SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IRα (N-20): sc-712

BACKGROUND

Receptor tyrosine kinases (RTKs) are transmembrane molecular scaffolds that influence cellular processes including cell migration, metabolism, 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-IRα (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of IGF-IRα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-712 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

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

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.

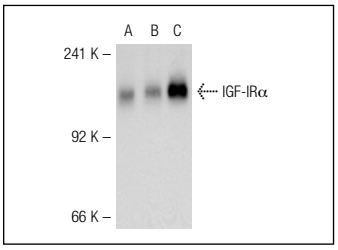
Molecular Weight of IGF-IRα: 130 kDa.

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

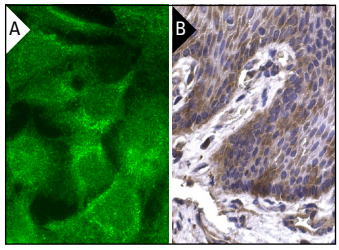
STORAGE

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

DATA



IGF-IRα (N-20): sc-712. Western blot analysis of IGF-IRα expression in non-transfected 293T: sc-117752 (**A**), human IGF-IRα transfected 293T: sc-113594 (**B**) and Hela (**C**) whole cell lysates.



IGF-IRα (N-20): sc-712. Immunofluorescence staining of methanol-fixed Hep G2 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Guvakova, M.A., et al. 1997. Overexpressed IGF-I receptors reduce estrogen growth requirements, enhance survival, and promote E-cadherin-mediated cell-cell adhesion in human breast cancer cells. Exp. Cell Res. 231: 149-162.
2. Mynarcik, D.C., et al. 1997. Identification of common ligand binding determinants of the Insulin and Insulin-like growth factor 1 receptors. Insights into mechanisms of ligand binding. J. Biol. Chem. 272: 18650-18655.
3. Zhao, A.Z., et al. 1997. Attenuation of Insulin secretion by Insulin-like growth factor I is mediated through activation of phosphodiesterase 3B. Proc. Natl. Acad. Sci. USA 94: 3223-3228.
4. Medyouf, H., et al. 2011. High-level IGF1R expression is required for leukemia-initiating cell activity in T-ALL and is supported by Notch signaling. J. Exp. Med. 208: 1809-1822.
5. Gusscott S, et al. 2012. Notch-mediated repression of miR-223 contributes to IGF1R regulation in T-ALL. Leuk. Res. 36: 905-911.
6. Jenkins, C.R., et al. 2012. IGF signaling contributes to malignant transformation of hematopoietic progenitors by the MLL-AF9 oncoprotein. Exp. Hematol. 40: 715-723.

RESEARCH USE

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