RAR (M-454): sc-773

BACKGROUND

Retinoids are metabolites of vitamin A (retinol) that are important signaling molecules during vertebrate development and tissue differentiation. Retinoic acid receptors (RARs) and retinoid X receptors (RXRs) are nuclear transcription factors that modulate the effects of retinoids (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. RA binds RARs, inducing a change in receptor configuration that allows DNA binding and increased gene transcription from specific genes to occur. RAR family members, which include RARα, RARβ and RARγ, belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D_3 receptor and ecdysone receptor.

REFERENCES

1. Mattei, M.G., et al. 1991. Chromosomal assignment of retinoic acid receptor (RAR) genes in the human, mouse and rat genomes. Genomics 10: 1061-1069.

2. 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.

3. Rees, J. 1992. The molecular biology of retinoic acid receptors: orphan from good family seeks home. J. Dermatol. 126: 97-104.

SOURCE

RAR (M-454) is a rabbit polyclonal antibody raised against amino acids 1-454 of RARγ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-773 X, 200 µg/0.1 ml.

APPLICATIONS

RAR (M-454) is recommended for detection of RARα, RARβ and RARγ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

RAR (M-454) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RAR: 50/51/60 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, K-562 nuclear extract: sc-2130 or HL-60 whole cell lysate: sc-2209.
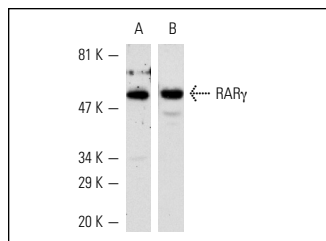
STORAGE

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.

DATA

Western blot analysis of RARγ expression in NIH/3T3 (**A**) and K-562 (**B**) nuclear extracts. Antibodies tested include RAR (M-454): sc-773 (**A**) and RARγ (C-19): sc-550 (**B**).

SELECT PRODUCT CITATIONS

1. Di Matteo, G., et al. 1998. nteractions with single-stranded and double-stranded DNA-binding factors and alternative promoter conformation upon transcriptional activation of the Htf9-a/RanBP1 and Htf9-c genes. J. Biol. Chem. 273: 495-505.

2. Honkakoski, P., et al. 1998. The nuclear orphan receptor CAR-retinoid X receptor heterodimer activates the phenobarbital-responsive enhancer module of the CYP2B gene. Mol. Cell. Biol. 18: 5652-5658.

3. Moghal, N. and Neel, B. 1998. Integration of growth factor, extracellular matrix, and retinoid signals during bronchial epithelial cell differentiation. Mol. Cell. Biol. 18: 6666-6678.

4. Gopal-Srivastava, R., et al. 1998. Involvement of retinoic acid/retinoid receptors in the regulation of murine αB-crystallin/small heat shock protein gene expression in the lens. J. Biol. Chem. 273: 17954-17961.

5. Lee, Y.W., et al. 2012. A novel nuclear FGF receptor-1 partnership with retinoid and Nur receptors during developmental gene programming of embryonic stem cells. J. Cell. Biochem. 113: 2920-2936.

6. Mazzoni, E.O., et al. 2013. Saltatory remodeling of Hox chromatin in response to rostrocaudal patterning signals. Nat. Neurosci. 16: 1191-1198.

7. Shi, L., et al. 2014. Biased, non-equivalent gene-proximal and -distal binding motifs of orphan nuclear receptor TR4 in primary human erythroid cells. PLoS Genet. 10: e1004339.

8. Chatagnon, A., et al. 2015. RAR/RXR binding dynamics distinguish pluripotency from differentiation associated *cis*-regulatory elements. Nucleic Acids Res. 43: 4833-4854.

MONOS
Satisfation Guaranteed

Try **RARα (1C10): sc-293417**, our highly recommended monoclonal alternative to RAR (M-454).