SANTA CRUZ BIOTECHNOLOGY, INC.

RORγ (D-4): sc-365476

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The nuclear orphan receptors RORα and RORγ 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. RORα and RORγ are unique in that they bind DNA as monomers. RORα 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. RORγ comprises a 560 amino acid protein that shares 50% amino acid identity with RORα 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 RORα maps to chromosome 15q22.2 and the gene encoding RORγ maps to chromosome 1q21.3.

REFERENCES

1. Giguere, V., et al. 1994. Isoform-specific amino-terminal domains dictate DNA-binding properties of RORα, a novel family of orphan hormone nuclear receptors. Genes Dev. 8: 538-543.
2. 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.
3. 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

RORγ (D-4) is a mouse monoclonal antibody raised against amino acids 131-320 mapping within an internal region of RORγ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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 µg/0.1 ml.

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

STORAGE

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

APPLICATIONS

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

RORγ (D-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

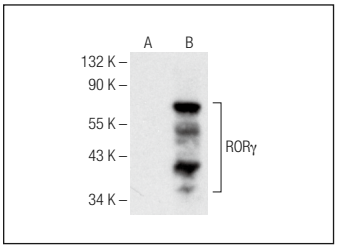
Molecular Weight of RORγ: 63 kDa.

Positive Controls: RORγ (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™ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



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

SELECT PRODUCT CITATIONS

1. Liang, Q., et al. 2021. RANK promotes colorectal cancer migration and invasion by activating the Ca^{2+}-calcineurin/NFATC1-ACP5 axis. Cell Death Dis. 12: 336.
2. 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.