

RAR α (C-20): sc-551

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 trans-retinoic 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.

CHROMOSOMAL LOCATION

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

SOURCE

RAR α (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of RAR α_1 and RAR α_2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-551 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RAR α (C-20) is recommended for detection of RAR α_1 and RAR α_2 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), 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). RAR α (C-20) is also recommended for detection of RAR α_1 and RAR α_2 in additional species, including equine, canine, bovine and porcine.

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.

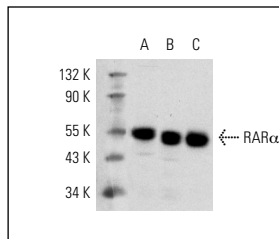
PROTOCOLS

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

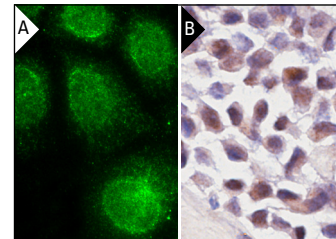
STORAGE

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

DATA



RAR α (C-20): sc-551. Western blot analysis of RAR α expression in SK-BR-3 (A) and MCF7 (B) nuclear extracts and AML-193 whole cell lysate (C).



RAR α (C-20): sc-551. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing nuclear and cytoplasmic staining (B).

SELECT PRODUCT CITATIONS

- Dahl, R., et al. 1998. Transformation of hematopoietic cells by the Ski oncoprotein involves repression of retinoic acid receptor signaling. *Proc. Natl. Acad. Sci. USA* 95: 11187-11192.
- Gopal-Srivastava, R., et al. 1998. Involvement of retinoic acid/retinoid receptors in the regulation of murine α_2 -crystallin/small heat shock protein gene expression in the lens. *J. Biol. Chem.* 273: 17954-17961.
- Youn, H.S., et al. 2011. PTOV1 antagonizes MED25 in RAR transcriptional activation. *Biochem. Biophys. Res. Commun.* 404: 239-244.
- Gupta, K., et al. 2012. GSK3 is a regulator of RAR-mediated differentiation. *Leukemia* 26: 1277-1285.
- Haddad, M.E., et al. 2012. Glutathione peroxidase 3, a new retinoid target gene, is critical for human skeletal muscle precursor cell survival. *J. Cell Sci.* 125: 6147-6156.
- Banning, A., et al. 2012. Transcriptional regulation of flotillins by the extracellularly regulated kinases and retinoid X receptor complexes. *PLoS ONE* 7: e45514.
- Ying, M., et al. 2013. Bortezomib sensitizes human acute myeloid leukemia cells to all-*trans*-retinoic acid-induced differentiation by modifying the RARA/STAT1 axis. *Mol. Cancer Ther.* 12: 195-206.

RESEARCH USE

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

MONOS
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Try **RAR α (1C10): sc-293417**, our highly recommended monoclonal alternative to RAR α (C-20).