

# IGF-IR $\beta$ (H-60): sc-9038

## 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  $\alpha$  and  $\beta$  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 $\beta$  (H-60) is a rabbit polyclonal antibody raised against amino acids 741-800 of IGF-IR $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

IGF-IR $\beta$  (H-60) is recommended for detection of IGF-IR $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IGF-IR $\beta$  (H-60) is also recommended for detection of IGF-IR $\beta$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IGF-IR $\beta$  siRNA (h): sc-29358, IGF-IGF-IR $\beta$  siRNA (m): sc-35638, IGF-IR $\beta$  shRNA Plasmid (h): sc-29358-SH, IGF-IR $\beta$  shRNA Plasmid (m): sc-35638-SH, IGF-IR $\beta$  shRNA (h) Lentiviral Particles: sc-29358-V and IGF-IR $\beta$  shRNA (m) Lentiviral Particles: sc-35638-V.

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

Molecular Weight of IGF-IR $\alpha$  subunit: 130 kDa.

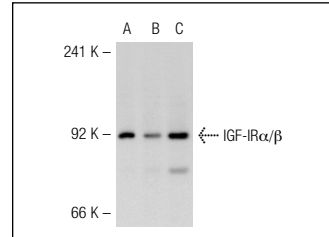
Molecular Weight of IGF-IR $\beta$  subunit: 97 kDa.

Positive Controls: IGF-IR $\alpha/\beta$  (h): 293T Lysate: sc-113594, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

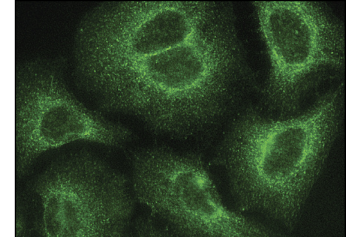
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



IGF-IR $\beta$  (H-60): sc-9038. Western blot analysis of IGF-IR $\alpha/\beta$  expression in non-transfected 293T: sc-117752 (A), human IGF-IR $\alpha/\beta$  transfected 293T: sc-113594 (B) and HeLa (C) whole cell lysates.



IGF-IR $\beta$  (H-60): sc-9038. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Shimizu, H., et al. 2003.  $\alpha$ 6 $\beta$ 1 integrin induces proteasome-mediated cleavage of ErbB-2 in breast cancer cells. *Oncogene* 22: 831-839.
- Zhu, L., et al. 2007. Estradiol-17 $\beta$  regulates mouse uterine epithelial cell proliferation through Insulin-like growth factor 1 signaling. *Proc. Natl. Acad. Sci. USA* 104: 15847-15851.
- Guerreiro, A.S., et al. 2008. Targeting the PI3K p110 $\alpha$  isoform inhibits medulloblastoma proliferation, chemoresistance, and migration. *Clin. Cancer Res.* 14: 6761-6769.
- Aleksic, T., et al. 2010. Type 1 Insulin-like growth factor receptor translocates to the nucleus of human tumor cells. *Cancer Res.* 70: 6412-6419.
- Runnels, H.A., et al. 2010. Human monoclonal antibodies to the Insulin-like growth factor 1 receptor inhibit receptor activation and tumor growth in preclinical studies. *Adv. Ther.* 27: 458-475.
- Huang, J., et al. 2012. SUMO1 modification of PTEN regulates tumorigenesis by controlling its association with the plasma membrane. *Nat. Commun.* 3: 911.
- Wojtalla, A., et al. 2012. Novel agents targeting the IGF-1R/PI3K pathway impair cell proliferation and survival in subsets of medulloblastoma and neuroblastoma. *PLoS ONE* 7: e47109.

## RESEARCH USE

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



Try **IGF-IR $\beta$  (F-1): sc-390130** or **IGF-IR $\beta$  (D-11): sc-398250**, our highly recommended monoclonal alternatives to IGF-IR $\beta$  (H-60). Also, for AC, HRP, FITC, PE, Alexa Fluor $^{\text{®}}$  488 and Alexa Fluor $^{\text{®}}$  647 conjugates, see **IGF-IR $\beta$  (F-1): sc-390130**.