Insulin receptor phosho Y1158, Y1162, Y1163 Antibody, Rabbit Polyclonal Antibody

Catalog Number: 18-272-197454

Related Product Names:
- Insulin receptor antibody; Insulin receptor; Insulin receptor phosho Y1158, Y1162, Y1163
- Rabbit polyclonal to Insulin Receptor / IGF1R (phospho Y1158 + Y1162 + Y1163); Insulin receptor

- Gene Information -

Information in yellow represents specific gene information and does not necessarily represent specific product details. For more information please contact sales@genwaybio.com.

<table>
<thead>
<tr>
<th>Gene Name</th>
<th>Gene Name Synonym: N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin receptor</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gi #:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCBI Acc #:</td>
<td>NP_000199.2</td>
</tr>
<tr>
<td>Swiss Prot Acc #:</td>
<td>P06213</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length (aa):</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mol. Weight (Da):</td>
<td>156307</td>
</tr>
<tr>
<td>Chrom Location:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- Isotype: IgG

- Immunogen: Synthetic phosphopeptide derived from the region of IR/IGF1R that contains tyrosines 1158, 1162 and 1163 of the human insulin receptor. The corresponding residues in the IGF1R are 1131, 1135 and 1136.

- Antigen Species: Human

- Positive Control: CHO-T cells transfected with a vector encoding the human insulin receptor and stimulated with insulin, and 3T3-L1 adipocytes +/- insulin stimulation

- Target: Insulin receptor

- Localization: Type I membrane protein

- Purification Note: The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated Insulin Receptor (IR). The final product is generated by affinity chromatography using an IR-derived peptide phosphorylated at tyrosines 1158, 1162 and 1163 (1131, 1135 and 1136 for IGF1R).

- Storage Buffer: Preservative: 0.05% Sodium Azide; Constituents: 50% Glycerol, PBS, 1mg/ml BSA. pH 7.3

- Application Note: WB: Use at a dilution of 1/1000. Detects a band of approximately 100 kDa. Not tested in other applications. Optimal dilutions/concentrations should be determined by the end user.

- Cellular Localization: Type I membrane protein

- Source/Host: Rabbit

- Purity/Purification: Immunogen affinity purified

- Clonality: Polyclonal

- Crossreactivity: Cross-reacts with Human and Mouse. Expected to cross-react with Rat (100% identity with immunogen) due to sequence homology. Not yet tested in other species.

- Format: Liquid

- Storage: Keep as concentrated solution. Store at 4C short term. For extended storage aliquot and store at -20C or below. Avoid freeze-thaw cycles.
Shipping: Products may be shipped on ice pack or dry ice.

APPLICATIONS for INSULIN RECEPTOR ANTIBODY:

| WB: Tested |

TESTING: (secondary reagents and protocols)

| Not Available |

INSULIN RECEPTOR ANTIBODY TARGET DESCRIPTION:

**Synonym Names for Insulin receptor antibody:** Insulin receptor; Rabbit polyclonal to Insulin Receptor / IGF1R (phospho Y1158 + Y1162 + Y1163); Insulin receptor

Biological actions of insulin and IGF1 are mediated by their respective cell surface receptors, both of which are receptor tyrosine kinases that regulate multiple signaling pathways through activation of a series of phosphorylation cascades. The Insulin Receptor and IGF1R are heterotetrameric proteins consisting of two ligand-binding alpha subunits and two beta subunits that each contain a tyrosine kinase domain. Insulin/IGF1 binding to the extracellular domain leads to autophosphorylation of the receptor and activation of the intrinsic tyrosine kinase activity, which allows appropriate substrates to be phosphorylated. These two receptors differ in sequence in regions that confer specificity for the designated ligand as well as in certain intracellular signaling domains. These differences allow insulin and IGF-1 to regulate different physiological functions through receptors that share a very similar structure. Phosphorylation sites that are unique to each receptor presumably play a key role in these signaling differences. The catalytic loops within the tyrosine kinase domains of the Insulin Receptor/IGF1R contain a three tyrosine motif. It is generally believed that autophosphorylation within the activation loop proceeds in a processive manner initiating at the second tyrosine (1162 for the Insulin Receptor or 1135 for the IGF1R), followed by phosphorylation at the first tyrosine (1158 or 1131), then the last (1163 or 1136), upon which the Insulin Receptor or IGF1R becomes fully active.

**Function:** This receptor binds insulin and has a tyrosine-protein kinase activity. Isoform Short has a higher affinity for insulin. Mediates the metabolic functions of insulin. Binding to insulin stimulates association of the receptor with downstream mediators including IRS1 and phosphatidylinositol 3'-kinase (PI3K). Can activate PI3K either directly by binding to the p85 regulatory subunit, or indirectly via IRS1.

**Catalytic Activity:** ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate.

**Enzyme Regulation:** Autophosphorylation activates the kinase activity.

**Subunit:** Tetramer of 2 alpha and 2 beta chains linked by disulfide bonds. The alpha chains contribute to the formation of the ligand-binding domain, while the beta chains carry the kinase domain. Interacts with SORBS1 but dissociates from it following insulin stimulation. Binds SH2B2. Interacts with the PTB/PID domains of IRS1 and SHC1 in vitro when autophosphorylated on tyrosine residues. The sequences surrounding the phosphorylated NPXY motif contribute differentially to either IRS1 or SHC1 recognition. Interacts with the SH2 domains of the 85 kDa regulatory subunit of PI3K (PIK3R1) in vitro, when autophosphorylated on tyrosine residues. Interacts with SOCS7.

