# SANTA CRUZ BIOTECHNOLOGY, INC.

# RORy (27.92): sc-293150



### BACKGROUND

The nuclear orphan receptors ROR $\alpha$  and ROR $\gamma$  are members of the nuclear hormone receptor superfamily. This family acts by directly associating with DNA sequences known as hormone response elements (HREs) and typically bind DNA as either homo- or heterodimers. ROR $\alpha$  and ROR $\gamma$  are unique in that they bind DNA as monomers. ROR $\alpha$  has multiple isoforms that share common DNA and putative ligand-binding domains, but differ in their amino terminal domains, which are generated by alternative RNA processing. ROR $\gamma$  comprises a 560 amino acid protein that shares 50% amino acid identity with ROR $\alpha$  and is most highly expressed in skeletal muscle. Although these proteins are considered "orphan receptors", due to a lack of defined ligands, experimental evidence has shown that melatonin may be the natural ligand for these nuclear receptors. The gene encoding ROR $\alpha$  maps to chromosome 15q22.2 and the gene encoding ROR $\gamma$  maps to chromosome 1q21.3.

## **CHROMOSOMAL LOCATION**

Genetic locus: RORC (human) mapping to 1q21.3; Rorc (mouse) mapping to 3 F2.1.

#### SOURCE

 ${\rm ROR}\gamma$  (27.92) is a mouse monoclonal antibody raised against recombinant  ${\rm ROR}\gamma$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g lgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-293150 X, 200  $\mu$ g/0.1 ml.

### **STORAGE**

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

## APPLICATIONS

RORy (27.92) is recommended for detection of isoform RORyt (also designated isoform 2) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ROR $\gamma$  siRNA (h): sc-38880, ROR $\gamma$  siRNA (m): sc-38881, ROR $\gamma$  shRNA Plasmid (h): sc-38880-SH, ROR $\gamma$  shRNA Plasmid (m): sc-38881-SH, ROR $\gamma$  shRNA (h) Lentiviral Particles: sc-38880-V and ROR $\gamma$  shRNA (m) Lentiviral Particles: sc-38881-V.

 $ROR\gamma$  (27.92) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RORy: 63 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, CCRF-CEM cell lysate: sc-2225 or Hep G2 cell lysate: sc-2227.

#### **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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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





RORy (27.92): sc-293150. Western blot analysis of RORy expression in A-431 (A), CCRF-CEM (B) and Hep G2 (C) whole cell lysates.

 $ROR\gamma$  (27.92): sc-293150. Western blot analysis of  $ROR\gamma$  expression in Hep G2 (A), c4 (B) and RAT2 (C) whole cell lysates.

### **SELECT PRODUCT CITATIONS**

- 1. Wu, Q., et al. 2015. Reciprocal regulation of ROR $\gamma$ t acetylation and function by p300 and HDAC1. Sci. Rep. 5: 16355.
- Chen, Y., et al. 2018. p300 promotes differentiation of Th17 cells via positive regulation of the nuclear transcription factor ROR<sub>Y</sub>t in acute respiratory distress syndrome. Immunol. Lett. 202: 8-15.
- Xiao, C., et al. 2021. Isoforskolin alleviates AECOPD by improving pulmonary function and attenuating inflammation which involves downregulation of Th17/IL-17A and NFκB/NLRP3. Front. Pharmacol. 12: 721273.
- Lopez, D.V., et al. 2021. Vitamin D inhibits IL-22 production through a repressive vitamin D response element in the il22 promoter. Front. Immunol. 12: 715059.
- 5. Yang, Y.O., et al. 2022. The Chinese medicine Fufang Zhenzhu Tiaozhi capsule protects against renal injury and inflammation in mice with diabetic kidney disease. J. Ethnopharmacol. 292: 115165.
- 6. Kim, E., et al. 2022. ROR activation by Nobiletin enhances antitumor efficacy via suppression of IκB/NFκB signaling in triple-negative breast cancer. Cell Death Dis. 13: 374.
- Kim, E., et al. 2023. The circadian nobiletin-ROR axis suppresses adipogenic differentiation and IκBα/NFκB signaling in adipocytes. Nutrients 15: 3919.

#### **RESEARCH USE**

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