

**RARA polyclonal antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV11361****Specification**

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**RARA polyclonal antibody - Product Information**

Application	<b>CHIP, E</b>
Primary Accession	<a href="#">P10276</a>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>Rabbit IgG</b>
Calculated MW	<b>50771</b>

**RARA polyclonal antibody - Additional Information****Gene ID** 5914

Positive Control	<b>Western blot: Human embryonic kidney cells, ELISA: peptides, ChIP: NB4 cells.</b>
Application & Usage	<b>ChIP: 4 µg/ChIP, WB: 1:750, ELISA: 1:50.</b>
<b>Other Names</b>	
Retinoic acid receptor alpha, Nuclear receptor subfamily 1 group B member 1, NR1B1	

**Target/Specificity**

RARA

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

In PBS with 0.05% (W/V) sodium azide.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions****Precautions**

RARA polyclonal antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**RARA polyclonal antibody - Protein Information**

**Name** RARA

**Synonyms** NR1B1

### Function

Receptor for retinoic acid (PubMed:<a href="http://www.uniprot.org/citations/19850744" target="\_blank">19850744</a>, PubMed:<a href="http://www.uniprot.org/citations/16417524" target="\_blank">16417524</a>, PubMed:<a href="http://www.uniprot.org/citations/20215566" target="\_blank">20215566</a>). Retinoic acid receptors bind as heterodimers to their target response elements in response to their ligands, all-trans or 9- cis retinoic acid, and regulate gene expression in various biological processes (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). The RXR/RAR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5 (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>, PubMed:<a href="http://www.uniprot.org/citations/19398580" target="\_blank">19398580</a>). In the absence of ligand, the RXR-RAR heterodimers associate with a multiprotein complex containing transcription corepressors that induce histone deacetylation, chromatin condensation and transcriptional suppression (PubMed:<a href="http://www.uniprot.org/citations/16417524" target="\_blank">16417524</a>). On ligand binding, the corepressors dissociate from the receptors and associate with the coactivators leading to transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/9267036" target="\_blank">9267036</a>, PubMed:<a href="http://www.uniprot.org/citations/19850744" target="\_blank">19850744</a>, PubMed:<a href="http://www.uniprot.org/citations/20215566" target="\_blank">20215566</a>). Formation of a complex with histone deacetylases might lead to inhibition of RARE DNA element binding and to transcriptional repression (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). Transcriptional activation and RARE DNA element binding might be supported by the transcription factor KLF2 (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). RARA plays an essential role in the regulation of retinoic acid-induced germ cell development during spermatogenesis (By similarity). Has a role in the survival of early spermatocytes at the beginning prophase of meiosis (By similarity). In Sertoli cells, may promote the survival and development of early meiotic prophase spermatocytes (By similarity). In concert with RARG, required for skeletal growth, matrix homeostasis and growth plate function (By similarity). Together with RXRA, positively regulates microRNA-10a expression, thereby inhibiting the GATA6/VCAM1 signaling response to pulsatile shear stress in vascular endothelial cells (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). In association with HDAC3, HDAC5 and HDAC7 corepressors, plays a role in the repression of microRNA-10a and thereby promotes the inflammatory response (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>).

### Cellular Location

Nucleus. Cytoplasm. Note=Nuclear localization depends on ligand binding, phosphorylation and sumoylation (PubMed:19850744) Translocation to the nucleus in the absence of ligand is dependent on activation of PKC and the downstream MAPK phosphorylation (By similarity). Increased nuclear localization upon pulsatile shear stress (PubMed:28167758).  
{ECO:0000250|UniProtKB:P11416, ECO:0000269|PubMed:19850744, ECO:0000269|PubMed:28167758}

### Tissue Location

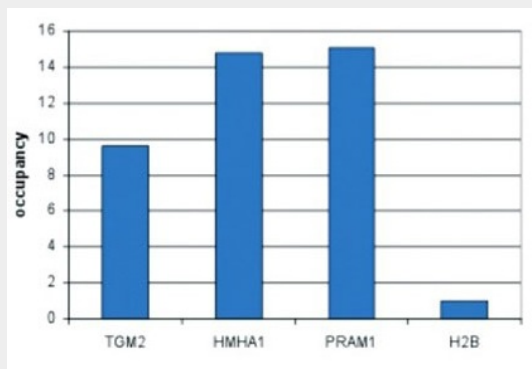
Expressed in monocytes.

### RARA polyclonal antibody - Protocols

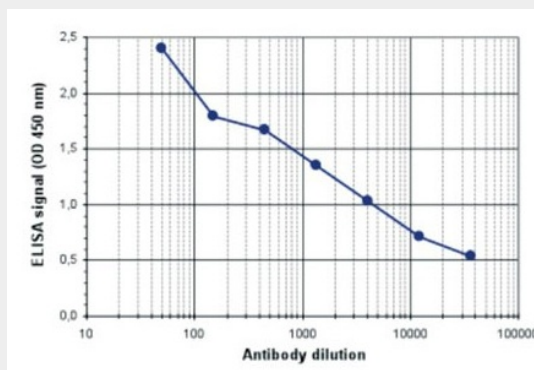
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## RARA polyclonal antibody - Images



ChIP assays were performed using NB4 cells and the antibody and optimized PCR primer sets for qPCR. A titration of the antibody consisting of 2, 5, 10, and 15  $\mu$ l per ChIP experiment was analysed. IgG (5  $\mu$ g/IP) was used as negative control. The Fig shows the recovery, expressed as a % of input (the relative amount of IP DNA compared to input DNA after qPCR analysis).



To determine the titer, an ELISA was performed using a serial dilution of the antibody. The antigen used was a peptide containing the histone modification of interest. By plotting the absorbance against the antibody dilution the titer of the antibody was estimated to be 1:2400.

## RARA polyclonal antibody - Background

RARA is a receptor for retinoic acid, a vitamin A metabolite, which directly regulates gene expression in target cells by binding to specific DNA response elements. In the absence of its ligand, this receptor represses transcription through the recruitment of specific corepressors and of HDAC's, whereas binding of retinoic acid causes the recruitment of coactivators and HAT's. Translocations involving the RARA gene, often leading to a RARA/PML fusion protein, are a major cause of acute promyelocytic leukemia.