

IGF-IR α (G-5): sc-271606

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

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGF-IR α (G-5) is available conjugated to agarose (sc-271606 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271606 HRP), 200 μ g/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 μ g/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 μ g/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.

APPLICATIONS

IGF-IR α (G-5) is recommended for detection of IGF-IR α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

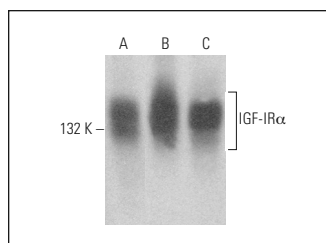
Suitable for use as control antibody for IGF-IR α / β siRNA (h): sc-29358, IGF-IR α / β siRNA (m): sc-35638, IGF-IR α / β siRNA (r): sc-270198, IGF-IR α / β shRNA Plasmid (h): sc-29358-SH, IGF-IR α / β shRNA Plasmid (m): sc-35638-SH, IGF-IR α / β shRNA Plasmid (r): sc-270198-SH, IGF-IR α / β shRNA (h)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

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

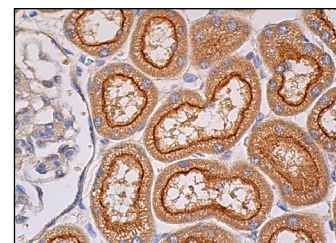
Molecular Weight of IGF-IR α : 130 kDa.

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

DATA



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



IGF-IR α (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. Martinez-Rachadell, L., et al. 2019. Cell-specific expression of Insulin/Insulin-like growth factor-I receptor hybrids in the mouse brain. *Growth Horm. IGF Res.* 45: 25-30.
3. Ugradar, S., et al. 2020. Teprotumumab for non-inflammatory thyroid eye disease (TED): evidence for increased IGF-1R expression. *Eye* 35: 2607-2612.
4. Ishii, S., et al. 2021. Primary cilia safeguard cortical neurons in neonatal mouse forebrain from environmental stress-induced dendritic degeneration. *Proc. Natl. Acad. Sci. USA* 118: e2012482118.

RESEARCH USE

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