

ROR β (4B4): sc-293471

BACKGROUND

Nuclear receptors that lack a defined ligand are classified as orphan nuclear receptors. Retinoic acid receptor-related orphan nuclear receptor (ROR) proteins ROR α , ROR β and ROR γ 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 α 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 β is primarily expressed in brain and other areas of the central nervous system that process sensory information. The expression levels of ROR β oscillate in the retina and pineal gland with a circadian rhythm. In Neuro2A cells, ROR β binds DNA and efficiently directs transcription. The gene encoding human ROR β maps to chromosome 9q21.13. ROR γ comprises a 560 amino acid protein that shares 50% amino acid identity with ROR α and is most highly expressed in skeletal muscle.

REFERENCES

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2. Carlberg, C., et al. 1994. RZR, a new family of retinoid-related orphan receptors that function as both monomers and homodimers. *Mol. Endocrinol.* 8: 757-770.
3. Hirose, T., et al. 1994. ROR γ : the third member of ROR/RZR orphan receptor subfamily that is highly expressed in skeletal muscle. *Biochem. Biophys. Res. Commun.* 205: 1976-1983.
4. Mangelsdorf, D.J., et al. 1995. The nuclear receptor superfamily: the second decade. *Cell* 83: 835-839.
5. Andre, E., et al. 1998. Disruption of retinoid-related orphan receptor β changes circadian behavior, causes retinal degeneration and leads to vacillans phenotype in mice. *EMBO J.* 17: 3867-3877.
6. Gawlas, K. and Stunnenberg, H.G. 2000. Differential binding and transcriptional behaviour of two highly related orphan receptors, ROR α and ROR γ . *Biochim. Biophys. Acta* 1494: 236-241.
7. Gawlas, K. and Stunnenberg, H.G. 2001. Differential transcription of the orphan receptor ROR β in nuclear extracts derived from Neuro2A and HeLa cells. *Nucleic Acids Res.* 29: 3424-3432.

CHROMOSOMAL LOCATION

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

SOURCE

ROR β (4B4) is a mouse monoclonal antibody raised against amino acids 136-224 representing partial length ROR β of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ROR β (4B4) is recommended for detection of ROR β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 β siRNA (h): sc-38872, ROR β siRNA (m): sc-38873, ROR β shRNA Plasmid (h): sc-38872-SH, ROR β shRNA Plasmid (m): sc-38873-SH, ROR β shRNA (h) Lentiviral Particles: sc-38872-V and ROR β shRNA (m) Lentiviral Particles: sc-38873-V.

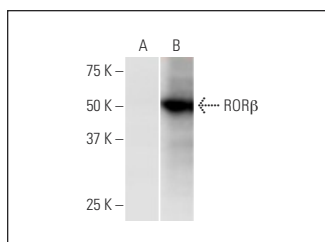
Molecular Weight of ROR β : 52 kDa.

Positive Controls: ROR β transfected 293T whole cell lysate.

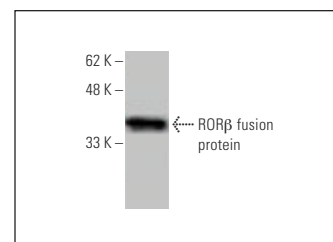
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



ROR β (4B4): sc-293471. Western blot analysis of ROR β expression in non-transfected (A) and ROR β transfected (B) 293T whole cell lysates.



ROR β (4B4): sc-293471. Western blot analysis of human recombinant ROR β fusion protein.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.