Insulin R (Phospho Tyr1355) Rabbit pAb

CatalogNo: YP0655 Orthogonal Validated

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- WB,IHC,IF,ELISA

MW
- 95kD (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 1:10000
IF 1:50-200

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human IR around the phosphorylation site of Tyr1355. AA range:1326-1375

Specificity	Phospho-Insulin R (Y1355) Polyclonal Antibody detects endogenous levels of Insulin R protein only when phosphorylated at Y1355.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):RSyEE

Target Information

Gene name	INSR
Protein Name	Insulin receptor

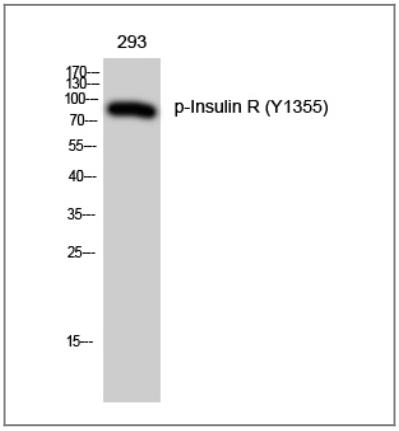
Organism	Gene ID	UniProt ID
Human	3643;	P06213;
Mouse	16337;	P15208;
Rat		P15127;

Cellular Localization	Cell membrane ; Single-pass type I membrane protein . Late endosome . Lysosome . Binding of insulin to INSR induces internalization and lysosomal degradation of the receptor , a means for down-regulating this signaling pathway after stimulation. In the presence of SORL1 , internalized INSR molecules are redirected back to the cell surface , thereby preventing their lysosomal catabolism and strengthening insulin signal reception. .
Tissue specificity	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.

