SANTA CRUZ BIOTECHNOLOGY, INC.

IGF-IIR (29): sc-136321

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 6q26, 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 β_1 (TGF-β_1). 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.
7. Kong, F.M., et al. 2000. M6P/IGF2R is mutated in squamous cell carcinoma of the lung. Oncogene 19: 1572-1578.

CHROMOSOMAL LOCATION

Genetic locus: Igf2r (mouse) mapping to 17 A1.

SOURCE

IGF-IIR (29) is a mouse monoclonal antibody raised against amino acids 245-441 of IGF-IIR of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGF-IIR (29) is available conjugated to agarose (sc-136321 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136321 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

IGF-IIR (29) is recommended for detection of IGF-IIR of mouse and rat 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IGF-IIR siRNA (m): sc-37117, IGF-IIR shRNA Plasmid (m): sc-37117-SH and IGF-IIR shRNA (m) Lentiviral Particles: sc-37117-V.

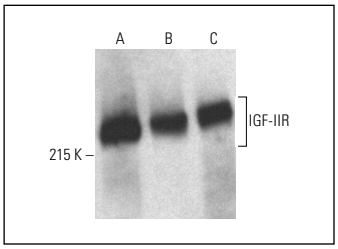
Molecular Weight of IGF-IIR: 275 kDa.

Positive Controls: rat kidney extract: sc-2394, rat spleen extract: sc-2397 or rat heart extract: sc-2393.

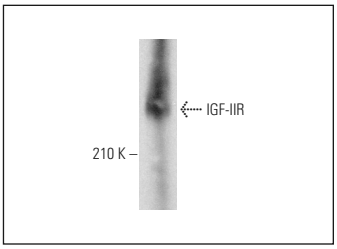
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IGF-IIR (29): sc-136321. Western blot analysis of IGF-IIR expression in rat kidney (**A**), rat heart (**B**) and rat spleen (**C**) tissue extracts.



IGF-IIR (29): sc-136321. Western blot analysis of IGF-IIR expression in rat heart tissue extract. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. El-Gogary, R.I., et al. 2022. Ferulic acid nanocapsules as a promising treatment modality for colorectal cancer: preparation and *in vitro/in vivo* appraisal. Life Sci. 298: 120500.

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.