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Product Information

Anti-phospho-Insulin Receptor (IR) (pTyr^{972})
produced in rabbit, affinity isolated antibody

Catalog Number **I1783**

Product Description

Anti-phospho-Insulin Receptor (pTyr^{972}) is produced in rabbit using as immunogen a synthetic phosphorylated peptide derived from the region of human insulin receptor (IR) that contains tyrosine 972.[1] The antibody is preadsorbed to remove any reactivity towards a non- phosphorylated IR. The final product is generated by affinity chromatography using an IR-derived peptide that is phosphorylated at tyrosine 972.

Anti-phospho-IR (pTyr^{972}) recognizes human and mouse IR phosphorylated on tyrosine 972. It is used in immunoblotting applications.

This antibody may also have cross-reactivity with phosphosphorylated insulin-like growth factor-1 receptor (IGF-1R).

The Insulin Receptor (IR) is a heterotetrameric protein consisting of two ligand binding α subunits and two β subunits that each contains a tyrosine kinase domain. IR mediates biological actions of insulin through activation of a series of phosphorylation cascades. Insulin binding to the extracellular domain leads to autophosphorylation of the receptor and activation of the intrinsic tyrosine kinase activity, which allows appropriate substrates to be phosphorylated. Tyrosine 972 of the insulin receptor is in the juxtamembrane Asn-Pro-Glu-Tyr (NPEY) motif. Phosphorylation of IR tyrosine 972 is required for the binding and/or phosphorylation of the adapter protein Shc, the PTB domain, IRS-1, PI3 kinase, and the suppressor of cytokine signaling (SOCS).[1-4]

Reagents

Supplied as a solution in Dulbecco's phosphate buffered saline (without Mg^{2+} and Ca^{2+}), pH 7.3, 50% glycerol, with 1 mg/ml of bovine serum albumin and 0.05% sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

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

Product Profile

Immunoblotting: a recommended working antibody concentration of 0.1-1.0 μg/ml is recommended using cell lysates from CHO-T cells transfected with a vector encoding the human insulin receptor and stimulated with insulin or 3T3-L1 adipocytes +\- insulin stimulation.

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

References

1. Ebina, Y., et al., The human insulin receptor cDNA: the structural basis for hormone-activated transmembrane signalling. *Cell*, **40**, 747-758 (1985).
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3. Ottensmeyer, F.P., et al., Mechanism of transmembrane signaling: insulin binding and the insulin receptor. *Biochemistry*, **39**, 12103-12112 (2000).

4. Berhanu, P., et al., Insulin signal transduction by a mutant human insulin receptor lacking the NPEY sequence. Evidence for an alternate mitogenic signaling pathway that is independent of Shc phosphorylation. *J. Biol. Chem*., **272**, 22884-22890 (1997).

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