abcam

Product datasheet

Anti-Insulin Receptor (phospho Y1361) antibody ab60946

3 Abreviews 8 References 画像数 5

製品の概要

製品名	Anti-Insulin Receptor (phospho Y1361) antibody
製品の詳細	Rabbit polyclonal to Insulin Receptor (phospho Y1361)
由来種	Rabbit
特異性	ab60946 detects endogenous levels of Insulin Receptor only when phosphorylated at tyrosine 1361.
アプリケーション	**適用あり:** IHC-P, ELISA, WB, ICC/IF
種交差性	**交差種:** Mouse, Rat, Human
免疫原	Synthetic peptide corresponding to Human Insulin Receptor aa 1331-1380.
ポジティブ・コントロール	293 cell extracts treated with Heat shock.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol, 0.87% Sodium chloride PBS without Mg2+ and Ca2+
精製度	Immunogen affinity purified
特記事項（精製）	ab60946 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
ポリ/モノ	ポリクローナル
アイソタイプ	IgG

アプリケーション

Our Abpromise guarantee covers the use of **ab60946** in the following tested applications.

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

アプリケーション	Abreviews	特記事項
IHC-P	★★★★★	Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
ELISA		1/10000.
WB		1/500 - 1/1000. Detects a band of approximately 90 kDa (predicted molecular weight: 156 kDa).
ICC/IF	★★★★★	Use at an assay dependent concentration.

ターゲット情報

機能

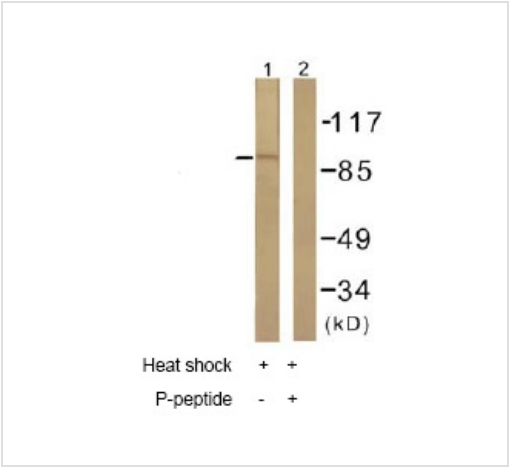
Receptor tyrosine kinase which mediates the pleiotropic actions of insulin. Binding of insulin leads to phosphorylation of several intracellular substrates, including, insulin receptor substrates (IRS1, 2, 3, 4), SHC, GAB1, CBL and other signaling intermediates. Each of these phosphorylated proteins serve as docking proteins for other signaling proteins that contain Src-homology-2 domains (SH2 domain) that specifically recognize different phosphotyrosines residues, including the p85 regulatory subunit of PI3K and SHP2. Phosphorylation of IRSs proteins lead to the activation of two main signaling pathways: the PI3K-AKT/PKB pathway, which is responsible for most of the metabolic actions of insulin, and the Ras-MAPK pathway, which regulates expression of some genes and cooperates with the PI3K pathway to control cell growth and differentiation. Binding of the SH2 domains of PI3K to phosphotyrosines on IRS1 leads to the activation of PI3K and the generation of phosphatidylinositol-(3, 4, 5)-triphosphate (PIP3), a lipid second messenger, which activates several PIP3-dependent serine/threonine kinases, such as PDPK1 and subsequently AKT/PKB. The net effect of this pathway is to produce a translocation of the glucose transporter SLC2A4/GLUT4 from cytoplasmic vesicles to the cell membrane to facilitate glucose transport. Moreover, upon insulin stimulation, activated AKT/PKB is responsible for: anti-apoptotic effect of insulin by inducing phosphorylation of BAD; regulates the expression of gluconeogenic and lipogenic enzymes by controlling the activity of the winged helix or forkhead (FOX) class of transcription factors. Another pathway regulated by PI3K-AKT/PKB activation is mTORC1 signaling pathway which regulates cell growth and metabolism and integrates signals from insulin. AKT mediates insulin-stimulated protein synthesis by phosphorylating TSC2 thereby activating mTORC1 pathway. The Ras/RAF/MAP2K/MAPK pathway is mainly involved in mediating cell growth, survival and cellular differentiation of insulin. Phosphorylated IRS1 recruits GRB2/SOS complex, which triggers the activation of the Ras/RAF/MAP2K/MAPK pathway. In addition to binding insulin, the insulin receptor can bind insulin-like growth factors (IGFI and IGFII). Isoform Short has a higher affinity for IGFII binding. When present in a hybrid receptor with IGF1R, binds IGF1. PubMed:12138094 shows that hybrid receptors composed of IGF1R and INSR isoform Long are activated with a high affinity by IGF1, with low affinity by IGF2 and not significantly activated by insulin, and that hybrid receptors composed of IGF1R and INSR isoform Short are activated by IGF1, IGF2 and insulin. In contrast, PubMed:16831875 shows that hybrid receptors composed of IGF1R and INSR isoform Long and hybrid receptors composed of IGF1R and INSR isoform Short have similar binding characteristics, both bind IGF1 and have a low affinity for insulin.

