

insulin R α (H-78): sc-7953

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-sensitive glucose uptake by cells. Type 2 diabetes is a condition where cells become resistant to Insulin action.

CHROMOSOMAL LOCATION

Genetic locus: INSR (human) mapping to 19p13.2; Insr (mouse) mapping to 8 A1.1.

SOURCE

insulin R α (H-78) is a rabbit polyclonal antibody raised against amino acids 128-205 of Insulin R α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Insulin R α (H-78) is recommended for detection of insulin receptor α chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Insulin R α (H-78) is also recommended for detection of Insulin receptor α chain in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for insulin R siRNA (h): sc-29370, insulin R siRNA (m): sc-35673, insulin R shRNA Plasmid (h): sc-29370-SH, insulin R shRNA Plasmid (m): sc-35673-SH, Insulin R shRNA (h) Lentiviral Particles: sc-29370-V and Insulin R shRNA (m) Lentiviral Particles: sc-35673-V.

Molecular Weight of insulin R α precursor: 200 kDa.

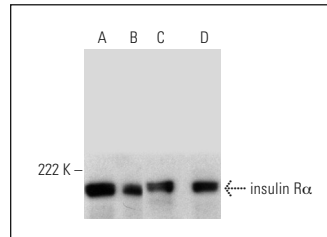
Molecular Weight of mature Insulin R α chain: 125 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



insulin R α (H-78): sc-7953. Western blot analysis of insulin R α expression in HeLa (A), Y79 (B), Ramos (C) and K-562 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Nguyen, T.T., et al. 2007. IGF-I and Insulin activate mitogen-activated protein kinase via the type 1 IGF receptor in mouse embryonic stem cells. *Reproduction* 134: 41-49.
- Ruttenstock, E., et al. 2010. Downregulation of Insulin-like growth factor binding protein 3 and 5 in nitrofen-induced pulmonary hypoplasia. *Pediatr. Surg. Int.* 26: 59-63.
- Ruttenstock, E., et al. 2010. Insulin receptor is downregulated in the nitrofen-induced hypoplastic lung. *J. Pediatr. Surg.* 45: 948-952.
- Ruttenstock, E., et al. 2011. Prenatal administration of retinoic acid upregulates Insulin-like growth factor receptors in the nitrofen-induced hypoplastic lung. *Birth Defects Res. B Dev. Reprod. Toxicol.* 92: 148-151.
- Giudice, J., et al. 2013. Insulin and Insulin-like growth factor II endocytosis and signaling via Insulin receptor B. *Cell Commun. Signal.* 11: 18.

STORAGE

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



Try **insulin R α (MA-20): sc-57344**, our highly recommended monoclonal alternative to insulin R α (H-78).