Mouse (monoclonal) Anti-IGF-1R (β-Subunit) Unconjugated

PRODUCT ANALYSIS SHEET

Catalog Number:	AHO1292
Lot Number:	See product label
Quantity/Volume:	100 µg/0.2 mL
Clone Number:	194Q13
Isotype:	IgG_{2b} κ (mouse)
Form of Antibody:	Purified immunoglobulin in phosphate buffered saline, pH 7.2, with 1% bovine serum albumin.
Preservation:	0.1% sodium azide (Caution: sodium azide is a poisonous and hazardous substance. Handle with care and dispose of properly.)
Purification:	Purified from ascites by affinity chromatography.
Immunogen:	Recombinant fragment of the cytoplasmic domain of human IGF-1R β-subunit expressed in *E. coli*.
Specificity:	Insulin-like growth factor-1 receptor (IGF-1R, also known as CD221), a member of the tyrosine kinase superfamily, is a broadly expressed transmembrane receptor that plays a key role in supporting cell growth and differentiation, and imparts resistance to apoptosis. IGF-1R is synthesized as a single polypeptide that is glycosylated and proteolytically cleaved to yield a disulfide-linked tetrameric receptor composed of two α-subunits and two β-subunits, arranged in the configuration α-β-β-α. IGF-1R's α-subunits (135 kDa) mediate ligand binding, and are entirely extracellular. IGF-1R's β-subunits (90 kDa) each possess an extracellular domain, a single transmembrane domain, and a cytoplasmic portion. Three polypeptide ligands for IGF-1R have been identified: IGF-1, IGF-2, and insulin. IGF-1's binding to the α-subunits of the receptor induces a conformational change, resulting in the trans-autophosphorylation of three tyrosine residues (1131, 1135, and 1136) and activation. Activated IGF-1R phosphorylates substrate proteins, including Shc and insulin receptor substrates (IRS) 1, 2, 3, and 4, and recruits 14-3-3 proteins. This antibody recognizes the β-subunit of IGF-1R, and does not bind to insulin receptor.
Species Reactivity:	Human, mouse and rat.
Applications:	This antibody is suitable for use in Western blotting.
Suggested Working Dilutions:	For Western blotting, the recommended concentration is 1 µg/mL. The optimal antibody concentration should be determined for each specific application.
Recommended Positive Control:	Human MCF-7 cells, mouse L929 cells and rat PC12 cells.

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Storage: Store at 2-8ºC. For long term storage, aliquot into small volumes and store at –20ºC. Avoid repeated freeze-thaw cycles to prevent denaturing the antibody.

References:

Amoui, M., et al. (2001) Differential phosphorylation of IRS-1 by insulin and insulin-like growth factor 1 receptors in Chinese hamster ovary cells. J. Endocrinology 171:153-162.

Blum, G., et al. (2003) Development of new insulin-like growth factor-1 receptor kinase inhibitors using catechol mimics. J. Biol. Chem. 278:40442-40454.

Favelyukis, S., et al. (2001) Structure and autoregulation of the insulin-like growth factor 1 receptor kinase. Nat. Struct. Biol. 8:1058-1063.

Kahlert, S., et al. (2000) Estrogen receptor α rapidly activates the IGF-1 receptor pathway. J. Biol. Chem. 275:18447-18453.

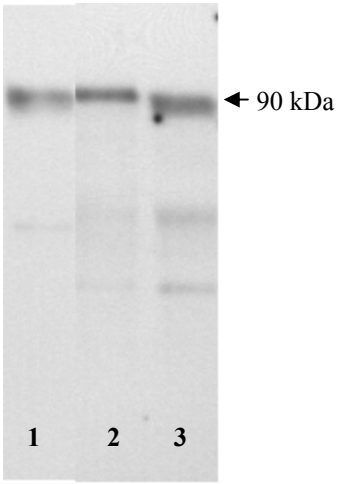
Peruzzi, F., et al. (1999) Multiple signaling pathways of the insulin-like growth factor 1 receptor in protection from apoptosis. Mol. Cell. Biol. 19:7203-7215.

Schumacher, R., et al. (1993) Signaling-competent receptor chimeras allow mapping of major insulin receptor binding domain determinants. J. Biol. Chem. 268:1087-1094.

Vasilcanu, D., et al. (2004) The cyclolignan PPP induces activation loop-specific inhibition of tyrosine phosphorylation of the insulin like growth factor-1 receptor. Link to the phosphatidylinositol-3 kinase/Akt apoptotic pathway. Oncogene 23(47):7854-7862.

Related Products:

AKT Pathway Phospho 7-Plex Antibody Bead Kit for the Luminex™ 100	Cat. #	LHO0001
AKT Pathway Total 7-Plex Antibody Bead Kit for the Luminex™ 100	Cat. #	LHO0002
IR/IGF-1R [pY1158] Phosphorylation Site Specific Antibody	Cat. #	44-802G
IR/IGF-1R [pYpY1162/63] Phosphorylation Site Specific Antibody	Cat. #	44-804G
IRS-1 [pS312] Phosphorylation Site Specific Antibody	Cat. #	44-814G
IRS-1 [pS616] Phosphorylation Site Specific Antibody	Cat. #	44-550
IGF-1R β-Subunit ELISA	Cat. #	KHO0491
IGF-1R [pYpY1135/36] ELISA	Cat. #	KHO0501



Western Blot Analysis
Proteins from cell extracts of human MCF7 cells (lane 1), mouse L929 cells (lane 2), and rat PC12 cells (lane 3) were resolved by SDS-PAGE and transferred to PVDF. The membranes were incubated with this IGF-1R monoclonal antibody (clone 194Q13) at a concentration of 1 µg/mL for two hours at room temperature. After washing, the membranes were incubated with a goat $F(ab')_2$ anti-mouse IgG alkaline phosphatase conjugated antibody (Cat. # AMI4405) at a 1:2000 dilution. Bands were detected with CDP-substrate using the WesternStar™ method (Tropix) and Kodak BioMax film.

This product is for research use only. Not for use in diagnostic procedures.

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