

# ROR2 (H-1): sc-374174

## 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 canonical Wnt-1 and Wnt-3, 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ROR2 (H-1) is a mouse monoclonal antibody raised against amino acids 868-943 mapping at the C-terminus of ROR2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ROR2 (H-1) is available conjugated to agarose (sc-374174 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374174 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374174 PE), fluorescein (sc-374174 FITC), Alexa Fluor® 488 (sc-374174 AF488), Alexa Fluor® 546 (sc-374174 AF546), Alexa Fluor® 594 (sc-374174 AF594) or Alexa Fluor® 647 (sc-374174 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374174 AF680) or Alexa Fluor® 790 (sc-374174 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

ROR2 (H-1) is recommended for detection of ROR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

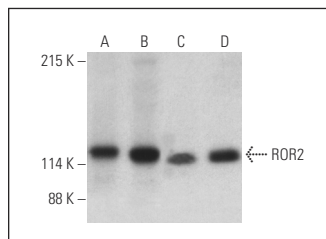
Molecular Weight of ROR2: 120 kDa.

Positive Controls: T-47D cell lysate: sc-2293, U266 whole cell lysate: sc-364800 or P19 cell lysate: sc-24760.

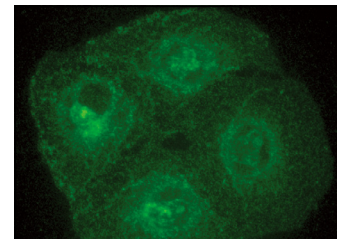
## STORAGE

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

## DATA



ROR2 (H-1): sc-374174. Western blot analysis of ROR2 expression in U266 (A), T-47D (B), P19 (C) and WR19L (D) whole cell lysates. Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.



ROR2 (H-1): sc-374174. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

- Arora, R., et al. 2014. Novel domains of expression for orphan receptor tyrosine kinase ROR2 in the human and mouse reproductive system. *Dev. Dyn.* 243: 1037-1045.
- Yu, J., et al. 2016. Wnt5a induces ROR1/ROR2 heterooligomerization to enhance leukemia chemotaxis and proliferation. *J. Clin. Invest.* 126: 585-598.
- Ma, S.S., et al. 2017. Validation of specificity of antibodies for immunohistochemistry: the case of ROR2. *Virchows Arch.* 470: 99-108.
- Villarreal, A., et al. 2020. Src and Fyn define a new signaling cascade activated by canonical and non-canonical Wnt ligands and required for gene transcription and cell invasion. *Cell. Mol. Life Sci.* 77: 919-935.
- Kotrbová, A., et al. 2020. Wnt signaling inducing activity in ascites predicts poor outcome in ovarian cancer. *Theranostics* 10: 537-552.
- Paclíková, P., et al. 2021. Roles of individual human Dishevelled paralogs in the Wnt signalling pathways. *Cell. Signal.* 85: 110058.
- Banerjee, D., et al. 2021. A non-canonical, interferon-independent signaling activity of cGAMP triggers DNA damage response signaling. *Nat. Commun.* 12: 6207.
- Liu, C., et al. 2021. ROR2 mediates chronic post-thoracotomy pain by inducing the transformation of A1/A2 reactive astrocytes in rats. *Cell. Signal.* 89: 110183.
- Routledge, D., et al. 2022. The scaffolding protein flot2 promotes cytoneme-based transport of Wnt3 in gastric cancer. *Elife* 11: e77376.
- Li, M., et al. 2023. Frizzled receptors facilitate Tiki inhibition of Wnt signaling at the cell surface. *EMBO Rep.* 24: e55873.

## RESEARCH USE

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