

Datasheet for ABIN967601
anti-IRS1 antibody (pTyr896)



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Overview

Quantity:	0.1 mg
Target:	IRS1
Binding Specificity:	pTyr896
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This IRS1 antibody is un-conjugated
Application:	Western Blotting (WB)

Product Details

Brand:	BD Pharmingen™
Immunogen:	Phosphorylated Human IRS-1 Peptide
Clone:	K9-211
Isotype:	IgG2a kappa
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	IRS1
Alternative Name:	IRS-1 (IRS1 Products)
Background:	The IRS (Insulin Receptor Substrate) proteins IRS-1, IRS-2, IRS-3, and IRS-4 are major substrates of the insulin receptor and the insulin-like growth factor-1 (IGF-1) receptor tyrosine kinases. IRS proteins contain an N-terminal pleckstrin homology (PH) domain, a phosphotyrosine-binding (PTB) domain, and multiple tyrosine phosphorylation sites in the C-terminus. The IRS-1 protein is widely expressed and, along with IRS-2, mediates somatic growth and carbohydrate metabolic responses to insulin. Following insulin receptor ligation, IRS-1 binds to the juxtamembrane region of the receptor via the PH and PTB domains and is tyrosine phosphorylated, which facilitates its interaction with SH2 domain-containing signaling proteins. Specifically, the phosphorylated tyrosine 896 (pY896) of human IRS-1 is a major binding site for the GRB2 (Growth-factor Receptor-Bound protein 2) adaptor protein. After IRS-1 activation, negative and positive feedback regulates dephosphorylation of its tyrosine sites, which ultimately regulates the magnitude and/or duration of the downstream pleiotropic responses to insulin and IGF-1. The K9-211 monoclonal antibody recognizes pY896 of human IRS-1. The orthologous phosphorylation sites of mouse and rat IRS-1 are Y891 and Y895, respectively.
Molecular Weight:	160-185 kDa
Pathways:	Fc-epsilon Receptor Signaling Pathway , EGFR Signaling Pathway , Neurotrophin Signaling Pathway , Positive Regulation of Peptide Hormone Secretion , Hormone Transport , Negative Regulation of Hormone Secretion , Response to Growth Hormone Stimulus , Carbohydrate Homeostasis , Regulation of Carbohydrate Metabolic Process

Application Details

Comment:	Related Products: ABIN967389
Restrictions:	For Research Use only
Handling	
Format:	Liquid
Concentration:	0.5 mg/mL
Buffer:	Aqueous buffered solution containing ≤ 0.09 % sodium azide.
Preservative:	Sodium azide

Handling

Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
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Storage:	4 °C
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Storage Comment:	Store undiluted at 4°C.
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Publications

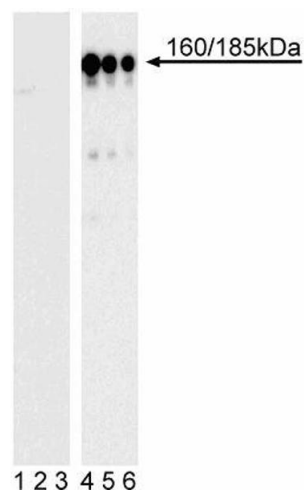
Product cited in:	Gual, Le Marchand-Brustel, Tanti: "Positive and negative regulation of insulin signaling through IRS-1 phosphorylation." in: Biochimie , Vol. 87, Issue 1, pp. 99-109, (2005) (PubMed).
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White: "IRS proteins and the common path to diabetes." in: **American journal of physiology. Endocrinology and metabolism**, Vol. 283, Issue 3, pp. E413-22, (2002) ([PubMed](#)).

Burks, White: "IRS proteins and beta-cell function." in: **Diabetes**, Vol. 50 Suppl 1, pp. S140-5, (2001) ([PubMed](#)).

Paz, Liu, Shorer, Hemi, LeRoith, Quan, Kanety, Seger, Zick: "Phosphorylation of insulin receptor substrate-1 (IRS-1) by protein kinase B positively regulates IRS-1 function." in: **The Journal of biological chemistry**, Vol. 274, Issue 40, pp. 28816-22, (1999) ([PubMed](#)).

Ward, Gough, Rashke, Wan, Tribbick, Wang: "Systematic mapping of potential binding sites for Shc and Grb2 SH2 domains on insulin receptor substrate-1 and the receptors for insulin, epidermal growth factor, platelet-derived growth factor, and fibroblast growth factor." in: **The Journal of biological chemistry**, Vol. 271, Issue 10, pp. 5603-9, (1996) ([PubMed](#)).



Western Blotting

Image 1. Western blot analysis of IRS-1 (pY896) in transformed human epithelial cells. Lysates from control (lanes 1-3) and IGF-I-treated (lanes 4-6) 293 fetal kidney cell line were probed with purified mouse anti-IRS-1 (pY896) monoclonal antibody at concentrations of 0.064 (lanes 1 and 4), 0.032 (lanes 2 and 5), and 0.016 µg/ml (lanes 3 and 6). IRS-1 (pY896) is identified as a band of 160-185 kDa in the treated cells.