**BACKGROUND**

The insulin receptor (IR) is a heterodimeric protein complex that has an intracellular \( \beta \) subunit and an extracellular \( \alpha \) 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 glycolysis. 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 \( \alpha \) and \( \beta \) 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 \( \alpha \) (H-78) is a rabbit polyclonal antibody raised against amino acids 128-205 of insulin \( \alpha \) chain of human origin.

**PRODUCT**

Each vial contains 200 µg 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 \( \alpha \) (H-78) is recommended for detection of insulin receptor \( \alpha \) chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg 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 \( \alpha \) (H-78) is also recommended for detection of Insulin receptor \( \alpha \) 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 \( \alpha \) precursor: 200 kDa.

Molecular Weight of mature insulin \( \alpha \) 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**

**SELECT PRODUCT CITATIONS**


**STORAGE**

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