

RAR α (1C10): sc-293417

BACKGROUND

Retinoids (RA) are metabolites of vitamin A (retinol) that are important signaling molecules during vertebrate development and tissue differentiation. RAs activate the retinoic acid receptor (RAR) and retinoid X receptor (RXR) nuclear transcription factor families. Most retinoid forms activate RAR family members, whereas RXR family members are activated by 9-*cis*-RA only. RAR family members, which include RAR α , RAR β and RAR γ , have a high affinity for all transretinoic acids and belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D₃ receptor and ecdysone receptor. RAR isoforms are expressed in distinct patterns throughout development and in the mature organism. The human RAR α gene maps to chromosome 17 and is implicated in the chromosomal translocation associated with acute promyelocytic leukemia (APL-M3). Specifically, the RAR α gene is fused with the promyelocytic leukemia (PML) gene, which encodes the fusion protein PML/RAR α . The PML/RAR α fusion protein inhibits PML-dependent apoptotic pathways and halts myeloid differentiation at the promyelocytic stage.

REFERENCES

1. Koelle, M.R., et al. 1991. The *Drosophila* EcR gene encodes an ecdysone receptor, a new member of the steroid receptor superfamily. *Cell* 67: 59-77.
2. Bhat, M.K., et al. 1994. Phosphorylation enhances the target gene sequence-dependent dimerization of thyroid hormone receptor with retinoid X receptor. *Proc. Natl. Acad. Sci. USA* 91: 7927-7931.
3. Mangelsdorf, D.J., et al. 1994. The retinoid receptors. In Sporn, M.B., et al, eds. *The retinoids: biology, chemistry, and medicine*. New York: Raven Press, Ltd., 319-349.
4. Lotan, R. 1997. Roles of retinoids and their nuclear receptors in the development and prevention of upper aerodigestive tract cancers. *Environ. Health Perspect.* 105: 985-988.
5. Mark, M., et al. 1997. Genetic control of the development by retinoic acid. *C. R. Seances Soc. Biol. Fil.* 191: 77-90.
6. Randolph, T.R. 2000. Acute promyelocytic leukemia (AML-M3)-Part 2: molecular defect, DNA diagnosis, and proposed models of leukemogenesis and differentiation therapy. *Clin. Lab. Sci.* 13: 106-116.
7. Slack, J.L., et al. 2000. Current issues in the management of acute promyelocytic leukemia. *Ann. Hematol.* 79: 227-238.

CHROMOSOMAL LOCATION

Genetic locus: RARA (human) mapping to 17q21.2; Rara (mouse) mapping to 11 D.

SOURCE

RAR α (1C10) is a mouse monoclonal antibody raised against amino acids 315-424 representing partial length RAR α of human origin.

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

RAR α (1C10) is recommended for detection of RAR α 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)], 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 RAR α siRNA (h): sc-29465, RAR α siRNA (m): sc-36393, RAR α shRNA Plasmid (h): sc-29465-SH, RAR α shRNA Plasmid (m): sc-36393-SH, RAR α shRNA (h) Lentiviral Particles: sc-29465-V and RAR α shRNA (m) Lentiviral Particles: sc-36393-V.

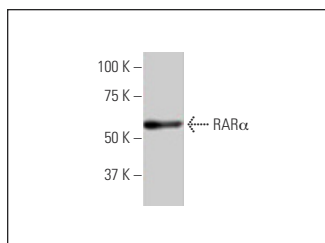
Molecular Weight of RAR α : 52 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

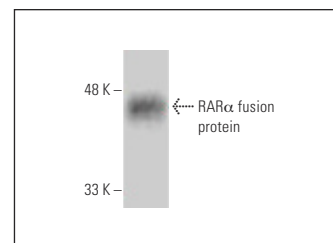
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



RAR α (1C10): sc-293417. Western blot analysis of RAR α expression in NIH/3T3 whole cell lysate.



RAR α (1C10): sc-293417. Western blot analysis of human recombinant RAR α fusion protein.

SELECT PRODUCT CITATIONS

1. Wang, S., et al. 2021. Vitamin A supplementation ameliorates motor incoordination via modulating ROR α in the cerebellum in a valproic acid-treated rat autism model with vitamin A deficiency. *Neurotoxicology* 85: 90-98.

STORAGE

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

RESEARCH USE

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