

IGF-IR (3B7): sc-462

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.

CHROMOSOMAL LOCATION

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

SOURCE

IGF-IR (3B7) is a mouse monoclonal antibody raised against IGF-I receptor purified from placentas 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. Also available azide-free for biological studies, sc-462 L, 200 μ g/0.1 ml.

IGF-IR (3B7) is available conjugated to agarose (sc-462 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-462 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-462 PE), fluorescein (sc-462 FITC), Alexa Fluor® 488 (sc-462 AF488), Alexa Fluor® 546 (sc-462 AF546), Alexa Fluor® 594 (sc-462 AF594) or Alexa Fluor® 647 (sc-462 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-462 AF680) or Alexa Fluor® 790 (sc-462 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IGF-IR (3B7) is recommended for detection of IGF-I of mouse, rat and human origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

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 shRNA Plasmid (h): sc-29358-SH, IGF-IR α / β shRNA Plasmid (m): sc-35638-SH, IGF-IR α / β shRNA (h) Lentiviral Particles: sc-29358-V and IGF-IR α / β shRNA (m) Lentiviral Particles: sc-35638-V.

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

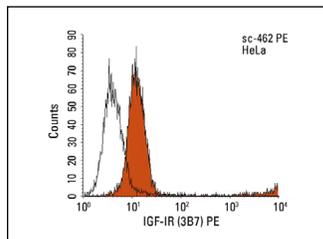
Molecular Weight of IGF-IR α subunit: 130 kDa.

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

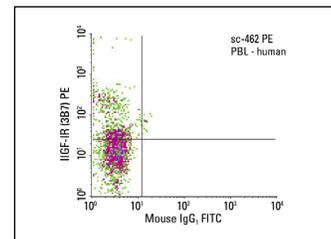
STORAGE

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

DATA



IGF-IR (3B7) PE: sc-462 PE. FCM analysis of HeLa cells. Black line histogram represents the isotype control, normal mouse IgG₁-PE: sc-2866.



IGF-IR (3B7) PE: sc-462 PE. FCM analysis of human peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG₁-PE: sc-2866.

SELECT PRODUCT CITATIONS

- Kole, H.K., et al. 1996. A synthetic peptide derived from a COOH-terminal domain of the Insulin receptor specifically enhances Insulin receptor signaling. *J. Biol. Chem.* 271: 31619-31626.
- Liu, M. and Zhang, S. 2011. Amphioxus IGF-like peptide induces mouse muscle cell development via binding to IGF receptors and activating MAPK and PI3K/Akt signaling pathways. *Mol. Cell. Endocrinol.* 343: 45-54.
- Yue, L., et al. 2012. Inhibition of hepatocellular carcinoma cell growth by an anti-Insulin-like growth factor-I receptor monoclonal antibody. *Oncol. Rep.* 28: 1453-1460.
- Saldana, S.M., et al. 2013. Inhibition of type I Insulin-like growth factor receptor signaling attenuates the development of breast cancer brain metastasis. *PLoS ONE* 8: e73406.
- Fan, P., et al. 2014. A molecular model for the mechanism of acquired tamoxifen resistance in breast cancer. *Eur. J. Cancer* 50: 2866-2876.
- Chen, C., et al. 2015. microRNA-99a is downregulated and promotes proliferation, migration and invasion in non-small cell lung cancer A549 and H1299 cells. *Oncol. Lett.* 9: 1128-1134.
- Kim, H., et al. 2017. Estradiol-ER β 2 signaling axis confers growth and migration of CRPC cells through TMPRSS2-ETV5 gene fusion. *Oncotarget* 8: 62820-62833.
- Lin, Y., et al. 2018. MicroRNA-539 inhibits cell proliferation, colony formation and invasion in pancreatic ductal adenocarcinoma by directly targeting IGF-1R. *Mol. Med. Rep.* 18: 1804-1811.
- Hsu, C.F., et al. 2019. IGF-axis confers transformation and regeneration of fallopian tube fimbria epithelium upon ovulation. *EBioMedicine* 41: 597-609.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA