

# ROR $\gamma$ (162C2a): sc-81371

## 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 binds 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 15q21-q22 and the gene encoding ROR $\gamma$  maps to chromosome 1q21.3.

## REFERENCES

- Giguere, V., Tini, M., Flock, G., Ong, E., Evans, R.M. and Otlakowski, G. 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., Smith, R.J. and Jetten, A.M. 1994. ROR $\gamma$ : the third member of ROR/RZR orphan receptor subfamily that is highly expressed in skeletal muscle. *Biochem. Biophys. Res. Commun.* 205: 1976-1983.
- Mangelsdorf, D.J., Thummel, C., Beato, M., Herrlich, P., Schütz, G., Umesono, K., Blumberg, B., Kastner, P., Mark, M., Chambon, P. and Evans, R.M. 1995. The nuclear receptor superfamily: the second decade. *Cell* 83: 835-839.
- Mangelsdorf, D.J. and Evans, R.M. 1995. The RXR heterodimers and orphan receptors. *Cell* 83: 841-850.
- Leblanc, B.P. and Stunnenberg, H.G. 1995. 9-*cis* retinoic acid signaling: changing partners causes some excitement. *Genes Dev.* 9: 1811-1816.
- Carlberg, C. and Wiesenberger, I. 1995. The orphan receptor family RZR/ROR, melatonin and 5-lipoxygenase: an unexpected relationship. *J. Pineal Res.* 18: 171-178.
- Gawlas, K. and Stunnenberg, H.G. 2000. Differential binding and transcriptional behaviour of two highly related orphan receptors, ROR $\alpha_4$  and ROR $\beta_1$ . *Biochim. Biophys. Acta* 1494: 236-241.

## CHROMOSOMAL LOCATION

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

## SOURCE

ROR $\gamma$  (162C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of ROR $\gamma$  of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## APPLICATIONS

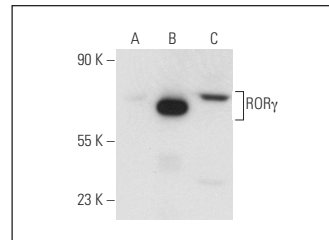
ROR $\gamma$  (162C2a) is recommended for detection of ROR $\gamma$  of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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.

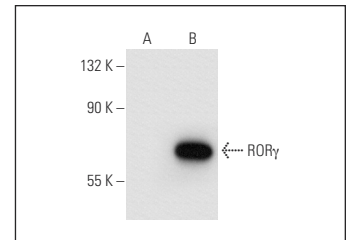
Molecular Weight of ROR $\gamma$ : 63 kDa.

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

## DATA



ROR $\gamma$  (162C2a): sc-81371. Western blot analysis of ROR $\gamma$  expression in non-transfected: sc-117752 (A) and human ROR $\gamma$  transfected: sc-170801 (B) 293T whole cell lysates and A-673 nuclear extract (C).



ROR $\gamma$  (162C2a): sc-81371. Western blot analysis of ROR $\gamma$  expression in non-transfected: sc-117752 (A) and human ROR $\gamma$  transfected: sc-158936 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Chang, K.K., Sun, X. and Dixit, V.M. 2017. IL-27 triggers IL-10 production in Th17 cells via a c-Maf/ROR $\gamma$ t/Blimp-1 signal to promote the progression of endometriosis. *Cell Death Dis.* 8: e2666.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.