SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IRβ (F-1): sc-390130

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Receptor tyrosine kinases (RTKs) are transmembrane molecular scaffolds that influence cellular processes including the cell cycle, cell migration, cell metabolism, cell survival, proliferation and differentiation. Insulin-like growth factor-I receptor (IGF-IR) is an RTK that stimulates growth in many different cell types, blocks apoptosis, acts as an intermediate of many growth hormone responses and may stimulate the growth of some types of cancer. The IGF-IR cognate ligand Insulin-like growth factor-I (IGF-I) promotes association of IGF-IR with Shc, GRB2 and Sos 1, which initiates Ras and ERK kinase cascades, thereby modifying transcription factor activity, such as activation of the Elk transcription factors. The modular phosphotyrosine binding (PTB) domains of Insulin receptor substrate (IRS)-1 and -2 can associate with active IGF-IR and initiate phosphatidylinositol 3-kinase-dependent downstream signals. The human IGF-IR gene maps to chromosome 15q26.3 and encodes a 1,376 amino acid precursor protein that cleaves into α and β subunits. The human IGF-IIR gene maps to chromosome 6q26 and encodes a 2,491 amino acid transmembrane protein.

REFERENCES

1. Frattali, A.L., et al. 1993. Molecular defects of Insulin/IGF-1 receptor transmembrane signaling. Ann. N.Y. Acad. Sci. 687: 77-89.
2. Keller, S.R., et al. 1993. Insulin and IGF-I signaling through the Insulin receptor substrate 1. Mol. Reprod. Dev. 35: 346-351.

CHROMOSOMAL LOCATION

Genetic locus: IGF1R (human) mapping to 15q26.3; Igf1r (mouse) mapping to 7 D1.

SOURCE

IGF-IRβ (F-1) is a mouse monoclonal antibody raised against amino acids 741-800 of IGF-IRβ of human origin.

PRODUCT

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

IGF-IRβ (F-1) is available conjugated to agarose (sc-390130 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390130 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390130 PE), fluorescein (sc-390130 FITC), Alexa Fluor® 488 (sc-390130 AF488), Alexa Fluor® 546 (sc-390130 AF546), Alexa Fluor® 594 (sc-390130 AF594) or Alexa Fluor® 647 (sc-390130 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390130 AF680) or Alexa Fluor® 790 (sc-390130 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

IGF-IRβ (F-1) is recommended for detection of IGF-IRβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for IGF-IRα/β siRNA (h): sc-29358, IGF-IRα/β siRNA (m): sc-35638, IGF-IRα/β siRNA (r): sc-270198, IGF-IRα/β shRNA Plasmid (h): sc-29358-SH, IGF-IRα/β shRNA Plasmid (m): sc-35638-SH, IGF-IRα/β shRNA Plasmid (r): sc-270198-SH, IGF-IRα/β shRNA (h) Lentiviral Particles: sc-29358-V, IGF-IRα/β shRNA (m) Lentiviral Particles: sc-35638-V and IGF-IRα/β shRNA (r) Lentiviral Particles: sc-270198-V.

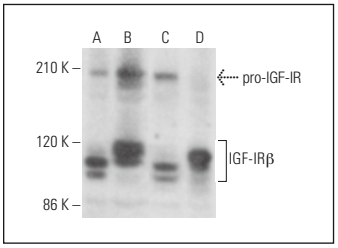
Molecular Weight of pro-IGF-IR: 200 kDa.

Molecular Weight of IGF-IRβ α subunit: 130 kDa.

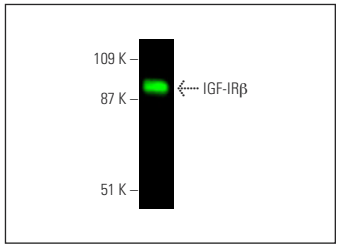
Molecular Weight of IGF-IRβ β subunit: 97 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

DATA



IGF-IRβ (F-1): sc-390130. Western blot analysis of IGF-IRβ expression in A-431 (**A**), MCF7 (**B**), NIH/3T3 (**C**) and HeLa (**D**) whole cell lysates.



IGF-IRβ (F-1): sc-390130. Near-infrared western blot analysis of IGF-IRβ expression in MCF7 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Kim, I.H. and Nam, T.J. 2018. Fucoidan downregulates Insulin-like growth factor-I receptor levels in HT-29 human colon cancer cells. Oncol. Rep. 39: 1516-1522.
2. Mancarella, C., et al. 2023. Extracellular vesicle-associated IGF2BP3 tunes Ewing sarcoma cell migration and affects PI3K/Akt pathway in neighboring cells. Cancer Gene Ther. 30: 1285-1295.
3. Kakadia, J.H., et al. 2024. AMPK-mTORC1 pathway mediates hepatic IGFBP-1 phosphorylation in glucose deprivation: a potential molecular mechanism of hypoglycemia-induced impaired fetal growth. J. Mol. Endocrinol. 72: e230137.

RESEARCH USE

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