



Product Information

ANTI-PHOSPHO-INSULIN RECEPTOR

SUBSTRATE-1 (IRS-1) (pSer⁶¹⁶)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **I 6031**

Product Description

Anti-phospho-Insulin Receptor Substrate-1 (IRS-1) (pSer⁶¹⁶) is developed in rabbit using as immunogen a synthetic phosphopeptide derived from the region of Insulin Receptor Substrate-1 (IRS-1) that contains serine 616. The serum is affinity purified using epitope-specific affinity chromatography. The antibody is preadsorbed to remove any reactivity towards a non-serine phosphorylated IRS-1 protein. Anti-phospho-IRS-1 (pSer⁶¹⁶) recognizes human, mouse and rat IRS-1 (pSer⁶¹⁶) (165 kDa). It has been used in immunoblotting and immunocytochemistry applications.

Insulin Receptor Substrate-1 (IRS-1) is a major endogenous substrate of the insulin receptor kinase. It functions as a cytoplasmic docking protein with multiple phosphorylation sites, involved in metabolic and proliferative signaling by insulin and cytokines. Upon insulin stimulation, RAF-1 undergoes tyrosine phosphorylation and subsequently binds to p85 and activates phosphatidylinositol kinase-3 (PI-3 kinase).^{1,2}

Cellular insulin resistance, which develops as a result of activation of cellular stress pathways by cytokines, causes a decrease in insulin-stimulated tyrosine phosphorylation and an increase of serine phosphorylation of IRS-1. This results in the decreased ability of insulin receptor to phosphorylate the tyrosines. IRS-1 and IRS-2 have also been implicated in the integrin-dependent activation of PI-3 kinase and invasion of carcinoma.³

Reagents

Anti-phospho-IRS-1 (pSer⁶¹⁶) is supplied as a solution in phosphate buffered saline, pH 7.3, with 1 mg/ml of bovine serum albumin and 0.05% sodium azide as a preservative.

Storage/Stability

Store at -70°C . For extended storage, upon initial thawing, freeze in working aliquots. Avoid repeated freezing and thawing to prevent denaturation of the antibody. Do not store in a frost-free freezer. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Product Profile

A recommended working concentration of 0.2 to 2.0 $\mu\text{g/ml}$ is determined by immunoblotting using cell lysates from CHO cells transfected with wildtype rat IRS-1 cDNA. Data demonstrate the specificity of Anti-phospho-IRS-1 (pSer⁶¹⁶) for the phosphosphorylated portion of IRS-1 surrounding human serine 616 no blocking is observed in the presence of the non-phosphorylated immunizing peptide. The same concentration range is recommended for immunocytochemistry.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. De Fea, K. and Roth, R.A., *J. Biol. Chem.*, **272**, 31400-31406 (1997).
2. Tsuji, Y., et al., *Diabetes*, **50**, 1455-1463 (2001).
3. Shaw, L.M., *Mol. Cell Biol.*, **21**, 5082-5093 (2001).

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