

## RAR $\gamma$ (1-454): sc-4088

### 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 $\beta$  was somewhat decreased in lung cancers. The human RAR $\gamma$  gene maps to chromosome 12q13.13.

### REFERENCES

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- Orfanos, C.E., et al. 1997. Current use and future potential role of retinoids in dermatology. *Drugs* 53: 358-388.
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### CHROMOSOMAL LOCATION

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

### SOURCE

RAR $\gamma$  (1-454) is expressed in *E. coli* as a 75 kDa tagged fusion protein corresponding to amino acids 1-454 representing full length RAR $\gamma$  protein of human origin.

### PRODUCT

RAR $\gamma$  (1-454) is purified from bacterial lysates (> 98%) by glutathione agarose affinity chromatography; supplied as 50  $\mu$ g purified protein in PBS containing 5mM DTT and 50% glycerol.

Also available as RAR $\gamma$  (1-454): sc-4088 WB for use as a Western blotting control; supplied as 10  $\mu$ g protein in 0.1 ml SDS-PAGE loading buffer.

### APPLICATIONS

RAR $\gamma$  (1-454): sc-4088 is recommended as control for use with TransCruz gel supershift antibodies sc-550 X and sc-773 X.

RAR $\gamma$  (1-454): sc-4088 WB is suitable as a Western blotting control for sc-550, sc-773, and sc-7387.

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

### SELECT PRODUCT CITATIONS

- Schroen, D.J., et al. 1996. Inhibition of rabbit collagenase (matrix metalloproteinase-1; MMP-1) transcription by retinoid receptors: evidence for binding of RARs/RXRs to the -77 AP-1 site through interactions with c-Jun. *J. Cell. Physiol.* 169: 320-332.
- Rouleau, N., et al. 2003. Development of a versatile platform for nuclear receptor screening using AlphaScreen. *J. Biomol. Screen.* 8: 191-197.
- Yee, K.K. and Rawson, N.E. 2005. Immunolocalization of retinoic acid receptors in the mammalian olfactory system and the effects of olfactory denervation on receptor distribution. *Neuroscience* 131: 733-743.
- Dhawan, L., et al. 2007. A novel role for the glucocorticoid receptor in the regulation of monocyte chemoattractant protein-1 mRNA stability. *J. Biol. Chem.* 282: 10146-10152.
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### STORAGE

Store at -20° C; stable for one year from the date of shipment.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.