# SANTA CRUZ BIOTECHNOLOGY, INC.

# RORy (D-4): sc-365476



# 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.

## REFERENCES

- 1. Giguere, V., et al. 1994. Isoform-specific amino-terminal domains dictate DNA-binding properties of ROR $\alpha$ , a novel family of orphan hormone nuclear receptors. Genes Dev. 8: 538-543.
- Hirose, T., et al. 1994. RORγ: the third member of ROR/RZR orphan receptor subfamily that is highly expressed in skeletal muscle. Biochem. Biophys. Res. Commun. 205: 1976-1983.
- Carlberg, C., et al. 1995. The orphan receptor family RZR/ROR, melatonin and 5-lipoxygenase: an unexpected relationship. J. Pineal Res. 18: 171-178.

#### **CHROMOSOMAL LOCATION**

Genetic locus: RORC (human) mapping to 1q21.3.

# SOURCE

 $ROR_{\gamma}$  (D-4) is a mouse monoclonal antibody raised against amino acids 131-320 mapping within an internal region of  $ROR_{\gamma}$  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-365476 X, 200  $\mu$ g/0.1 ml.

RORγ (D-4) is available conjugated to agarose (sc-365476 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365476 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365476 PE), fluorescein (sc-365476 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365476 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365476 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365476 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365476 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365476 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365476 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### **APPLICATIONS**

ROR $\gamma$  (D-4) is recommended for detection of ROR $\gamma$  of 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 ROR $\gamma$  siRNA (h): sc-38880, ROR $\gamma$  shRNA Plasmid (h): sc-38880-SH and ROR $\gamma$  shRNA (h) Lentiviral Particles: sc-38880-V.

 $ROR_{\gamma}$  (D-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RORy: 63 kDa.

Positive Controls: RORy (h6): 293T Lysate: sc-158936, U-937 nuclear extract: sc-2156 or A-673 nuclear extract: sc-2128.

#### **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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### DATA



RORy (D-4): sc-365476. Western blot analysis of RORy expression in non-transfected: sc-117752 (A) and human RORy transfected: sc-158936 (B) 293T whole cell lysates.

#### **SELECT PRODUCT CITATIONS**

- Liang, Q., et al. 2021. RANK promotes colorectal cancer migration and invasion by activating the Ca<sup>2+</sup>-calcineurin/NFATC1-ACP5 axis. Cell Death Dis. 12: 336.
- Ouyang, J., et al. 2024. RANKL/RANK signaling recruits Tregs via the CCL20-CCR6 pathway and promotes stemness and metastasis in colorectal cancer. Cell Death Dis. 15: 437.

# **RESEARCH USE**

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