insulin Rβ (CT-3): sc-57342

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 glycolysis, which is characterized by the expression of GLUT4 transporters. Insulin binding to IR induces phosphorylation of intracellular tyrosine kinase domains and recruitment of multiple SH2 and SH3 domains 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 autoimmune 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.

REFERENCES


CHROMOSOMAL LOCATION


Molecular Weight of mature insulin Rβ chain: 95 kDa.

Molecular Weight of insulin R precursor: 200 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NIH/3T3 whole cell lysate: sc-2210 or MCF7 whole cell lysate: sc-2206.

APPLICATIONS

insulin Rβ (CT-3) is recommended for detection of insulin Rβ 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with insulin-like growth factor (IGF) receptors.

DATA

insulin Rβ (CT-3) HRP: sc-57342 HRP. Direct western blot analysis of insulin Rβ expression in NIH/3T3 (A), SW480 (B), MCF7 (C), JAR (D) and Hep G2 (E) whole cell lysates.

SELECT PRODUCT CITATIONS


RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgGα kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

insulin Rβ (CT-3) is available conjugated to agarose (sc-57342 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57342 HRP), 200 µg/ml, for WB, IHCP and ELISA; to either phycoerythrin (sc-57342 PE), fluorescein (sc-57342 FITC), Alexa Fluor® 488 (sc-57342 AF488), Alexa Fluor® 546 (sc-57342 AF546), Alexa Fluor® 594 (sc-57342 AF594) or Alexa Fluor® 647 (sc-57342 AF647), 200 µg/ml, for WB (RGB), IF, IHCP and FCM; and to either Alexa Fluor® 680 (sc-57342 AF680) or Alexa Fluor® 790 (sc-57342 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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