

ROR1 (60-D): sc-130386

BACKGROUND

The ROR-family receptor tyrosine kinases consist of two structurally related proteins, ROR1 and ROR2. These proteins are characterized by having intracellular tyrosine kinase domains, which are highly related to Trk-family kinases, extracellular Frizzled-like cysteine-rich domains (CRDs) and Kringle domains. The ROR family members are highly conserved among species, such as *C. elegans*, *Drosophila*, *Xenopus* and mammals. ROR1 and ROR2 are both involved in organogenesis with particular emphasis in neuronal differentiation. Increased expression of ROR1 in acute lymphoblastic leukemias (ALLs) as well as chronic lymphocytic leukemias (CLLs) implicate this protein as a potential tool for targeted immunotherapy in these diseases. ROR2 is involved in the Wnt-signalling pathway, and mutations in ROR2 lead to Brachydactyly type B and Robinow syndrome.

REFERENCES

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- Paganoni, S. and Ferreira, A. 2003. Expression and subcellular localization of Ror tyrosine kinase receptors are developmentally regulated in cultured hippocampal neurons. *J. Neurosci. Res.* 73: 429-440.
- Yoda, A., et al. 2003. Expression and function of the Ror-family receptor tyrosine kinases during development: lessons from genetic analyses of nematodes, mice, and humans. *J. Recept. Signal Transduct. Res.* 23: 1-15.
- Shabani, M., et al. 2007. Overexpression of orphan receptor tyrosine kinase ROR1 as a putative tumor-associated antigen in Iranian patients with acute lymphoblastic leukemia. *Tumour Biol.* 28: 318-326.
- Winkel, A., et al. 2008. Wnt-ligand-dependent interaction of TAK1 (TGF β -activated kinase-1) with the receptor tyrosine kinase ROR2 modulates canonical Wnt-signalling. *Cell. Signal.* 20: 2134-2144.
- Baskar, S., et al. 2008. Unique cell surface expression of receptor tyrosine kinase ROR1 in human B cell chronic lymphocytic leukemia. *Clin. Cancer Res.* 14: 396-404.

CHROMOSOMAL LOCATION

Genetic locus: ROR1 (human) mapping to 1p31.3; Ror1 (mouse) mapping to 4 C6.

SOURCE

ROR1 (60-D) is a mouse monoclonal antibody raised against recombinant ROR1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG $_1$ kappa light chain 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.

APPLICATIONS

ROR1 (60-D) is recommended for detection of ROR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ROR1 siRNA (h): sc-76424, ROR1 siRNA (m): sc-76425, ROR1 shRNA Plasmid (h): sc-76424-SH, ROR1 shRNA Plasmid (m): sc-76425-SH, ROR1 shRNA (h) Lentiviral Particles: sc-76424-V and ROR1 shRNA (m) Lentiviral Particles: sc-76425-V.

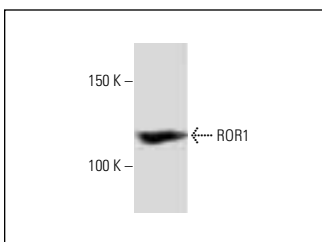
Molecular Weight of ROR1 isoforms: 105/130 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



ROR1 (60-D): sc-130386. Western blot analysis of ROR1 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

- Fernández, N.B., et al. 2016. ROR1 contributes to melanoma cell growth and migration by regulating N-cadherin expression via the PI3K/Akt pathway. *Mol. Carcinog.* 55: 1772-1785.
- Ozeki, N., et al. 2017. Gelatin scaffold combined with bone morphogenetic protein-4 induces odontoblast-like cell differentiation involving integrin profile changes, autophagy-related gene 10, and Wnt5 sequentially in human induced pluripotent stem cells. *Differentiation* 93: 1-14.
- Barbero, G., et al. 2019. An autocrine Wnt5a loop promotes NF κ B pathway activation and cytokine/chemokine secretion in melanoma. *Cells* 8: 1060.
- Rogan, M.R., et al. 2021. *Ehrlichia chaffeensis* TRP120 is a Wnt ligand mimetic that interacts with Wnt receptors and contains a novel repetitive short linear motif that activates Wnt signaling. *mSphere* 6: e00216-21.

RESEARCH USE

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