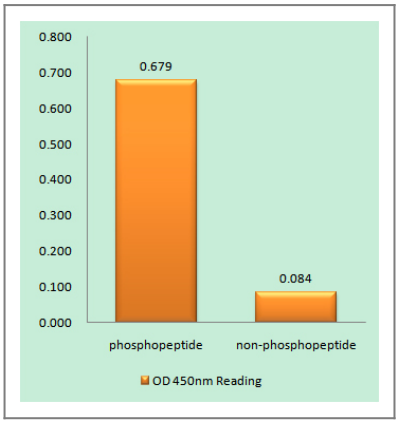
Function

Catalytic activity:ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate. ,Disease:Defects in INSR are the cause of familial hyperinsulinemic hypoglycemia 5 (HHF5) [MIM:609968]. Familial hyperinsulinemic hypoglycemia [MIM:256450] , also referred to as congenital hyperinsulinism , nesidioblastosis , or persistent hyperinsulinemic hypoglycemia of infancy (PPHI) , is the most common cause of persistent hypoglycemia in infancy and is due to defective negative feedback regulation of insulin secretion by low glucose levels. ,Disease:Defects in INSR are the cause of insulin resistance (Ins resistance) [MIM:125853]. ,Disease:Defects in INSR are the cause of insulin-resistant diabetes mellitus with acanthosis nigricans type A (IRAN type A) [MIM:610549]. This syndrome is characterized by the association of severe insulin resistance (manifested by marked hyperinsulinemia and a failure to respond to exogenous insulin) with the skin lesion acanthosis nigricans and ovarian hyperandrogenism in adolescent female subjects. Women frequently present with hirsutism , acne , amenorrhea or oligomenorrhea , and virilization. This syndrome is different from the type B that has been demonstrated to be secondary to the presence of circulating autoantibodies against the insulin receptor. ,Disease:Defects in INSR are the cause of leprechaunism [MIM:246200]; also known as Donohue syndrome. Leprechaunism represents the most severe form of insulin resistance syndrome , characterized by intrauterine and postnatal growth retardation and death in early infancy. Inheritance is autosomal recessive. ,Disease:Defects in INSR are the cause of Rabson-Mendenhall syndrome [MIM:262190]; also known as Mendenhall syndrome. It is a severe insulin resistance syndrome characterized by insulin-resistant diabetes mellitus with pineal hyperplasia and somatic abnormalities. Typical features include coarse , senile-appearing facies , dental and skin abnormalities , abdominal distension , and phallic enlargement. Inheritance is autosomal recessive. ,Disease:Defects in INSR may be associated with noninsulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type 2. ,enzyme regulation:Autophosphorylation activates the kinase activity. ,Function:This receptor binds insulin and has a tyrosine-protein kinase activity. Isoform Short has a higher affinity for insulin. Mediates the metabolic functions of insulin. Binding to insulin stimulates association of the receptor with downstream mediators including IRS1 and phosphatidylinositol 3'-kinase (PI3K) . Can activate PI3K either directly by binding to the p85 regulatory subunit , or indirectly via IRS1. 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. ,online information:Insulin receptor entry ,PTM: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. ,PTM:Autophosphorylated on tyrosine residues in response to insulin. ,PTM:Phosphorylation of Tyr-999 is required for IRS1- and SHC1-binding. ,similarity:Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily. ,similarity:Contains 1 protein kinase domain. ,similarity:Contains 3 fibronectin type-III domains. ,subunit:Tetramer of 2 alpha and 2 beta chains linked by disulfide bonds. The alpha chains contribute to the formation of the ligand-binding domain , while the beta chains carry the kinase domain. Interacts with SORBS1 but dissociates from it following insulin stimulation. Binds SH2B2. Interacts with the PTB/PID domains of IRS1 and SHC1 in vitro when autophosphorylated on tyrosine residues. The sequences surrounding the phosphorylated NPXY motif contribute differentially to either IRS1 or SHC1 recognition. Interacts with the SH2 domains of the 85 kDa regulatory subunit of PI3K (PIK3R1) in vitro , when autophosphorylated on tyrosine residues. Interacts with SOCS7. Forms a hybrid receptor with IGF1R , the hybrid is a tetramer consisting of 1 alpha chain and 1 beta chain of INSR and 1 alpha chain and 1 beta chain of IGF1R. ,tissue specificity:Found as a hybrid receptor with IGF1R in muscle , heart , kidney , adipose tissue , skeletal muscle , hepatoma , fibrobasts , spleen and placenta (at protein level) . Isoform Long and isoform Short are expressed in the peripheral nerve , kidney , liver , striated muscle , fibroblasts and skin. Isoform Short is expressed also in the spleen and lymphoblasts. ,

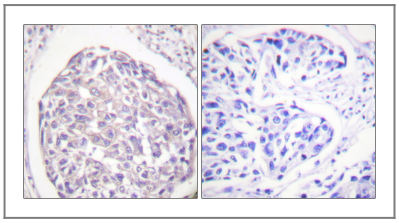
Validation Data



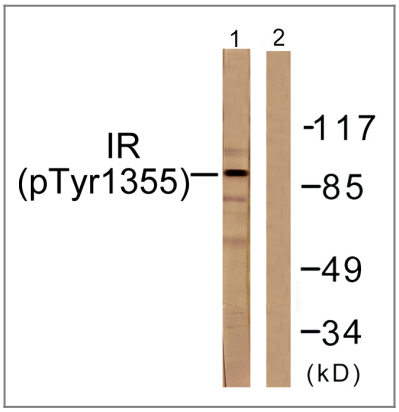
Western Blot analysis of 293 cells using Phospho-Insulin R (Y1355) Polyclonal Antibody



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using IR (Phospho-Tyr1355) Antibody



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using IR (Phospho-Tyr1355) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from 293 cells treated with Heat shock, using IR (Phospho-Tyr1355) Antibody. The lane on the right is blocked with the phospho peptide.

Contact information

Orders:	order@immunoway.com
Support:	tech@immunoway.com
Telephone:	877-594-3616 (Toll Free), 408-747-0185
Website:	http://www.immunoway.com
Address:	2200 Ringwood Ave San Jose, CA 95131 USA

Please scan the QR code to access additional product information:
Insulin R (Phospho Tyr1355) Rabbit pAb

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