SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IRα (G-5): sc-271606

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: 346-352.

CHROMOSOMAL LOCATION

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

SOURCE

IGF-IRα (G-5) is a mouse monoclonal antibody raised against amino acids 123-200 of IGF-IRα of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGF-IRα (G-5) is available conjugated to agarose (sc-271606 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271606 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271606 PE), fluorescein (sc-271606 FITC), Alexa Fluor® 488 (sc-271606 AF488), Alexa Fluor® 546 (sc-271606 AF546), Alexa Fluor® 594 (sc-271606 AF594) or Alexa Fluor® 647 (sc-271606 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271606 AF680) or Alexa Fluor® 790 (sc-271606 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-IRα (G-5) is recommended for detection of IGF-IRα 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

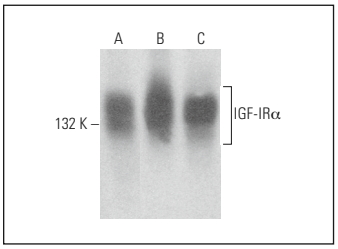
Suitable for use as control antibody for IGF-IRα/β siRNA (h): sc-29358, IGF-IRα/β siRNA (m): sc-35638, IGF-IRα/β siRNA (r): sc-270198, IGF-IRα/β shRNA Plasmid (h): sc-29358-SH, IGF-IRα/β shRNA Plasmid (m): sc-35638-SH, IGF-IRα/β shRNA Plasmid (r): sc-270198-SH, IGF-IRα/β shRNA (h) Lentiviral Particles: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

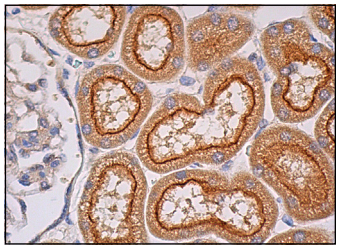
Molecular Weight of IGF-IRα: 130 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or A-431 whole cell lysate: sc-2201.

DATA



IGF-IRα (G-5): sc-271606. Western blot analysis of IGF-IRα expression in A-431 (**A**), MCF7 (**B**) and Hep G2 (**C**) whole cell lysates.



IGF-IRα (G-5): sc-271606. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Zhuang, M., et al. 2015. Involvement of miR-143 in cisplatin resistance of gastric cancer cells via targeting IGF1R and BCL2. Tumor Biol. 36: 2737-2745.
2. Shin, J.W., et al. 2022. Grabody B, an IGF1 receptor-based shuttle, mediates efficient delivery of biologics across the blood-brain barrier. Cell Rep. Methods 2: 100338.
3. Dai, P., et al. 2023. Gimap5 promoted RSV degradation through interaction with M6PR. J. Med. Virol. 95: e28390.
4. Siraj, Y., et al. 2024. IGFBP7 is a key component of the senescence-associated secretory phenotype (SASP) that induces senescence in healthy cells by modulating the insulin, IGF, and activin A pathways. Cell Commun. Signal. 22: 540.

RESEARCH USE

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