

## IRS-1 (Phospho Ser616) Rabbit pAb

CatalogNo: YP0640 **Orthogonal Validated** 

### Key Features

#### Host Species

- Rabbit

#### Reactivity

- Human, Mouse, Rat

#### Applications

- WB, IHC, IF, ELISA

#### MW

- 170kD (Observed)

#### Isotype

- IgG

### Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)

**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

### Recommended Dilution Ratios

**WB 1:500-1:2000**

**IHC 1:100-1:300**

**ELISA 1:5000**

**IF 1:50-200**

### Basic Information

**Clonality** Polyclonal

### Immunogen Information

**Immunogen** The antiserum was produced against synthesized peptide derived from human IRS-1 around the phosphorylation site of Ser612. AA range:578-627

**Specificity** Phospho-IRS-1 (S616) Polyclonal Antibody detects endogenous levels of IRS-1 protein only when phosphorylated at S616.

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## | Target Information

**Gene name** IRS1

**Protein Name** Insulin receptor substrate 1

Organism	Gene ID	UniProt ID
Human	<a href="#">3667</a> ;	<a href="#">P35568</a> ;
Mouse	<a href="#">16367</a> ;	<a href="#">P35569</a> ;
Rat	<a href="#">25467</a> ;	<a href="#">P35570</a> ;

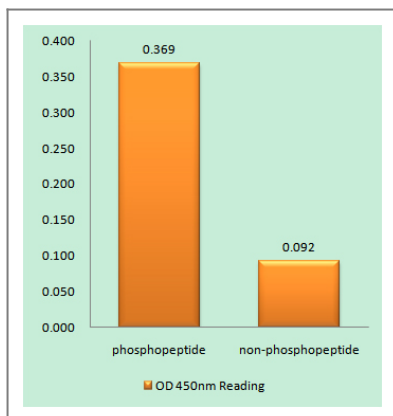
**Cellular Localization** nucleus ,cytoplasm ,cytosol ,plasma membrane ,insulin receptor complex ,caveola ,intracellular membrane-bounded organelle ,

**Tissue specificity** Epithelium ,Eye ,Skeletal muscle ,

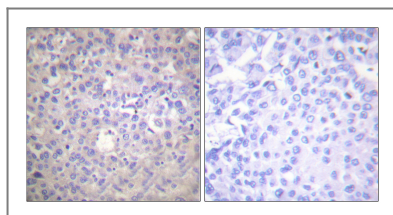
**Function** Disease:Polymorphisms in IRS1 may be involved in the etiology of non-insulin-dependent diabetes mellitus (NIDDM) [MIM:125853]. ,Function:May mediate the control of various cellular processes by insulin. When phosphorylated by the insulin receptor binds specifically to various cellular proteins containing SH2 domains such as phosphatidylinositol 3-kinase p85 subunit or GRB2. Activates phosphatidylinositol 3-kinase when bound to the regulatory p85 subunit. ,polymorphism:The Arg-971 polymorphism impairs the ability of insulin to stimulate glucose transport , glucose transporter translocation , and glycogen synthesis by affecting the PI3K/AKT1/GSK3 signaling pathway. The polymorphism at Arg-971 may contribute to the in vivo insulin resistance observed in carriers of this variant. Arg-971 could contribute to the risk for atherosclerotic cardiovascular diseases associated with non-insulin-dependent diabetes mellitus (NIDDM) by producing a cluster of insulin resistance-related metabolic abnormalities. In insulin-stimulated human endothelial cells from carriers of the Arg-971 polymorphism , genetic impairment of the IRS1/PI3K/PDPK1/AKT1 insulin signaling cascade results in impaired insulin-stimulated nitric oxide (NO) release and suggested that this may be a mechanism through which the Arg-971 polymorphism contributes to the genetic predisposition to develop endothelial dysfunction and cardiovascular disease. The Arg-971 polymorphism not only reduces phosphorylation of the substrate but allows IRS1 to act as an inhibitor of PI3K , producing global insulin resistance. ,PTM:Phosphorylation of Tyr-896 is required for GRB2-binding. ,PTM:Serine phosphorylation of IRS1 is a mechanism for insulin resistance. Ser-312 phosphorylation inhibits insulin action through disruption of IRS1 interaction with the insulin receptor. ,similarity:Contains 1 IRS-type PTB domain. ,similarity:Contains 1 PH domain. ,subunit:Interacts with the NPXY motif of tyrosine-phosphorylated IGF1R and INSR via the PTB domain. Binds to phosphatidylinositol 3-kinase p85 subunit via the phosphorylated YXXM motifs. Binds ROCK1. Binds to UBTF and PIK3CA in nuclear extracts (By similarity) . Interacts with SOCS7. ,

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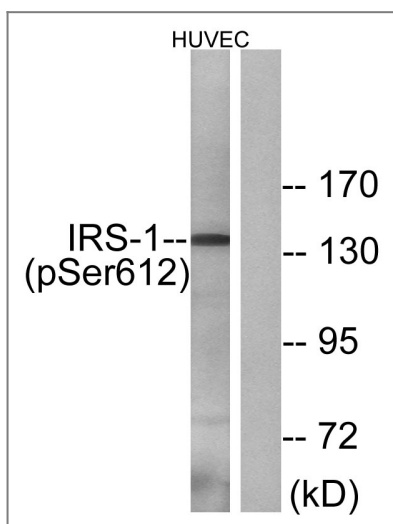
## | Validation Data



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using IRS-1 (Phospho-Ser612) Antibody



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using IRS-1 (Phospho-Ser612) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from HUVEC cells treated with insulin 0.01U/ml 30', using IRS-1 (Phospho-Ser612) Antibody. The lane on the right is blocked with the phospho peptide.

## Contact information

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Please scan the QR code to access additional product information:  
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