



Mouse (monoclonal) Anti-Human Insulin Receptor (α -Subunit)

PRODUCT ANALYSIS SHEET

Catalog Number:	AHR0221
Lot Number:	See product label
Quantity/Volume:	100 μ g/0.5 mL
Clone Number:	83-14
Isotype:	Mouse IgG2a κ
Form of Antibody:	Purified immunoglobulin in phosphate buffered saline, pH 7.4, with 0.2% bovine serum albumin.
Preservation:	0.09% sodium azide (Caution: sodium azide is a poisonous and hazardous substance. Handle with care and dispose of properly.)
Purification:	Purified from ascites by Protein A affinity chromatography.
Immunogen:	IM-9 lymphocytes followed by purified insulin receptor.
Myeloma/Fusion Partners:	Produced by fusion between BALB/c mouse splenocytes and mouse myeloma NS1 cells.
Specificity:	<p>This monoclonal antibody recognizes a protein with $M_r=135$ kDa, identified as the α-subunit of insulin receptor (IR). IR is a receptor tyrosine kinase which mediates the biological activities of insulin by regulating multiple signaling pathways through activation of a series of phosphorylation cascades. The receptor is a disulfide-linked heterotetrameric glycoprotein consisting of two α-subunits and two β-subunits arranged in the following configuration: β-α-α-β. The α-subunits each contain insulin binding sites and are entirely extracellular in localization. The β-subunits each possess an extracellular domain, a single transmembrane domain, and a cytoplasmic tyrosine kinase domain. Binding of insulin to the α-subunits induces a conformation change in the receptor which activates the kinase domain, stimulating tyrosine autophosphorylation of the receptor and tyrosine phosphorylation of at least five different insulin receptor substrates designated IRS-1-4, and Shc.</p> <p>This antibody is specific for IR and shows no cross-reactivity with insulin-like growth factor (IGF)-receptors.</p> <p>The epitope for this monoclonal antibody is located between amino acid residues 469 and 592 in exon 7/8.</p>
Species Reactivity:	Human. Weakly with cow, pig, and sheep. Does not react with rabbit, mouse, and rat. Other species were not tested.

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PI AHR0221

(Rev 03/10) DCC-10-0597

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Applications: This antibody is suitable for use in ELISA, immunoprecipitation, blocking studies (inhibits insulin binding by ~80%), tyrosine kinase assays.

This antibody has insulin-like agonist properties.

Please note that the sodium azide should be removed by dialysis prior to exposing cells to this antibody.

Suggested Working Dilutions: For immunoprecipitation, use at 10.0 µg/mg of protein lysate; and for blocking, use at 10.0 nM. The optimal antibody concentration should be determined for each specific application.

Recommended Positive Control: IM-9 lymphocytes, placenta or liver tissue.

Storage: Store at 2-8°C.

Expiration Date: See product label.

References:

Prigent, S.A., et al. (1990) Identification of epitopes on the human insulin receptor reacting with rabbit polyclonal antisera and mouse monoclonal antibodies. *J. Biol. Chem.* 265(17):9970-9977.

Soos, M.A., et al. (1986) Monoclonal antibodies reacting with multiple epitopes on the human insulin receptor. *Biochem. J.* 235(1):199-208.

Soos, M.A., et al. (1989) Monoclonal antibodies to the insulin receptor mimic metabolic effects of insulin but do not stimulate receptor autophosphorylation in transfected NIH3T3 fibroblasts. *Proc. Nat'l. Acad. Sci. USA* 86(14):5217-5221.

Soos, M.A., and K. Siddle (1989) Immunological relationships between receptors for insulin and insulin-like growth factor I. Evidence for structural heterogeneity of insulin-like growth factor I receptors involving hybrids with insulin receptors. *Biochem. J.* 263(2):553-563.

Taylor, R., et al. (1987) Insulin-like and insulin-inhibitory effects of monoclonal antibodies for different epitopes on the human insulin receptor. *Biochem. J.* 242(1):123-129.

Zhang, B. and R.A. Roth (1991) A region of the insulin receptor important for ligand binding (residues 450-601) is recognized by patients' autoimmune antibodies and inhibitory monoclonal antibodies. *Proc. Nat'l. Acad. Sci. USA* 88:9858-9862.

Explanation of symbols

Symbol	Description	Symbol	Description
	Catalogue Number		Batch code
	Research Use Only		In vitro diagnostic medical device
	Use by		Temperature limitation
	Manufacturer		European Community authorised representative
	Without, does not contain		With, contains
	Protect from light		Consult accompanying documents
	Directs the user to consult instructions for use (IFU), accompanying the product.		

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