Product datasheet

Anti-Insulin Receptor alpha antibody ab5500

Overview

Product name
Anti-Insulin Receptor alpha antibody

Description
Rabbit polyclonal to Insulin Receptor alpha

Host species
Rabbit

Tested applications
Suitable for: IHC-P, WB, ICC/IF

Species reactivity
Reacts with: Mouse, Rat, Human

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

Positive control
WB: SKBR-3 cell lysate and rat and mouse liver tissue lysates. IHC-P: Human breast carcinoma tissue.

Properties

Form
Liquid

Storage instructions

Storage buffer
Preservative: 0.09% Sodium azide
Constituent: PBS

Purity
Ammonium Sulphate Precipitation

Purification notes
This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Primary antibody notes
Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the γ 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>
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<tbody>
<tr>
<td>IHC-P</td>
<td>1/50 - 1/100.</td>
<td></td>
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<tr>
<td>WB</td>
<td>1/1000. Detects a band of approximately 165 kDa (predicted molecular weight: 156 kDa).</td>
<td></td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>Use at an assay dependent concentration.</td>
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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
Anti-Insulin Receptor alpha antibody (ab5500) at 1/1000 dilution + SKBR-3 cell lysate at 35 µg

**Secondary**

Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/5000 dilution

**Predicted band size:** 156 kDa

Incubation time was overnight at 4°C. Blocking/Dilution buffer: 5% NFDM/TBST.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labelling Insulin Receptor alpha using ab5500. Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at 38°C; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A peroxidase-conjugated goat anti-rabbit polyclonal (ready to use) was used as the secondary antibody.

ab5500 staining Insulin Receptor alpha in Human WBCs by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with formaldehyde and blocked with 2% serum for 1 hour at 25°C. Samples were incubated with primary antibody (1/250 in PBS + 2% BSA) for 12 hours at 4°C. An Alexa Fluor® 488-conjugated Goat anti-rabbit IgG polyclonal (ab150077) (1/500) was used as the secondary antibody.
Western blot - Anti-Insulin Receptor alpha antibody (ab5500) at 1/2000 dilution +
Mouse liver tissue lysate at 20 µg

**Secondary**
Peroxidase conjugated goat anti-rabbit IgG (H+L) at 1/10000 dilution

**Predicted band size:** 156 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

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Western blot - Anti-Insulin Receptor alpha antibody (ab5500) at 1/2000 dilution +
Rat liver tissue lysate at 20 µg

**Secondary**
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/10000 dilution

**Predicted band size:** 156 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

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Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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