

insulin R α (83-12): sc-57343

BACKGROUND

The Insulin receptor (IR) is a heterodimeric protein complex that has an intracellular β subunit and an extracellular α subunit, which is disulfide-linked to a transmembrane segment. The Insulin ligand binds to the IR and initiates molecular signaling pathways that promote glucose uptake in cells and glycogen synthesis. Insulin binding to IR induces phosphorylation of intra-cellular tyrosine kinase domains and recruitment of multiple SH2 and SH3 domain-containing intracellular proteins that serve as signaling intermediates for pleiotropic effects of Insulin. The human Insulin receptor gene maps to chromosome 19p13.2 and encodes a 1,382 amino acid protein that cleaves to form α and β subunits. Type 1 diabetes is an auto-immune condition of the endocrine pancreas that results in destruction of Insulin secreting cells and a progressive loss in Insulin glucose uptake by cells. Type 2 diabetes is a condition where cells become resistant to Insulin action.

REFERENCES

1. Marino-Buslje, C., et al. 1999. The Insulin receptor: from protein sequence to structure. *Biochem. Soc. Trans.* 27: 715-726.
2. Ottensmeyer, F.P., et al. 2000. Mechanism of transmembrane signaling: Insulin binding and the Insulin receptor. *Biochemistry* 39: 12103-12112.
3. Sesti, G. 2000. Insulin receptor variant forms and type 2 diabetes mellitus. *Pharmacogenomics* 1: 49-61.
4. Whitehead, J.P., et al. 2000. Signalling through the Insulin receptor. *Curr. Opin. Cell. Biol.* 12: 222-228.
5. Perz, M., et al. 2001. Insulin receptor—structural and functional characteristics. *Med. Sci. Monit.* 7: 169-177.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 147670. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. LocusLink Report (LocusID: 3643). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: INSR (human) mapping to 19p13.2

SOURCE

insulin R α (83-12) is a mouse monoclonal antibody raised against insulin R α of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

insulin R α (83-12) is available conjugated to agarose (sc-57343 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57343 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-57343 PE), fluorescein (sc-57343 FITC), Alexa Fluor® 488 (sc-57343 AF488), Alexa Fluor® 546 (sc-57343 AF546), Alexa Fluor® 594 (sc-57343 AF594) or Alexa Fluor® 647 (sc-57343 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-57343 AF680) or Alexa Fluor® 790 (sc-57343 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

insulin R α (83-12) is recommended for detection of insulin R α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Insulin R siRNA (h): sc-29370, Insulin R shRNA Plasmid (h): sc-29370-SH and Insulin R shRNA (h) Lentiviral Particles: sc-29370-V.

Molecular Weight of insulin R precursor: 200 kDa.

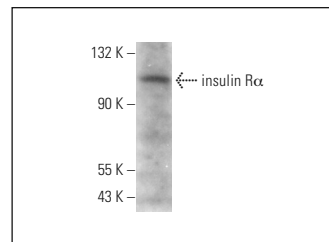
Molecular Weight of mature insulin R α chain: 125: 125 kDa.

Positive Controls: U266 whole cell lysate: sc-364800.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml).

DATA



insulin R α (83-12): sc-57343. Western blot analysis of insulin R α expression in U266 whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA