

Datasheet for ABIN7156331
anti-Insulin Receptor antibody (AA 1023-1298)



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3 Images

Overview

Quantity:	100 µg
Target:	Insulin Receptor (INSR)
Binding Specificity:	AA 1023-1298
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Insulin Receptor antibody is un-conjugated
Application:	ELISA, Immunohistochemistry (IHC), Immunofluorescence (IF)

Product Details

Immunogen:	Recombinant Human Insulin receptor protein (1023-1298AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	Insulin Receptor (INSR)
Alternative Name:	INSR (INSR Products)
Background:	Background: 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 PDK1 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 (IGF1 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.

Aliases: CD220 antibody, HHF5 antibody, human insulin receptor antibody, Insr antibody, INSR_HUMAN antibody, Insulin receptor subunit beta antibody, IR 1 antibody, IR antibody, IR-1 antibody, IR1 antibody

UniProt: [P06213](#)

Target Details

Pathways:	NF-kappaB Signaling, RTK Signaling, AMPK Signaling, Carbohydrate Homeostasis, Regulation of Cell Size, Regulation of Carbohydrate Metabolic Process, Growth Factor Binding, Negative Regulation of Transporter Activity
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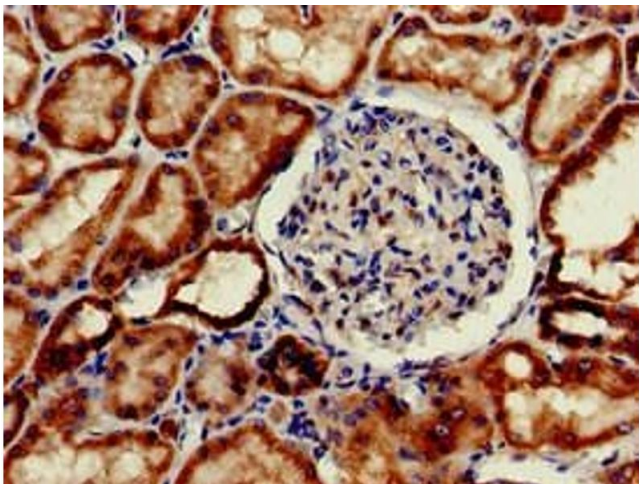
Application Details

Application Notes:	Recommended dilution: IHC:1:20-1:200, IF:1:50-1:200,
Restrictions:	For Research Use only

Handling

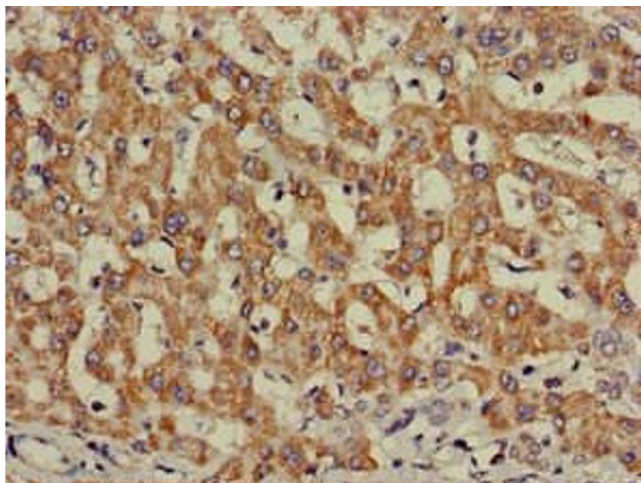
Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, pH 7.4
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



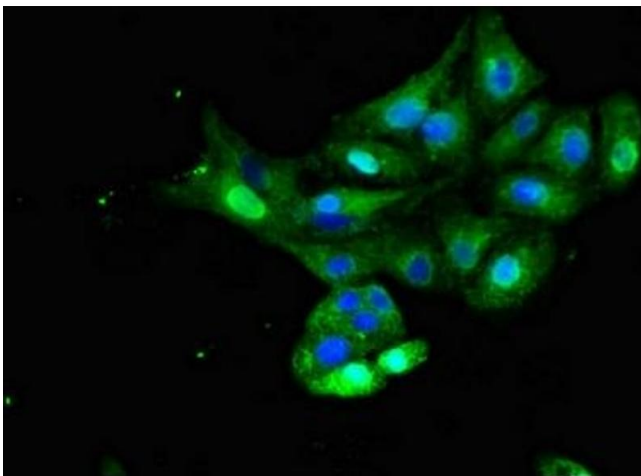
Immunohistochemistry

Image 1. Immunohistochemistry of paraffin-embedded human kidney tissue using ABIN7156331 at dilution of 1:100



Immunohistochemistry

Image 2. Immunohistochemistry of paraffin-embedded human liver cancer using ABIN7156331 at dilution of 1:100



Immunofluorescence

Image 3. Immunofluorescent analysis of HepG2 cells using ABIN7156331 at dilution of 1:100 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)