

p-IGF-IR (Tyr 1161): sc-101703

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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-IGF-IR (Tyr 1161) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 1161 of IGF-IR of human origin.

PRODUCT

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

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.

APPLICATIONS

p-IGF-IR (Tyr 1161) is recommended for detection of Tyr 1161 phosphorylated IGF-IR of human origin, correspondingly phosphorylated Tyr 1163 of mouse origin and correspondingly phosphorylated Tyr 1162 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

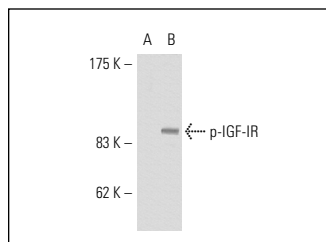
Molecular Weight of pro-IGF-IR: 200 kDa.

Molecular Weight of IGF-IR α : 130 kDa.

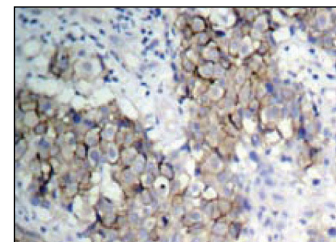
Molecular Weight of IGF-IR β : 97 kDa.

Positive Controls: Insulin-treated 293 whole cell lysate or human breast carcinoma tissue.

DATA



p-IGF-IR (Tyr 1161): sc-101703. Western blot analysis of phosphorylated IGF-IR expression in untreated (A) and insulin-treated (B) 293 whole cell lysates.



p-IGF-IR (Tyr 1161): sc-101703. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing membrane localization.

SELECT PRODUCT CITATIONS

1. Vazquez-Martin, A., et al. 2009. If mammalian target of metformin indirectly is mammalian target of rapamycin, then the Insulin-like growth factor-1 receptor axis will audit the efficacy of metformin in cancer clinical trials. *J. Clin. Oncol.* 27: e207-e209; author reply e210.
2. Vishwamitra, D., et al. 2011. Expression and effects of inhibition of IGF-IR tyrosine kinase in mantle cell lymphoma. *Haematologica* 96: 871-880.
3. Alexandru, O., et al. 2011. Helianthin induces antiproliferative effect on human glioblastoma cells *in vitro*. *J. Neurooncol.* 102: 9-18.
4. Abraham, J., et al. 2011. Evasion mechanisms to igf1r inhibition in rhabdomyosarcoma. *Mol. Cancer Ther.* 10: 697-707.
5. Vishwamitra, D., et al. 2011. Expression and effects of inhibition of IGF-IR tyrosine kinase in mantle cell lymphoma. *Haematologica* 96: 871-880.