

Phospho-IRS-1 (Ser636/639) Antibody



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For Research Use Only. Not For Use In Diagnostic Procedures.

Entrez-Gene ID # 3667
Swiss-Prot Acc. # P35568

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	180 kDa	Rabbit**

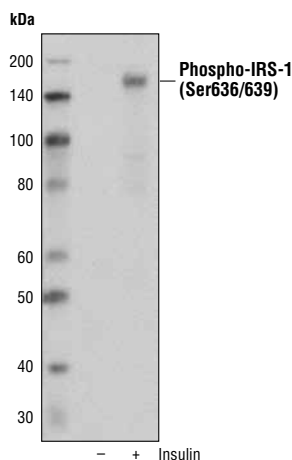
Background: Insulin receptor substrate 1 (IRS-1) is one of the major substrates of the insulin receptor kinase (1). IRS-1 contains multiple tyrosine phosphorylation motifs that serve as docking sites for SH2 domain containing proteins that mediate the metabolic and growth promoting functions of insulin (2-4). IRS-1 also contains over 30 potential serine/threonine phosphorylation sites. Ser307 of IRS-1 is phosphorylated by JNK (5) and IKK (6) while Ser789 is phosphorylated by SIK-2, a member of the AMPK family (7). The PKC and mTOR pathways mediate phosphorylation of IRS-1 at Ser612 and Ser636/639, respectively (8,9). Phosphorylation of IRS-1 at Ser1101 is mediated by PKC θ and results in an inhibition of insulin signaling in the cell, suggesting a potential mechanism for insulin resistance in some models of obesity (10).

Specificity/Sensitivity: Phospho-IRS-1 (Ser636/639) Antibody detects endogenous levels of IRS-1 only when phosphorylated at Ser636/639. This antibody does not cross-react with other related phospho-proteins.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding serine 636/639 of human IRS-1. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Sun, X.J. et al. (1991) *Nature* 352, 73-77.
- (2) Sun, X.J. et al. (1992) *J. Biol. Chem.* 267, 22662-22672.
- (3) Myers Jr., M.G. et al. (1993) *Endocrinology* 132, 1421-1430.
- (4) Wang, L.M. et al. (1993) *Science* 261, 1591-1594.
- (5) Rui, L. et al. (1997) *J. Clin. Invest.* 107, 181-189.
- (6) Gao, Z. et al. (2002) *J. Biol. Chem.* 277, 48115-48121.
- (7) Horike, N. et al. (2003) *J. Biol. Chem.* 278, 18440-18447.
- (8) Ozes, O.N. et al. (2001) *Proc. Natl. Acad. Sci. USA* 98, 4640-4645.
- (9) De Fea, K. and Ruth, R.A. (1997) *Biochemistry* 36, 12939-12947.
- (10) Li, Y. et al. (2004) *J. Biol. Chem.* 279, 45304-45307.



Western blot analysis of extracts from C2C12 cells, untreated or insulin-treated (100 nM, 5 min) using, Phospho-IRS-1 (Ser636/639) Antibody.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.