

IRS1 Rabbit pAb

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Catalog # AP93941

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P35570
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	131178
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from rat IRS-1
Epitope Specificity	1101-1200/1242
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	IRS1 is predominantly found in the cytoplasm. Nuclear localization may occur in some cell types and under specific stimuli.
SIMILARITY	Contains 1 IRS-type PTB domain. Contains 1 PH domain.
SUBUNIT	Interacts with UBTF and PIK3CA. Interacts (via phosphorylated YXXM motifs) with PIK3R1. Interacts with ROCK1 and FER. Interacts (via PH domain) with PHIP. Interacts with GRB2. Interacts with SOCS7. Interacts (via IRS-type PTB domain) with IGF1R and INSR (via the tyrosine-phosphorylated NPXY motif). Interacts with ALK.
Post-translational modifications	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. Phosphorylation of Tyr-896 is required for GRB2-binding.
DISEASE	Polymorphisms in IRS1 may be involved in the etiology of non-insulin-dependent diabetes mellitus (NIDDM)
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Insulin receptor substrates (IRS) are responsible for several insulin related activities, such as glucose homeostasis, cell growth, cell transformation, apoptosis and insulin signal transduction. Serine/threonine phosphorylation of IRS1 has been demonstrated to be a negative regulator of insulin signaling and is responsible for its degradation, although IRS1 degradation pathways are not well understood. IRS1 has also been shown to be constitutively activated in cancers such as breast cancer, Wilm's tumors, and adrenal cortical carcinomas, thus making IRS1 phosphorylation and subsequent degradation an attractive therapeutic target. To date there have been four subtypes identified: IRS1, 2, 3 and 4, with IRS1 being widely expressed.

Additional Information

Gene ID	25467
Other Names	Insulin receptor substrate 1, IRS-1, pp185, Irs1, Irs-1
Target/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.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

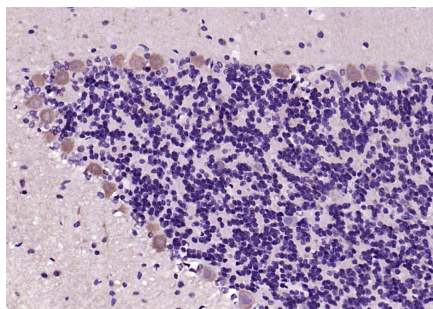
Protein Information

Name	Irs1
Synonyms	Irs-1
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: 12399410). Plays therefore an important role in development, growth, glucose homeostasis as well as lipid metabolism. 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: 1380456). 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 (PubMed: 8491186). 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 (By similarity). Acts a positive regulator of the Wnt/beta-catenin signaling pathway through suppression of DVL2 autophagy-mediated degradation leading to cell proliferation (By similarity).
Cellular Location	Cytoplasm {ECO:0000250 UniProtKB:P35568}. Nucleus {ECO:0000250 UniProtKB:P35568}. Note=Nuclear or cytoplasmic localization of IRS1 correlates with the transition from proliferation to chondrogenic differentiation. {ECO:0000250 UniProtKB:P35568}

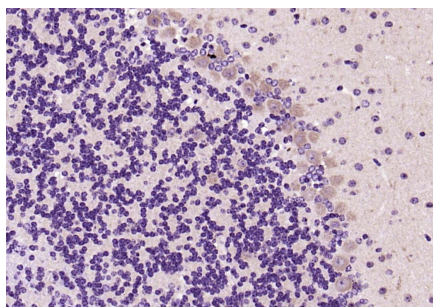
Background

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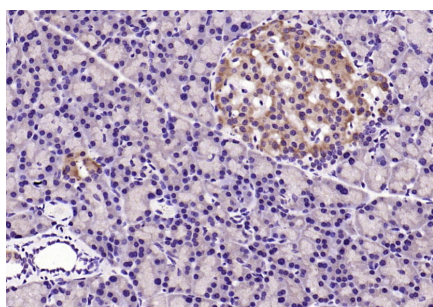
Images



Paraformaldehyde-fixed, paraffin embedded Rat Cerebellum; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with IRS1 Polyclonal Antibody, Unconjugated (AP93941) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.



Paraformaldehyde-fixed, paraffin embedded Mouse Cerebellum; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with IRS1 Polyclonal Antibody, Unconjugated (AP93941) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.



Paraformaldehyde-fixed, paraffin embedded Mouse Pancreas; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with IRS1 Polyclonal Antibody, Unconjugated (AP93941) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.