abcam

ab41934

Anti-Retinoic Acid Receptor alpha antibody [H1920]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human RARA aa 1-50. The exact immunogen used to generate this antibody is proprietary information. Database link P10276
Clone number	H1920
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Dog
Dilution info	-
Notes	-

Target data

See full target information RARA

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

This product was changed from ascites to tissue culture supernatant on 3rd April 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Retinoic Acid Receptor alpha (RARA) a member of the nuclear receptor superfamily functions as a transcription factor activated by retinoic acid. Commonly referenced in literature RARA has an approximate molecular mass of 50 kDa. It is expressed in a variety of tissues including the liver the lung and the immune system. By forming heterodimers with retinoid X receptors RARA regulates the transcription of genes linked to cell differentiation proliferation and apoptosis.
Biological function summary	RARA plays an essential role in mediating the effects of retinoic acid in the body. It is part of a larger receptor complex that interacts with co-regulators to modulate gene expression. This process is significant for embryonic development and the maintenance of normal physiological functions. Through its action RARA contributes to the proper development of organs and is critical for maintaining immune homeostasis and enabling the cellular response to environmental changes.
Pathways	RARA's activity impacts important signaling routes such as the retinoic acid signaling pathway and the Wnt signaling pathway. It collaborates with proteins like retinoid X receptors (RXRs) and other nuclear receptors to influence gene expression processes. These pathways maintain cellular differentiation and tissue homeostasis demonstrating RARA's integrative role in cellular signaling and communication.
Associated diseases and disorders	RARA's dysregulation has been linked to acute promyelocytic leukemia (APL) and some autoimmune diseases. In APL aberrant fusion proteins involving RARA disrupt normal transcriptional regulation leading to malignant transformation. Additionally the interaction of RARA with proteins such as promyelocytic leukemia protein (PML) further influences the disease's development. Research on these associations highlights the therapeutic potential of targeting RARA activities for disease intervention and treatment strategies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

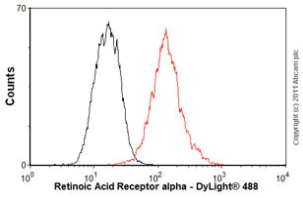
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Flow Cytometry - Anti-Retinoic Acid Receptor alpha antibody [H1920] (ab41934)

Retinoic Acid Receptor alpha Flow Cytometry staining using mouse Anti-Retinoic Acid Receptor alpha antibody

Overlay histogram showing MCF7 cells stained with ab41934 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab41934, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
This image was generated using the ascites version of the product.

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