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# RARA Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13849b

## Product Information

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| **Application** | IF, IHC-P, FC, WB, E |
| **Primary Accession** | P10276 |
| **Other Accession** | NP_000955.1 |
| **Reactivity** | Human, Mouse |
| **Predicted** | Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 50771 |
| **Antigen Region** | 322-349 |

## Additional Information

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| **Gene ID** | 5914 |
| **Other Names** | Retinoic acid receptor alpha, RAR-alpha, Nuclear receptor subfamily 1 group B member 1, RARA, NR1B1 |
| **Target/Specificity** | This RARA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 322-349 amino acids from the C-terminal region of human RARA. |
| **Dilution** | IF~~1:10~50 IHC-P~~1:100~500 FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | RARA Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | RARA |
| **Synonyms** | NR1B1 |

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| **Function** | Receptor for retinoic acid (PubMed: 16417524, PubMed:19850744, PubMed:20215566, PubMed:21152046, PubMed:37478846). 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:21152046, PubMed:28167758, PubMed:37478846). The RXR/RAR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5 (PubMed:19398580, PubMed:28167758). 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:16417524). On ligand binding, the corepressors dissociate from the receptors and associate with the coactivators leading to transcriptional activation (PubMed:19850744, PubMed:20215566, PubMed:37478846, PubMed:9267036). Formation of a complex with histone deacetylases might lead to inhibition of RARE DNA element binding and to transcriptional repression (PubMed:28167758). Transcriptional activation and RARE DNA element binding might be supported by the transcription factor KLF2 (PubMed:28167758). 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:28167758). In association with HDAC3, HDAC5 and HDAC7 corepressors, plays a role in the repression of microRNA-10a and thereby promotes the inflammatory response (PubMed:28167758). |
| **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. |

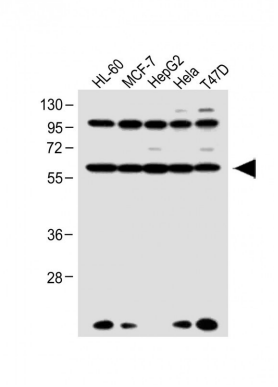
## Background

This gene represents a nuclear retinoic acid receptor. The encoded protein, retinoic acid receptor alpha, regulates transcription in a ligand-dependent manner. This gene has been implicated in regulation of development, differentiation, apoptosis, granulopoeisis, and transcription of clock genes. Translocations between this locus and several other loci have been associated with acute promyelocytic leukemia. Alternatively spliced transcript variants have been found for this locus.

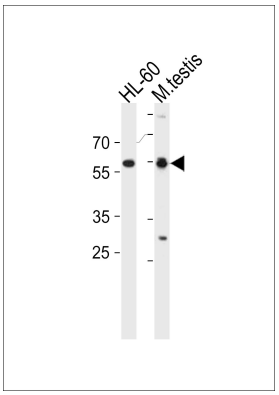
## References


Park, U.H., et al. J. Biol. Chem. 285(44):34269-34278(2010)
Asleson, A.D., et al. Cancer Genet. Cytogenet. 202(1):33-37(2010)
Catalano, A., et al. Blood 110(12):4073-4076(2007)
Wells, R.A., et al. Nat. Genet. 17(1):109-113(1997)
Chen, Z., et al. Proc. Natl. Acad. Sci. U.S.A. 91(3):1178-1182(1994)

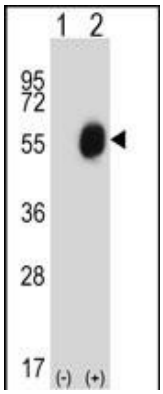
## Images



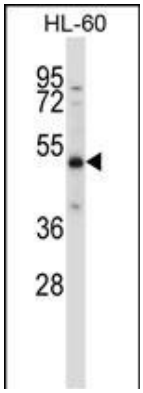

All lanes : Anti-RARA Antibody (C-term) at 1:1000 dilution Lane 1: HL-60 whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: Hela whole cell lysate Lane 5: T47D whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 51 kDa Blocking/Dilution buffer: 5% NFDM/TBST.




RARA Antibody (C-term) (Cat. #AP13849b) western blot analysis in HL-60 cell line and mouse testis tissue lysates (35ug/lane).This demonstrates the RARA antibody detected the RARA protein (arrow).

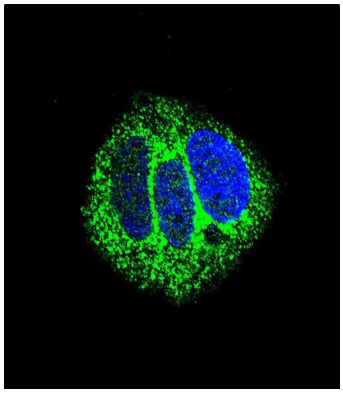


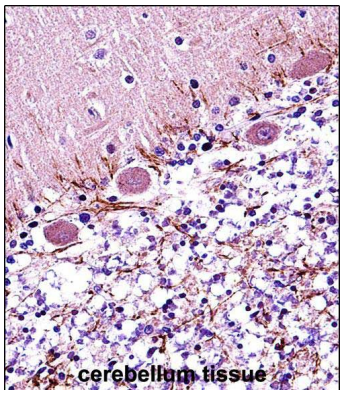

Western blot analysis of RARA (arrow) using rabbit polyclonal RARA Antibody (C-term) (Cat. #AP13849b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the RARA gene.



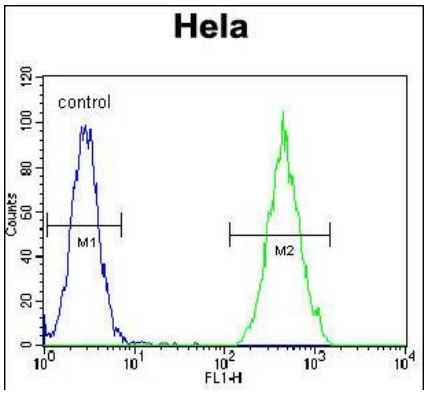

RARA Antibody (C-term) (Cat. #AP13849b) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the RARA antibody detected the RARA protein (arrow).

Confocal immunofluorescent analysis of RARA Antibody (C-term) (Cat#AP13849b) with MCF-7 cell followed by Alexa Fluor® 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).






RARA Antibody (C-term) (Cat. #AP13849b)immunohistochemistry analysis in formalin fixed and paraffin embedded human cerebellum tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of RARA Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.




RARA Antibody (C-term) (Cat. #AP13849b) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

## Citations

- TRIB3 Promotes APL Progression through Stabilization of the Oncoprotein PML-RARα and Inhibition of p53-Mediated Senescence.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.