SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IIR (H-20): sc-14408

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mannose 6-phosphate/insulin-like growth factor II receptor, IGF-IIR (also designated M6P/IGF2R), is a ubiquitously expressed integral glycoprotein. By binding glycoproteins through two of its extracytoplasmic domains, IGF-IIR mediates the activation of TGFβ1 (a growth inhibitor), the degradation of IGF-II and the transport of lysosomal enzymes. Subsequently, IGF-IIR can form oligomeric complexes, which increase the affinity of IGF-IIR for lysosomal enzymes. Unlike IGF-IR, IGF-IIR does not potentiate the signaling of IGF-I or IGF-II, which have mitogenic, cell survival and Insulin-like effects. Therefore, IGF-IIR is characterized as a tumor suppressor. Furthermore, the IGF-IIR gene is located on chromosome 6q25.3, which is commonly mutated or deleted in several human cancers.

REFERENCES

1. Ellis, M.J., et al. 1998. Insulin-like growth factors in human breast cancer. Breast Cancer Res. Treat. 52: 175-184.
2. Braulke, T. 1999. Type 2 IGF receptor: a multi-ligand binding protein. Horm. Metab. Res. 31: 242-246.
3. Lorenzo, K., et al. 2000. Invasive properties of murine squamous carcinoma cells: secretion of matrix-degrading cathepsins is attributable to a deficiency in the mannose 6-phosphate/insulin-like growth factor II receptor. Cancer Res. 60: 4070-4076.
4. Gemma, A., et al. 2000. Mutation analysis of the gene encoding the human mannose 6-phosphate/insulin-like growth factor 2 receptor (M6P/IGF2R) in human cell lines resistant to growth inhibition by transforming growth factor β1 (TGFβ1). Lung Cancer 30: 91-98.
5. Byrd, J.C. and MacDonald, R.G. 2000. Mechanisms for high affinity mannose 6-phosphate ligand binding to the insulin-like growth factor II/mannose 6-phosphate receptor. J. Biol. Chem. 275: 18638-18646.
6. Byrd, J.C., et al. 2000. Dimerization of the Insulin-like growth factor II/mannose 6-phosphate receptor. J. Biol. Chem. 275: 18647-18656.

CHROMOSOMAL LOCATION

Genetic locus: IGF2R (human) mapping to 6q25.3.

SOURCE

IGF-IIR (H-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IGF-IIR 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-14408 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IGF-IIR (H-20) is recommended for detection of IGF-IIR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for IGF-IIR siRNA (h): sc-37118, IGF-IIR shRNA Plasmid (h): sc-37118-SH and IGF-IIR shRNA (h) Lentiviral Particles: sc-37118-V.

Molecular Weight of IGF-IIR: 300 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Konno-Takahashi, N., et al. 2003. Engineered IGF-I expression induces glandular enlargement in the murine prostate. J. Endocrinol. 177: 389-398.
2. Gielen, S.C., et al. 2005. Steroid-modulated proliferation of human endometrial carcinoma cell lines: any role for Insulin-like growth factor signaling? J. Soc. Gynecol. Investig. 12: 58-64.
3. Rose, P.P., et al. 2007. The Insulin receptor is essential for virus-induced tumorigenesis of Kaposi's sarcoma. Oncogene 26: 1995-2005.
4. Rose, P.P., et al. 2007. Insulin-like growth factor II receptor-mediated intracellular retention of cathepsin B is essential for transformation of endothelial cells by Kaposi's sarcoma-associated herpesvirus. J. Virol. 81: 8050-8062.
5. Ager, E.I., et al. 2008. Expression and protein localisation of IGF2 in the marsupial placenta. BMC Dev. Biol. 8: 17.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.