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IRS1 Rabbit mAb

Catalog # AP78980

Product Information

Application	WB, IHC-P, FC
Primary Accession	P35568
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Chromatography
Calculated MW	131591

Additional Information

Gene ID	3667
Other Names	IRS1
Dilution	WB~~1:1000 IHC-P~~N/A FC~~1:10~50
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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.

Background

Ins receptor substrate 1 (IRS1) was the first cloned and characterized member of the IRS family which are involved in ins receptor (IR) and ins-like growth factor I receptor (IGF-IR) signaling. IRS1 is phosphorylated by ins receptor tyrosine kinase and is involved in various cellular processes including DNA repair fidelity, transcriptional activity, and cell growth can support tumor development and progression. Mutations in this gene are associated with type II diabetes and susceptibility to ins resistance. IRS1 has a predicted molecular weight of 132 kDa, however, as a result of its extensive serine phosphorylation it separates on a SDS gel as a band of approximately 160-185 kDa.

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