**Subcellular Location:** Membrane; Single-pass type I membrane protein.

**Tissue Specificity:** Isoform Long and isoform Short are expressed in the peripheral nerve, kidney, liver, striated muscle, fibroblasts and skin. Isoform Short is expressed also in the spleen and lymphoblasts.

**Ptm:** After being transported from the endoplasmic reticulum to the Golgi apparatus, the single glycosylated precursor is further glycosylated and then cleaved, followed by its transport to the plasma membrane.

**Ptm:** Autophosphorylated on tyrosine residues in response to insulin.

**Ptm:** Phosphorylation of Tyr-999 is required for IRS1- and SHC1-binding.
Disease: Defects in INSR are the cause of insulin resistance (Ins resistance) [MIM:125853].

Disease: Defects in INSR are the cause of Rabson-Mendenhall syndrome [MIM:262190]; also known as Mendenhall syndrome. It is a severe insulin resistance syndrome characterized by insulin-resistant diabetes mellitus with pineal hyperplasia and somatic abnormalities. Typical features include coarse, senile-appearing facies, dental and skin abnormalities, abdominal distension, and phallic enlargement. Inheritance is autosomal recessive.

Disease: Defects in INSR are the cause of leprechaunism [MIM:246200]; also known as Donohue syndrome. Leprechaunism represents the most severe form of insulin resistance syndrome, characterized by intratuderine and postnatal growth retardation and death in early infancy. Inheritance is autosomal recessive.

Disease: Defects in INSR may be associated with noninsulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type 2.

Disease: Defects in INSR are the cause of familial hyperinsulinemic hypoglycemia 5 (HHFS) [MIM:609968]. Familial hyperinsulinemic hypoglycemia [MIM:256450], also referred to as congenital hyperinsulinism, nesidioblastosis, or persistent hyperinsulinemic hypoglycemia of infancy (PPHI), is the most common cause of persistent hypoglycemia in infancy and is due to defective negative feedback regulation of insulin secretion by low glucose levels.

Disease: Defects in INSR are the cause of insulin-resistant diabetes mellitus with acanthosis nigricans type A (IRAN type A) [MIM:610549]. This syndrome is characterized by the association of severe insulin resistance (manifested by marked hyperinsulinemia and a failure to respond to exogenous insulin) with the skin lesion acanthosis nigricans and ovarian hyperandrogenism in adolescent female subjects. Women frequently present with hirsutism, acne, amenorrhea or oligomenorrhea, and virilization. This syndrome is different from the type B that has been demonstrated to be secondary to the presence of circulating autoantibodies against the insulin receptor.

Similarity: Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.

Similarity: Contains 2 fibronectin type-III domains.

Similarity: Contains 1 protein kinase domain.

Insulin receptor phospho Y1158, Y1162, Y1163 reacts with cross-reacts with human and mouse. expected to cross-react with rat (100% identity with immunogen) due to sequence homology. not yet tested in other species..


Pathways:
- KEGG pathway: Adherens junction 04520
- KEGG pathway: Dentatorubropallidoluysian atrophy (DRPLA) 05050
- KEGG pathway: Insulin signaling pathway 04910
- KEGG pathway: Type II diabetes mellitus 04930
- Reactome Event: Signaling by Insulin receptor 74752

PRODUCT INTERACTIONS:
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **PTP-1B (Protein Tyrosine Phosphatase1B), Protein** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **PTP-1B Human, Protein** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **PTP1B, IgG** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **PTP1B Phospho (pS378), IgG** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **PTP1B Phospho (pS50), IgG** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **SH3-domain Protein 5 (ponsin) (SH3DS1) Goat anti-Human Polyclonal (C-Terminus) Antibody, IgG** (GenWay Catalog #: 18-272-197454).
- Insulin receptor phospho Y1158, Y1162, Y1163 interacts with **SH3-domain Protein 5 (ponsin) (SH3DS1) Goat anti-Human Polyclonal (Internal) Antibody, IgG** (GenWay Catalog #: 18-272-197454).
Order Confirmation: Sales order confirmations are sent out upon the receipt of all orders. Please contact GenWay if you do not receive a confirmation within 1 business day of submitting your order.

Precautions: Insulin receptor antibody is for in vitro research use only. Not for use in diagnostics or therapeutic procedures.

Important Notes: During shipment, small volumes of Insulin receptor antibody vial. For products with volumes of 200 µL or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container’s cap. Actual concentration, volume and quantity will be printed on the vial's label. Please refer to the vials label for this information.

Copyright: This GenWay TDS is copyrighted. This datasheet is produced based partially on data from Swiss-Prot/TrEMBL and NCBI. To better serve our clients with everything we know about Insulin receptor antibody, all related information, articles, resources about Insulin receptor antibody are being stored on our online database. Let us know if you have questions regarding this product.

Disclaimer: For documents and software available from this server, GenWay neither warrants nor assumes any legal liability or responsibility for the accuracy, completeness or utility of any information, product or process disclosed.