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Anti-IRS1 pS307 (RABBIT) Antibody

IRS1 phospho S307 Antibody
Catalog # ASR5228

Specification

Anti-IRS1 pS307 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, IHC, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 130 kDa in size corresponding to phosphorylated IRS1 protein by western blotting in the appropriate cell lysate or extract. Minimal reactivity is observed against the non-phosphorylated form of the immunizing peptide. This antibody is phospho specific for pS307 of IRS1 protein.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near amino acids 290-320 of human IRS1 protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-IRS1 pS307 (RABBIT) Antibody - Additional Information

Gene ID 3667

Other Names
3667

Purity
This affinity-purified antibody is directed against the phosphorylated form of human IRS1 protein at the pS307 residue. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross-adsorbed against the non-phosphorylated form of the immunizing peptide. Reactivity occurs against human IRS1 pS307 protein and the antibody is specific for the phosphorylated form of the protein. Reactivity with non-phosphorylated human IRS1 is minimal by ELISA. A BLAST analysis was used to suggest cross

reactivity with IRS1 from human, mouse, rat, dog and vervet monkey based on 100% homology with the immunizing sequence. Partial reactivity is also expected against IRS1 from pig (94%), bovine (94%) and chicken (88%) sources. Reactivity of this antibody with IRS1 from other species is unknown.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-IRS1 pS307 (RABBIT) Antibody - Protein Information

Name IRS1

Function
Signaling adapter protein that participates in the signal transduction from two prominent receptor tyrosine kinases, insulin receptor/INSR and insulin-like growth factor I receptor/IGF1R (PubMed:7541045, PubMed:33991522, PubMed:38625937). Plays therefore an important role in development, growth, glucose homeostasis as well as lipid metabolism (PubMed:19639489). Upon phosphorylation by the insulin receptor, functions as a signaling scaffold that propagates insulin action through binding to SH2 domain-containing proteins including the p85 regulatory subunit of PI3K, NCK1, NCK2, GRB2 or SHP2 (PubMed:11171109, PubMed:8265614). Recruitment of GRB2 leads to the activation of the guanine nucleotide exchange factor SOS1 which in turn triggers the Ras/Raf/MEK/MAPK signaling cascade (By similarity). Activation of the PI3K/AKT pathway is responsible for most of insulin metabolic effects in the cell, and the Ras/Raf/MEK/MAPK is involved in the regulation of gene expression and in cooperation with the PI3K pathway regulates cell growth and differentiation. Acts a positive regulator of the Wnt/beta-catenin signaling pathway through suppression of DVL2 autophagy-mediated degradation leading to cell proliferation (PubMed:24616100).

Cellular Location
Cytoplasm. Nucleus. Note=Nuclear or cytoplasmic localization of IRS1 correlates with the transition from proliferation to chondrogenic differentiation.

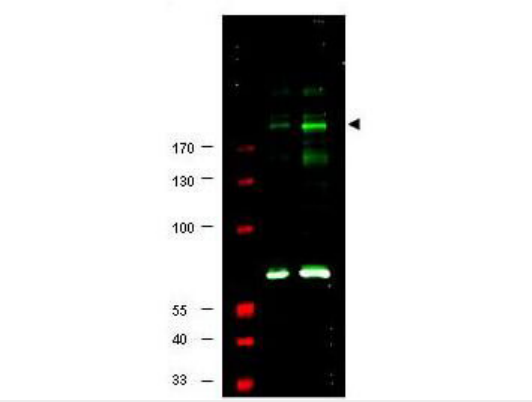
Anti-IRS1 pS307 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-IRS1 pS307 (RABBIT) Antibody - Images



Western blot using Rockland's Affinity Purified anti-IRS1 pS307 antibody shows detection of a band at ~180 kDa believed to represent phosphorylated IRS1 (arrowhead). Lane 1 shows staining of human 293 cell lysate (p/n W09-000-365). Lane 2 shows staining of 293 cell lysate prepared from cells serum-starved for 18 h followed by treatment with 5 µg/ml of anisomysin for 30 min. The pronounced staining of the band at 180 kDa is not seen when the antibody was pre-incubated with immunizing peptide prior to reaction (data not shown). The identity of the intensely reactive bands at ~70 kD in both lane 1 and 2 is unknown, although these bands were also competed out by pre-incubation with the immunizing peptide. Approximately 25 µg of each lysate was separated on a 4-20% Tris-Glycine gel by SDS-PAGE and transferred onto nitrocellulose. After blocking with 5% goat serum, 0.5% BLOTTO in PBS, the membrane was probed with the primary antibody diluted to 1:250. Reaction occurred overnight at 4° C followed by washes and reaction with a 1:10,000 dilution of IRDye™800 conjugated Gt-a-Rabbit IgG [H&L] MX (611-132-122) for 45 min at room temperature (800 nm channel, green). Molecular weight estimation was made by comparison to prestained MW markers in lane M (700 nm channel, red). IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

Anti-IRS1 pS307 (RABBIT) Antibody - Background

Insulin Receptor Substrate 1 (IRS1) acts as a signaling molecule for IL-4, insulin and insulin-like growth factor-I (IGF-I) receptors. When phosphorylated by the insulin receptor, IRS1 binds specifically to various cellular proteins containing SH2 domains such as phosphatidylinositol 3-kinase p85 subunit or GRB2. When bound, IRS1 typically activates phosphatidylinositol 3-kinase p85 subunit. IRS1 interacts with both the NPXY motif of tyrosine-phosphorylated IGF1R and the INSR through the PTB domain. Serine phosphorylation of IRS1 is a mechanism for insulin resistance. Diseases associated with IRS1 include Diabetes Mellitus, Noninsulin-Dependent and Mixed Cell Adenoma. Anti-IRS1pS307 is useful for researchers interested in protein kinase binding, IL-2 pathways, and RET signaling.