

# RAR $\gamma$ (G-1): sc-7387

## 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 RAR $\alpha$ , RAR $\beta$  and RAR $\gamma$ , belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D<sub>3</sub> receptor and ecdysone receptor. Retinoid receptor expression is tissue specific; the skin expresses RAR $\gamma$  and RXR $\alpha$ . The expression of RAR $\gamma$  and RXR $\beta$  is somewhat decreased in lung cancers. The human RAR $\gamma$  gene maps to chromosome 12q13.13.

## CHROMOSOMAL LOCATION

Genetic locus: RARG (human) mapping to 12q13.13; Rarg (mouse) mapping to 15 F3.

## SOURCE

RAR $\gamma$  (G-1) is a mouse monoclonal antibody raised against amino acids 1-454 of RAR $\gamma$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> 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-7387 X, 200  $\mu$ g/0.1 ml.

RAR $\gamma$  (G-1) is available conjugated to agarose (sc-7387 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7387 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7387 PE), fluorescein (sc-7387 FITC), Alexa Fluor<sup>®</sup> 488 (sc-7387 AF488), Alexa Fluor<sup>®</sup> 546 (sc-7387 AF546), Alexa Fluor<sup>®</sup> 594 (sc-7387 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-7387 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-7387 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-7387 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

RAR $\gamma$  (G-1) is recommended for detection of RAR $\gamma$ 1 and RAR $\gamma$ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for RAR $\gamma$  siRNA (h): sc-36392, RAR $\gamma$  siRNA (m): sc-36390, RAR $\gamma$  shRNA Plasmid (h): sc-36392-SH, RAR $\gamma$  shRNA Plasmid (m): sc-36390-SH, RAR $\gamma$  shRNA (h) Lentiviral Particles: sc-36392-V and RAR $\gamma$  shRNA (m) Lentiviral Particles: sc-36390-V.

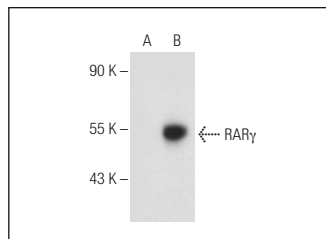
RAR $\gamma$  (G-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RAR $\gamma$ : 50 kDa.

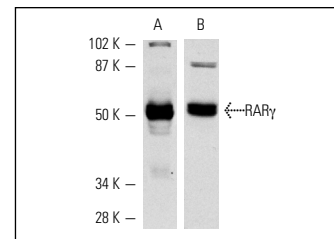
## STORAGE

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

## DATA



RAR $\gamma$  (G-1): sc-7387. Western blot analysis of RAR $\gamma$  expression in non-transfected: sc-117752 (A) and mouse RAR $\gamma$  transfected: sc-122976 (B) 293T whole cell lysates.



Western blot analysis of RAR $\gamma$  expression in nuclear extract of A-431 cells treated with phorbol ester (A, B). Antibodies tested include RAR $\gamma$  (C-19): sc-550 (A) and RAR $\gamma$  (G-1): sc-7387 (B).

## SELECT PRODUCT CITATIONS

1. Boulogne, B., et al. 1999. Retinoic acid receptors and retinoid X receptors in the rat testis during fetal and postnatal development: immunolocalization and implication in the control of the number of gonocytes. *Biol. Reprod.* 61: 1548-1557.
2. de Mello Souza, C.H., et al. 2010. Immunohistochemical detection of retinoid receptors in tumors from 30 dogs diagnosed with cutaneous lymphoma. *J. Vet. Intern. Med.* 24: 1112-1117.
3. Fabricius, E.M., et al. 2011. Model examination of chemoprevention with retinoids in squamous cell carcinomas of the head and neck region and suitable biomarkers for chemoprevention. *Int. J. Oncol.* 39: 1083-1097.
4. Manoli, S.E., et al. 2012. Maternal smoking and the retinoid pathway in the developing lung. *Respir. Res.* 13: 42.
5. Arfaoui, A., et al. 2013. Expression of retinoic acid receptors and retinoid X receptors in normal and vitamin A deficient adult rat brain. *Ann. Anat.* 195: 111-121.
6. Zhang, W., et al. 2015. Krüppel-like factor 2 suppresses mammary carcinoma growth by regulating retinoic acid signaling. *Oncotarget* 6: 35830-35842.
7. Wang, S., et al. 2016. Retinoic acid is sufficient for the *in vitro* induction of mouse spermatocytes. *Stem Cell Reports* 7: 80-94.
8. 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.
9. Nieto, L., et al. 2019. Crosstalk of BMP-4 and RA signaling pathways on Pomc gene regulation in corticotrophs. *J. Mol. Endocrinol.* 63: 161-174.

## RESEARCH USE

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

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