Product datasheet

Anti-Insulin Receptor alpha antibody ab5500

Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-Insulin Receptor alpha antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit polyclonal to Insulin Receptor alpha</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

Tested applications

Suitable for: IHC-P, WB

Species reactivity

Reacts with: Mouse, Human

Predicted to work with: Rat

Immunogen

Synthetic peptide. This information is considered to be commercially sensitive. (Peptide available as ab197200)

Positive control

WB: Mouse liver tissue lysate; IHC-P: Human kidney tissue.

Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage buffer</td>
<td>Preservative: 0.09% Sodium azide Constituent: PBS</td>
</tr>
<tr>
<td>Purity</td>
<td>Affinity purified</td>
</tr>
</tbody>
</table>

Purification notes

This antibody is purified through a protein A column, followed by peptide affinity purification.

Primary antibody notes

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The tyrosine kinase (TK) group is mainly involved in the regulation of cell-cell interactions such as differentiation, adhesion, motility and death. There are currently about 90 TK genes sequenced, 58 are of receptor protein TK (e.g. EGFR, EPH, FGFR, PDGFR, TRK, and VEGFR families), and 32 of cytosolic TK (e.g. ABL, FAK, JAK, and SRC families).

Clonality

Polyclonal
**Isotype**
IgG

**Applications**

Our **Abpromise guarantee** covers the use of ab5500 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td>1/500</td>
<td>Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.</td>
</tr>
<tr>
<td>WB</td>
<td>1/1000</td>
<td>Predicted molecular weight: 156 kDa.</td>
</tr>
</tbody>
</table>

**Target**

**Relevance**

The human insulin receptor is a heterotetrameric membrane glycoprotein consisting of disulfide linked subunits in a beta-alpha-alpha-beta configuration. The beta subunit (95 kDa) possesses a single transmembrane domain, whereas the alpha subunit (135 kDa) is completely extracellular. The insulin receptor exhibits receptor tyrosine kinase (RTK) activity. RTKs are single pass transmembrane receptors that possess intrinsic cytoplasmic enzymatic activity, catalyzing the transfer of the gamma phosphate of ATP to tyrosine residues in protein substrates. RTKs are essential components of signal transduction pathways that affect cell proliferation, differentiation, migration and metabolism. Included in this large protein family are the insulin receptor and the receptors for growth factors such as epidermal growth factor, fibroblast growth factor and vascular endothelial growth factor. Receptor activation occurs through ligand binding, which facilitates receptor dimerization and autophosphorylation of specific tyrosine residues in the cytoplasmic portion. The interaction of insulin with the alpha subunit of the insulin receptor activates the protein tyrosine kinase of the beta subunit, which then undergoes an autophosphorylation that increases its tyrosine kinase activity. Three adapter proteins, IRS1, IRS2 and Shc, become phosphorylated on tyrosine residues following insulin receptor activation. These three phosphorylated proteins then interact with SH2 domain containing signaling proteins.

**Cellular localization**
Membrane; single pass type I membrane protein.

**Images**
Immunohistochemical analysis of paraffin-embedded Human kidney tissue using ab5500 performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9.0). Samples were incubated with primary antibody (1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

Anti-Insulin Receptor alpha antibody (ab5500) at 1/1000 dilution + Mouse Liver tissue lysate at 20 µg

Secondary
Goat Anti-Rabbit IgG H+L (HRP) at 1/10000 dilution

Predicted band size: 156 kDa
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