SANTA CRUZ BIOTECHNOLOGY, INC.

RARα (C-1): sc-515796

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 RARα, RARβ and RARγ, have a high affinity for all transretinoic acids and belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D_3 receptor and ecdysone receptor. RAR isoforms are expressed in distinct patterns throughout development and in the mature organism. The human RARα gene maps to chromosome 17q21.2 and is implicated in the chromosomal translocation associated with acute promyelocytic leukemia (APL-M3). Specifically, the RARα gene is fused with the promyelocytic leukemia (PML) gene, which encodes the fusion protein PML/RARα. The PML/RARα 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

RARα (C-1) is a mouse monoclonal antibody raised against amino acids 63-362 mapping within an internal region of RARα of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RARα (C-1) is available conjugated to agarose (sc-515796 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515796 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515796 PE), fluorescein (sc-515796 FITC), Alexa Fluor® 488 (sc-515796 AF488), Alexa Fluor® 546 (sc-515796 AF546), Alexa Fluor® 594 (sc-515796 AF594) or Alexa Fluor® 647 (sc-515796 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515796 AF680) or Alexa Fluor® 790 (sc-515796 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RARα (C-1) is recommended for detection of RARα of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

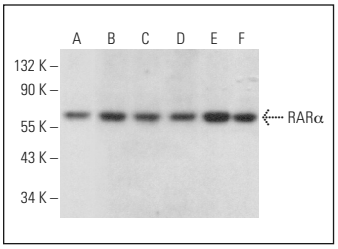
Suitable for use as control antibody for RARα siRNA (h): sc-29465, RARα siRNA (m): sc-36393, RARα shRNA Plasmid (h): sc-29465-SH, RARα shRNA Plasmid (m): sc-36393-SH, RARα shRNA (h) Lentiviral Particles: sc-29465-V and RARα shRNA (m) Lentiviral Particles: sc-36393-V.

Molecular Weight of RARα: 52 kDa.

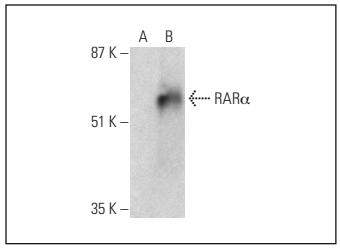
STORAGE

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

DATA



RARα (C-1): sc-515796. Western blot analysis of RARα expression in HeLa (**A**), K-562 (**B**), HL-60 (**C**), RAW 264.7 (**D**), NIH/3T3 (**E**) and F9 (**F**) whole cell lysates.



RARα (C-1): sc-515796. Western blot analysis of RARα expression in non-transfected: sc-117752 (**A**) and mouse RARα transfected: sc-125890 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vanderhoeven, F., et al. 2018. Synergistic antitumor activity by combining trastuzumab with retinoic acid in HER2 positive human breast cancer cells. Oncotarget 9: 26527-26542.
2. Hai, Y., et al. 2019. Realgar transforming solution-induced differentiation of NB4 cell by the degradation of PML/RARα partially through the ubiquitin-proteasome pathway. Arch. Pharm. Res. 42: 684-694.
3. Danzl, K., et al. 2019. Early inhibition of endothelial retinoid uptake upon myocardial infarction restores cardiac function and prevents cell, tissue, and animal death. J. Mol. Cell. Cardiol. 126: 105-117.
4. Apaya, M.K., et al. 2020. Deregulating the CYP2C19/epoxy-eicosatrienoic acid-associated FABP4/FABP5 signaling network as a therapeutic approach for metastatic triple-negative breast cancer. Cancers 12: 199.
5. Zhang, T., et al. 2020. CUDC-101 overcomes arsenic trioxide resistance via caspase-dependent promyelocytic leukemia-retinoic acid receptor α degradation in acute promyelocytic leukemia. Anticancer Drugs 31: 158-168.
6. Emde, B., et al. 2020. Microfluidic-based detection of AML-specific biomarkers using the example of promyelocyte leukemia. Int. J. Mol. Sci. 21: 8942.
7. Tang, D., et al. 2021. Pontin functions as a transcriptional co-activator for retinoic acid-induced HOX gene expression. J. Mol. Biol. 433: 166928.
8. Kamada, S., et al. 2021. Functional inhibition of cancer stemness-related protein DPP4 rescues tyrosine kinase inhibitor resistance in renal cell carcinoma. Oncogene 40: 3899-3913.

RESEARCH USE

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