

RAR β 2 (B-12): sc-514585

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 and thus modulate the effects of RA on gene expression. Most retinoid forms (including all trans RA, 9-*cis* RA, 4oxo RA and 3,4 dihydro RA) 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 , belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D₃ receptor and ecdysone receptor. The human RAR β gene maps to chromosome 3p24.2 and encodes two isoforms, RAR β 1 and RAR β 2. The RAR β 2 isoform may act as a tumor suppressor gene by inducing apoptosis. This role for RAR β 2 may explain the chemopreventive and therapeutic effects of retinoids. RAR β 2 expression is diminished or lost completely during breast cancer progression. RAR β expression also decreases in over 50 percent of oral and lung premalignant lesions; loss of RAR β expression may contribute to carcinogenesis.

REFERENCES

- Krust, A., et al. 1989. A third human retinoic acid receptor, hRAR- γ . Proc. Natl. Acad. Sci. USA 86: 5310-5314.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: RARB (human) mapping to 3p24.2; Rarb (mouse) mapping to 14 A2.

SOURCE

RAR β 2 (B-12) is a mouse monoclonal antibody raised against amino acids 1-55 mapping at the N-terminus of RAR β 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514585 X, 200 μ g/0.1 ml.

RAR β 2 (B-12) is available conjugated to agarose (sc-514585 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514585 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514585 PE), fluorescein (sc-514585 FITC), Alexa Fluor[®] 488 (sc-514585 AF488), Alexa Fluor[®] 546 (sc-514585 AF546), Alexa Fluor[®] 594 (sc-514585 AF594) or Alexa Fluor[®] 647 (sc-514585 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514585 AF680) or Alexa Fluor[®] 790 (sc-514585 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

RAR β 2 (B-12) is recommended for detection of RAR β 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

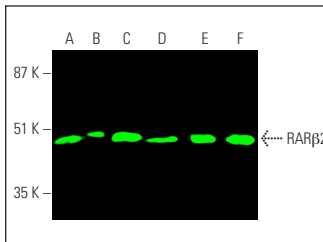
Suitable for use as control antibody for RAR β 2 siRNA (h): sc-29466, RAR β 2 siRNA (m): sc-36391, RAR β 2 shRNA Plasmid (h): sc-29466-SH, RAR β 2 shRNA Plasmid (m): sc-36391-SH, RAR β 2 shRNA (h) Lentiviral Particles: sc-29466-V and RAR β 2 shRNA (m) Lentiviral Particles: sc-36391-V.

RAR β 2 (B-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

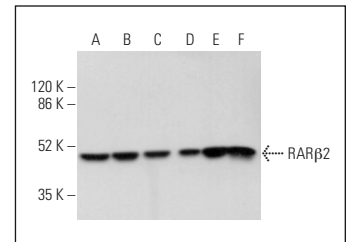
Molecular Weight of RAR β 2: 51 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Sol8 cell lysate: sc-2249 or MDA-MB-231 cell lysate: sc-2232.

DATA



RAR β 2 (B-12): sc-514585. Near-infrared western blot analysis of RAR β 2 expression in U-87 MG (A), A-431 (B), MDA-MB-231 (C), RAW 264.7 (D), NIH/3T3 (E) and 3T3-L1 (F) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.



RAR β 2 (B-12): sc-514585. Western blot analysis of RAR β 2 expression in MDA-MB-231 (A), RAW 264.7 (B), NIH/3T3 (C), 3T3-L1 (D), Sol8 (E) and U-87 MG (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Jian, Z., et al. 2018. Glycemic variability promotes both local invasion and metastatic colonization by pancreatic ductal adenocarcinoma. Cell. Mol. Gastroenterol. Hepatol. 6: 429-449.
- Park, J., et al. 2019. CCL28-induced RAR β expression inhibits oral squamous cell carcinoma bone invasion. J. Clin. Invest. 129: 5381-5399.
- Chen, J., et al. 2019. LncRNA HAND2-AS1 exerts anti-oncogenic effects on ovarian cancer via restoration of BCL2L1 as a sponge of microRNA-340-5p. J. Cell. Physiol. 234: 23421-23436.
- Hinteregger, B., et al. 2020. Transgene integration causes RARB down-regulation in homozygous Tg4-42 mice. Sci. Rep. 10: 6377.
- Shan, L., et al. 2021. LncRNA HAND2-AS1 exerts anti-oncogenic effects on bladder cancer via restoration of RARB as a sponge of microRNA-146. Cancer Cell Int. 21: 361.

RESEARCH USE

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