IGF-IRβ (C-20): sc-713

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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-IRβ (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IGF-IRβ of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGF-IRβ (C-20) is available conjugated to agarose (sc-713 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IGF-IRβ (C-20) is recommended for detection of IGF-IRβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IGF-IRβ (C-20) is also recommended for detection of IGF-IRβ in additional species, including equine, canine, bovine, porcine and avian.

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.

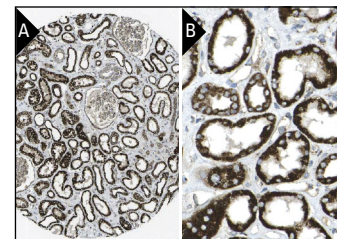Molecular Weight of pro-IGF-IR/IGF-IRα/IGF-IRβ: 200/130/97 kDa.

STORAGE

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

DATA
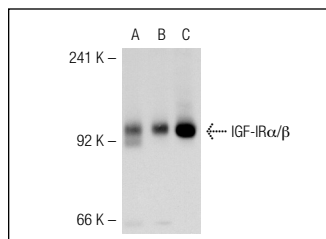
IGF-IRβ (C-20): sc-713. Western blot analysis of IGF-IRα/β expression in non-transfected 293T: sc-117752 (**A**), human IGF-IRα/β transfected 293T: sc-113594 (**B**) and Hela (**C**) whole cell lysates.

IGF-IRβ (C-20): sc-713. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and tubules at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Weihua, Z., et al. 2000. Estrogen receptor (ER) β, a modulator of ERα in the uterus. Proc. Natl. Acad. Sci. USA 97: 5936-5941.

2. Imai, Y., et al. 2000. Substitutions for hydrophobic amino acids in the N-terminal domains of IGFBP-3 and 5 markedly reduce IGF-I binding and alter their biologic actions. J. Biol. Chem. 275: 18188-18194.

3. Wraight, C.J., et al. 2000. Reversal of epidermal hyperproliferation in psoriasis by Insulin-like growth factor I receptor antisense oligonucleotides. Nat. Biotechnol. 18: 521-526.

4. Scotlandi, K., et al. 2011. Expression of Insulin-like growth factor system components in Ewing's sarcoma and their association with survival. Eur. J. Cancer 47: 1258-1266.

5. Durfort, T., et al. 2012. Small interfering RNA targeted to IGF-IR delays tumor growth and induces proinflammatory cytokines in a mouse breast cancer model. PLoS ONE 7: e29213.

6. Pierre-Eugene, C., et al. 2012. Effect of Insulin analogues on Insulin/IGF1 hybrid receptors: increased activation by glargine but not by its metabolites M1 and M2. PLoS ONE 7: e41992.

7. Nanjappa, M.K., et al. 2012. The industrial chemical bisphenol A (BPA) interferes with proliferative activity and development of steroidogenic capacity in rat Leydig cells. Biol. Reprod. 86: 135.

RESEARCH USE

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

MONOS
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Try **IGF-IRβ (F-1): sc-390130** or **IGF-IRβ (D-11): sc-398250**, our highly recommended monoclonal alternatives to IGF-IRβ (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **IGF-IRβ (F-1): sc-390130**.