SANTA CRUZ BIOTECHNOLOGY, INC.

ROR2 (H-76): sc-98486

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The Power to Question

BACKGROUND

ROR2 (receptor tyrosine kinase-like orphan receptor 2), also known as neurotrophic tyrosine kinase receptor-related 2 (NTRKR2), is a single pass transmembrane tyrosine-protein kinase receptor. It contains a cytoplasmic tyrosine kinase domain, distally located serine-threonine-rich domains, an extracellular immunoglobulin-like domain, a cysteine-rich domain and a kringle domain. ROR2 is important for skeletal and endocrine development and is required for cartilage and growth plate development. It promotes the differentiation of osteoblasts and plays an important role in the early formation of chondrocytes. ROR2 sequesters and associates with Dlxin-1 affecting the transcriptional function of Msx-2. ROR2 also interacts with canoncial Wnt1 and Wnt3, regulating their signaling pathways. Defects in ROR2 can result in the autosomal dominant skeletal disorder, brachydactyly type B1 or the autosomal recessive skeletal disorder, Robinow syndrome.

REFERENCES

1. Schwabe, G.C., et al. 2000. Distinct mutations in the receptor tyrosine kinase gene ROR2 cause brachydactyly type B. Am. J. Hum. Genet. 67: 822-831.
2. Afzal, A.R., et al. 2000. Recessive Robinow syndrome, allelic to dominant brachydactyly type B, is caused by mutation of ROR2. Nat. Genet. 25: 419-422.
3. Oishi, I., et al. 2003. The receptor tyrosine kinase ROR is involved in noncanonical Wnt5a/JNK signalling pathway. Genes Cells 8: 645-654.
4. Matsuda, T., et al. 2003. The receptor tyrosine kinase ROR2 associates with the melanoma-associated antigen (MAGE) family protein Dlxin-1 and regulates its intracellular distribution. J. Biol. Chem. 278: 29057-29064.
5. Afzal, A.R. and Jeffery, S. 2003. One gene, two phenotypes: ROR2 mutations in autosomal recessive Robinow syndrome and autosomal dominant brachydactyly type B. Hum. Mutat. 22: 1-11.
6. Billiard, J., et al. 2004. The orphan receptor tyrosine kinase ROR2 modulates canonical Wnt signaling in osteoblastic cells. Mol. Endocrinol. 19: 90-101.
7. Paganoni, S. and Ferreira, A. 2005. Neurite extension in central neurons: a novel role for the receptor tyrosine kinases Ror1 and Ror2. J. Cell Sci. 118: 433-446.

CHROMOSOMAL LOCATION

Genetic locus: ROR2 (human) mapping to 9q22.31; Ror2 (mouse) mapping to 13 B1.

SOURCE

ROR2 (H-76) is a rabbit polyclonal antibody raised against amino acids 868-943 mapping at the C-terminus of ROR2 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.

APPLICATIONS

ROR2 (H-76) is recommended for detection of ROR2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ROR2 siRNA (h): sc-72390, ROR2 siRNA (m): sc-72391, ROR2 shRNA Plasmid (h): sc-72390-SH, ROR2 shRNA Plasmid (m): sc-72391-SH, ROR2 shRNA (h) Lentiviral Particles: sc-72390-V and ROR2 shRNA (m) Lentiviral Particles: sc-72391-V.

Molecular Weight of ROR2: 120 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

1. Bordonaro, M., et al. 2011. A switch from canonical to noncanonical Wnt signaling mediates drug resistance in colon cancer cells. PLoS ONE 6: e27308.
2. Laird, D.J., et al. 2011. Ror2 enhances polarity and directional migration of primordial germ cells. PLoS Genet. 7: e1002428.

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.

PROTOCOLS

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