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Retinoic Acid Receptor alpha Antibody

Rabbit mAb
Catalog # AP90755

Product Information

Application	WB, FC
Primary Accession	P10276
Reactivity	Human, Mouse
Clonality	Monoclonal
Other Names	RARalpha1; NR1B1; RAR-alpha; Retinoic acid receptor alpha; RAR;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	50771

Additional Information

Dilution	WB 1:500~1:1000 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Retinoic Acid Receptor alpha
Description	Retinoic acid receptors (RARalpha, -beta and -gamma) and retinoid X receptors (RXRalpha, -beta and -gamma) are nuclear receptors that function as RAR-RXR heterodimers or RXR homodimers; Regulates expression of target genes in a ligand-dependent manner by recruiting chromatin complexes containing KMT2E/MLL5. Mediates retinoic acid-induced granulopoiesis.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	RARA
Synonyms	NR1B1
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).

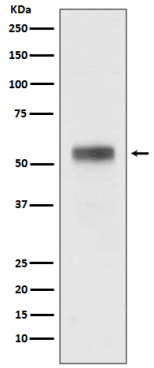
Cellular Location

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.

Images



Western blot analysis of Retinoic Acid Receptor alpha expression in MCF-7 cell lysate.