

# p-IGF-IR (2B9): sc-81499

## 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 substrates (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

- Frattali, A.L., et al. 1993. Molecular defects of Insulin/IGF-I receptor transmembrane signaling. *Ann. N.Y. Acad. Sci.* 687: 77-89.
- Keller, S.R., et al. 1993. Insulin and IGF-I signaling through the Insulin receptor substrate-1. *Mol. Reprod. Dev.* 35: 346-352.

## CHROMOSOMAL LOCATION

Genetic locus: IGF1R (human) mapping to 15q26.3.

## SOURCE

p-IGF-IR (2B9) is a mouse monoclonal antibody raised against phosphopeptide corresponding to amino acid residues surrounding Tyr 1316 of processed IGF-IR of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## APPLICATIONS

p-IGF-IR (2B9) is recommended for detection of Tyr 1316 phosphorylated IGF-IR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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

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

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

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

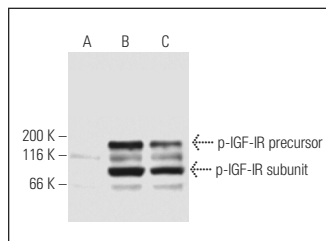
## RESEARCH USE

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

## STORAGE

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

## DATA



p-IGF-IR (2B9): sc-81499. Western blot analysis of IGF-IR phosphorylation in untreated (A), insulin-stimulated (B) and IGF1-stimulated (C) HeLa whole cell lysates.

## SELECT PRODUCT CITATIONS

- Amarù, D.L. and Field, C.J. 2009. Conjugated linoleic acid decreases mcf-7 human breast cancer cell growth and Insulin-like growth factor-1 receptor levels. *Lipids* 44: 449-458.
- Wang, Q., et al. 2017. Luteolin reduces migration of human glioblastoma cell lines via inhibition of the p-IGF-1R/PI3K/Akt/mTOR signaling pathway. *Oncol. Lett.* 14: 3545-3551.
- Pan, H., et al. 2017. VPA and MEL induce apoptosis by inhibiting the Nrf2-ARE signaling pathway in TMZ-resistant U251 cells. *Mol. Med. Rep.* 16: 908-914.
- Su, C., et al. 2018. IGF-1-induced MMP-11 expression promotes the proliferation and invasion of gastric cancer cells through the JAK1/STAT3 signaling pathway. *Oncol. Lett.* 15: 7000-7006.
- Shen, H., et al. 2020. S6K1 blockade overcomes acquired resistance to EGFR-TKIs in non-small cell lung cancer. *Oncogene* 39: 7181-7195.
- Koay, K.P., et al. 2021. Hyperglycemia-induced cardiac damage is alleviated by heat-inactivated *Lactobacillus reuteri* GMNL-263 via activation of the IGF1R survival pathway. *Probiotics Antimicrob. Proteins* 13: 1044-1053.
- Rodríguez, F.M., et al. 2022. An altered expression of components of the IGF system could contribute to follicular persistence in Holstein cows. *Res. Vet. Sci.* 143: 99-106.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.