SANTA CRUZ BIOTECHNO

IGF-IRα (1H7): sc-461

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.

REFERENCE

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 (1H7) is a mouse monoclonal antibody raised against IGF-I receptor purified from placentas 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. Also available azide-free for neutralization; antibody will block the binding of IGF-I to its receptor, sc-461 L, 200 µg/0.1 ml.

IGF-IRα (1H7) is available conjugated to agarose (sc-461 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-461 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-461 PE), fluorescein (sc-461 FITC), Alexa Fluor® 488 (sc-461 AF488), Alexa Fluor® 546 (sc-461 AF546), Alexa Fluor® 594 (sc-461 AF594) or Alexa Fluor® 647 (sc-461 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-461 AF680) or Alexa Fluor® 790 (sc-461 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 (1H7) is recommended for detection of IGF-IRα of mouse, rat and human origin by 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 flow cytometry (1 µg per 1 x 10^6 cells).

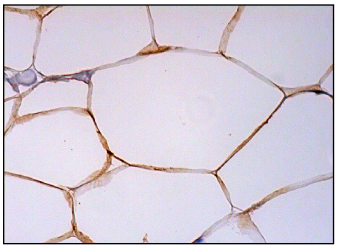
Suitable for use as control antibody for IGF-IRα/β siRNA (h): sc-29358, IGF-IRα/β siRNA (m): sc-35638, IGF-IRα/β shRNA Plasmid (h): sc-29358-SH, IGF-IRα/β shRNA Plasmid (m): sc-35638-SH, IGF-IRα/β shRNA (h) Lentiviral Particles: sc-29358-V and IGF-IRα/β shRNA (m) Lentiviral Particles: sc-35638-V.

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

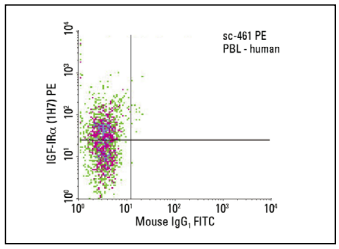
Molecular Weight of IGF-IRα: 130 kDa.

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

DATA



IGF-IRα (1H7): sc-461. Immunoperoxidase staining of formalin fixed, paraffin-embedded human soft tissue showing membrane staining of adipocytes.



IGF-IRα (1H7) PE: sc-461 PE. FCM analysis of human peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Lin, S.B., et al. 1997. Antisense oligodeoxynucleotides of IGF-II selectively inhibit growth of human hepatoma cells overproducing IGF-II. J. Biochem. 122: 717-722.
2. Li, S., et al. 2015. Crucial role of TRPC6 in maintaining the stability of HIF-1α in glioma cells under hypoxia. J. Cell Sci. 128: 3317-3329.
3. Rahmoon, M.A., et al. 2017. MiR-615-5p depresses natural killer cells cytotoxicity through repressing IGF-1R in hepatocellular carcinoma patients. Growth Factors 35: 76-87.
4. Molina, E.R., et al. 2019. Mechanically tunable coaxial electrospun models of YAP/TAZ mechanoresponse and IGF-1R activation in osteosarcoma. Acta Biomater. 100: 38-51.
5. Oherle, K., et al. 2020. Insulin-like growth factor 1 supports a pulmonary niche that promotes type 3 innate lymphoid cell development in newborn lungs. Immunity 52: 275-294.e9.

RESEARCH USE

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