

# IGF-IR $\beta$ (D-11): sc-398250

## 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-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.
3. De Meyts, P., et al. 1995. Mechanism of Insulin and IGF-I receptor activation and signal transduction specificity. Receptor dimer cross-linking, bell-shaped curves, and sustained versus transient signaling. *Ann. N.Y. Acad. Sci.* 766: 388-401.
4. Song, R.X., et al. 2004. The role of Shc and Insulin-like growth factor 1 receptor in mediating the translocation of estrogen receptor  $\alpha$  to the plasma membrane. *Proc. Natl. Acad. Sci. USA* 101: 2076-2081.
5. Mitsiades, C.S., et al. 2004. Inhibition of the Insulin-like growth factor receptor-1 tyrosine kinase activity as a therapeutic strategy for multiple myeloma, other hematologic malignancies, and solid tumors. *Cancer Cell* 5: 221-230.

## CHROMOSOMAL LOCATION

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

## SOURCE

IGF-IR $\beta$  (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1333-1366 at the C-terminus of IGF-IR $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398250 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

IGF-IR $\beta$  (D-11) is recommended for detection of IGF-IR $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 $\beta$  (D-11) is also recommended for detection of IGF-IR $\beta$  in additional species, including equine, canine, bovine, porcine and avian.

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

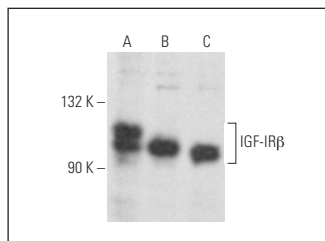
Molecular Weight of pro-IGF-IR: 200 kDa.

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

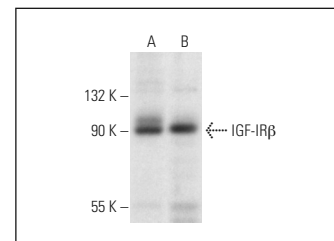
Molecular Weight of IGF-IR  $\beta$  subunit: 97 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RPMI2650 whole cell lysate: sc-364192 or A-431 whole cell lysate: sc-2201.

## DATA



IGF-IR $\beta$  (D-11): sc-398250. Western blot analysis of IGF-IR $\beta$  expression in HeLa (A), NCI-H226 (B) and RPMI2650 (C) whole cell lysates.



IGF-IR $\beta$  (D-11): sc-398250. Western blot analysis of IGF-IR $\beta$  expression in HeLa (A) and A-431 (B) whole cell lysates.

## 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.



See **IGF-IR $\beta$  (F-1): sc-390130** for IGF-IR $\beta$  antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.