internalization.

Post-translational modifications
The soluble form (GHBP) is produced by phorbol ester-promoted proteolytic cleavage at the cell surface (shedding) by ADAM17/TACE. Shedding is inhibited by growth hormone (GH) binding to the receptor probably due to a conformational change in GHR rendering the receptor inaccessible to ADAM17.
On GH binding, phosphorylated on tyrosine residues in the cytoplasmic domain by JAK2.
On ligand binding, ubiquitinated on lysine residues in the cytoplasmic domain. This ubiquitination is not sufficient for GHR internalization.

Cellular localization
Secreted; Cell membrane. On growth hormone binding, GHR is ubiquitinated, internalized, down-regulated and transported into a degradative or non-degradative pathway and Cell membrane. Remains fixed to the cell membrane and is not internalized.

Images

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<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td>1/100 - 1/1000. Predicted molecular weight: 72 kDa.</td>
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<tr>
<td>IHC-P</td>
<td>1/100 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Use at 1/50 - 1/200 with fluorescent detection methods.</td>
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</table>
Immunohistochemical analysis of formalin-fixed paraffin-embedded Rat liver tissue labeling Growth hormone receptor with ab202964 at 1/400 dilution, followed by conjugation to the secondary antibody and DAB staining.

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