SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IR (7G11): sc-81464

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.

CHROMOSOMAL LOCATION

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

SOURCE

IGF-IR (7G11) is a mouse monoclonal antibody raised against the C-terminus of IGF-IR of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

IGF-IR (7G11) is recommended for detection of IGF-IR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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-IR α subunit: 130 kDa.

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

Positive Controls: HeLa whole cell lysate: sc-2200 or 293T whole cell lysate.

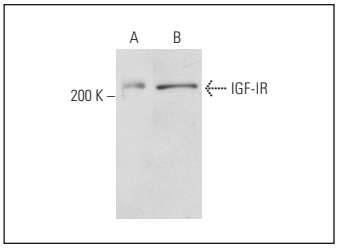
STORAGE

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

RESEARCH USE

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

DATA



IGF-IR (7G11): sc-81464. Western blot analysis of IGF-IR expression in 293T (**A**) and HeLa (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chang, M.H., et al. 2007. Down regulation of IGF-I and IGF-IR gene expression in right atria tissue of ventricular septal defect infants with right atria hypoxemia. Clin. Chim. Acta 379: 81-86.
2. Di Cara, G., et al. 2013. Proteomic profiling of trastuzumab (Herceptin®)-sensitive and -resistant SKBR-3 breast cancer cells. Anticancer Res. 33: 489-503.
3. Nagaraju, G.P., et al. 2014. Hsp90 inhibition downregulates thymidylate synthase and sensitizes colorectal cancer cell lines to the effect of 5FU-based chemotherapy. Oncotarget 5: 9980-9991.
4. Dubey, P.K., et al. 2015. Expression of mRNA encoding IGF-I, IGF-II, type-I, and II IGF-receptors and IGF-binding proteins-1-4 during ovarian follicular development in buffalo *(Bubalus bubalis)*. Anim. Biotechnol. 26: 81-91.
5. Avino, S., et al. 2016. Stimulatory actions of IGF-I are mediated by IGF-IR cross-talk with GPER and DDR1 in mesothelioma and lung cancer cells. Oncotarget 7: 52710-52728.
6. Zhou, F., et al. 2017. MicroRNA-379 acts as a tumor suppressor in non-small cell lung cancer by targeting the IGF-1R-mediated AKT and ERK pathways. Oncol. Rep. 38: 1857-1866.
7. Pisano, A., et al. 2017. GPER, IGF-IR and EGFR transduction signalling are involved in stimulatory effects of zinc in breast cancer cells and cancer-associated fibroblasts. Mol. Carcinog. 56: 580-593.
8. Ye, Y., et al. 2018. MicroRNA-495 suppresses cell proliferation and invasion of hepatocellular carcinoma by directly targeting Insulin-like growth factor receptor-1. Exp. Ther. Med. 15: 1150-1158.
9. Song, Y., et al. 2018. MicroRNA-532 suppresses the PI3K/Akt signaling pathway to inhibit colorectal cancer progression by directly targeting IGF-1R. Am. J. Cancer Res. 8: 435-449.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.