組織特異性

Isoform Long and isoform Short are predominantly expressed in tissue targets of insulin metabolic effects: liver, adipose tissue and skeletal muscle but are also expressed in the peripheral nerve, kidney, pulmonary alveoli, pancreatic acini, placenta vascular endothelium,

	fibroblasts, monocytes, granulocytes, erythrocytes and skin. Isoform Short is preferentially expressed in fetal cells such as fetal fibroblasts, muscle, liver and kidney. Found as a hybrid receptor with IGF1R in muscle, heart, kidney, adipose tissue, skeletal muscle, hepatoma, fibroblasts, spleen and placenta (at protein level). Overexpressed in several tumors, including breast, colon, lung, ovary, and thyroid carcinomas.
関連疾患	Rabson-Mendenhall syndrome Leprechaunism Diabetes mellitus, non-insulin-dependent Familial hyperinsulinemic hypoglycemia 5 Insulin-resistant diabetes mellitus with acanthosis nigricans type A
配列類似性	Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily. Contains 3 fibronectin type-III domains. Contains 1 protein kinase domain.
ドメイン	The tetrameric insulin receptor binds insulin via non-identical regions from two alpha chains, primarily via the C-terminal region of the first INSR alpha chain. Residues from the leucine-rich N-terminus of the other INSR alpha chain also contribute to this insulin binding site. A secondary insulin-binding site is formed by residues at the junction of fibronectin type-III domain 1 and 2.
翻訳後修飾	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. Autophosphorylated on tyrosine residues in response to insulin. Phosphorylation of Tyr-999 is required for binding to IRS1, SHC1 and STAT5B. Dephosphorylated by PTPRE at Tyr-999, Tyr-1185, Tyr-1189 and Tyr-1190. Dephosphorylated by PTPRF and PTPN1. Dephosphorylated by PTPN2; down-regulates insulin-induced signaling.
細胞内局在	Cell membrane.

画像



Western blot - Anti-Insulin Receptor (phospho Y1361) antibody (ab60946)

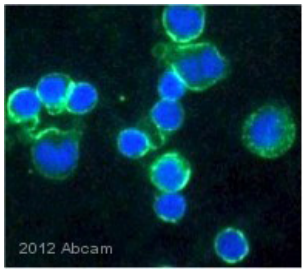
All lanes : Anti-Insulin Receptor (phospho Y1361) antibody (ab60946) at 1/500 dilution

Lane 1 : 293 cell extracts treated with Heat shock

Lane 2 : 293 cell extracts treated with Heat shock with immunising peptide

Predicted band size: 156 kDa

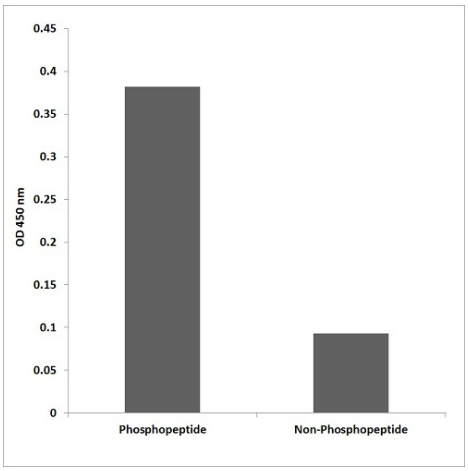
Observed band size: 90 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Insulin Receptor (phospho Y1361) antibody (ab60946)

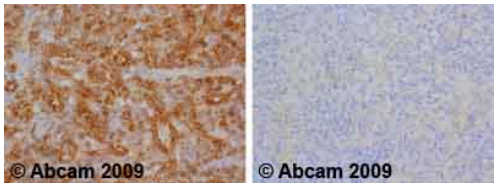
This image is courtesy of an anonymous Abreview

ab60946 staining the insulin receptor in Human white blood cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with formaldehyde, permeabilized with Triton X-100 (0.1%) and blocked with 2% serum for 1 hour at 25°C. Samples were incubated with primary antibody (1/500 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.



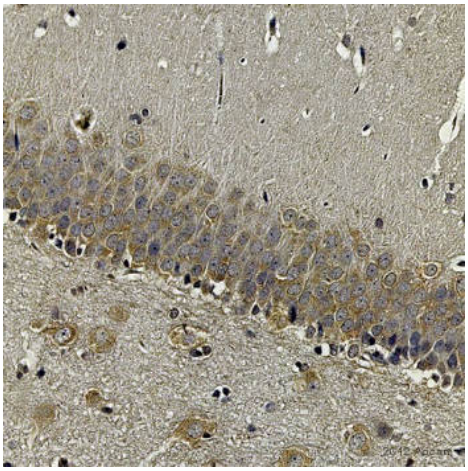
ELISA - Anti-Insulin Receptor (phospho Y1361) antibody (ab60946)

ab60946 (1:10000) antibody detects endogenous levels of Insulin Receptor only when phosphorylated at Tyr1361.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin Receptor (phospho Y1361) antibody (ab60946)

Ab60946 staining human spleen. Staining is localized to the membrane, with some light staining in the cytoplasm.
Left panel: with primary antibody at 1 ug/ml.
Right panel: isotype control.
Sections were stained using an automated system (Dako PT Link), at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 antigen retrieval buffer, citrate pH 6.0. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be requ



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin Receptor (phospho Y1361) antibody (ab60946)
This image is courtesy of an anonymous Abreview

ab60946 staining Insulin Receptor in Rat brain tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and blocked with 8% Milk for 30 minutes at 37°C; antigen retrieval was by heat mediation in a citrate buffer. Samples were incubated with primary antibody (1/100 in diluent) for 18 hours at 4°C. A detection reagent was used to detect antibody staining.

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