

# ROR $\beta$ (K-16): sc-21354

## BACKGROUND

Nuclear receptors that lack a defined ligand are classified as orphan nuclear receptors. Retinoic acid receptor-related orphan nuclear receptor (ROR) proteins ROR $\alpha$ , ROR $\beta$  and ROR $\gamma$  are members of the nuclear hormone receptor superfamily. Unlike other members of the nuclear hormone receptor superfamily that bind DNA as homo- or heterodimers, ROR proteins directly bind the hormone response element (HRE) DNA sequence 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 $\beta$  is primarily expressed in brain and other areas of the central nervous system that process sensory information. The expression levels of ROR $\beta$  oscillate in the retina and pineal gland with a circadian rhythm. In Neuro2A cells, ROR $\beta$  binds DNA and efficiently directs transcription. The gene encoding human ROR $\beta$  maps to chromosome 9q21.13. 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.

## REFERENCES

- Hirose, T., et al. 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.
- 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.
- Carlberg, C., et al. 1994. RZR, a new family of retinoid-related orphan receptors that function as both monomers and homodimers. *Mol. Endocr.* 8: 757-770.
- Mangelsdorf, D.J., et al. 1995. The nuclear receptor superfamily: the second decade. *Cell* 83: 835-839.

## CHROMOSOMAL LOCATION

Genetic locus: RORB (human) mapping to 9q21.13; Rorb (mouse) mapping to 19 B.

## SOURCE

ROR $\beta$  (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ROR $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21354 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21354 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

ROR $\beta$  (K-16) is recommended for detection of ROR $\beta$  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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ROR $\beta$  (K-16) is also recommended for detection of ROR $\beta$  in additional species, including equine, canine, bovine and avian.

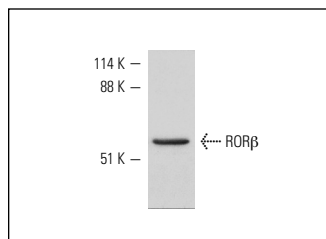
Suitable for use as control antibody for ROR $\beta$  siRNA (h): sc-38872 and ROR $\beta$  siRNA (m): sc-38873 ROR $\beta$  shRNA Plasmid (h): sc-38872-SH, ROR $\beta$  shRNA Plasmid (m): sc-38873-SH, ROR $\beta$  shRNA (h) Lentiviral Particles: sc-38872-V and ROR $\beta$  shRNA (m) Lentiviral Particles: sc-38873-V.

ROR $\beta$  (K-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

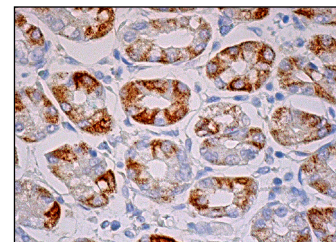
Molecular Weight of ROR $\beta$ : 52 kDa.

Positive Controls: DU 145 cell lysate: sc-2268 or human stomach extract: sc-363780.

## DATA



ROR $\beta$  (K-16): sc-21354. Western blot analysis of ROR $\beta$  expression in DU 145 whole cell lysate.



ROR $\beta$  (K-16): sc-21354. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Mühlbauer, E., et al. 2013. Differential and day-time dependent expression of nuclear receptors ROR $\alpha$ , ROR $\beta$ , ROR $\gamma$  and RXR $\alpha$  in the rodent pancreas and islet. *Mol. Cell. Endocrinol.* 365: 129-138.

## RESEARCH USE

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

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Try **ROR $\beta$  (4B4): sc-293471**, our highly recommended monoclonal alternative to ROR $\beta$  (K-16).