ARG58393
anti-RORA antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes RORA
Tested Reactivity	Hu, Ms, Rat
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	RORA
Species	Human
Immunogen	Recombinant fusion protein corresponding to aa. 169-468 of Human RORA (NP_599024.1).
Conjugation	Un-conjugated
Alternate Names	Nuclear receptor RZR-alpha; Retinoid-related orphan receptor-alpha; RZRA; Nuclear receptor subfamily 1 group F member 1; RAR-related orphan receptor A; NR1F1; RZR-ALPHA; Nuclear receptor ROR-alpha; ROR3; ROR2; ROR1

Application Instructions

Application table

Application	Dilution
WB	1:500 - 1:1000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	Mouse brain
Observed Size	70 kDa

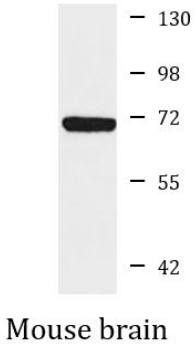
Properties

Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	RORA
Gene Full Name	RAR-related orphan receptor A
Background	The protein encoded by this gene is a member of the NR1 subfamily of nuclear hormone receptors. It can bind as a monomer or as a homodimer to hormone response elements upstream of several genes to enhance the expression of those genes. The encoded protein has been shown to interact with NM23-2, a nucleoside diphosphate kinase involved in organogenesis and differentiation, as well as with NM23-1, the product of a tumor metastasis suppressor candidate gene. Also, it has been shown to aid in the transcriptional regulation of some genes involved in circadian rhythm. Four transcript variants encoding different isoforms have been described for this gene. [provided by RefSeq, Feb 2014]
Function	Nuclear receptor that binds DNA as a monomer to ROR response elements (RORE) containing a single core motif half-site 5'-AGGTCA-3' preceded by a short A-T-rich sequence. Key regulator of embryonic development, cellular differentiation, immunity, circadian rhythm as well as lipid, steroid, xenobiotics and glucose metabolism. Considered to have intrinsic transcriptional activity, have some natural ligands like oxysterols that act as agonists (25-hydroxycholesterol) or inverse agonists (7-oxygenated sterols), enhancing or repressing the transcriptional activity, respectively. Recruits distinct combinations of cofactors to target genes regulatory regions to modulate their transcriptional expression, depending on the tissue, time and promoter contexts. Regulates genes involved in photoreceptor development including OPN1SW, OPN1SM and ARR3 and skeletal muscle development with MYOD1. Required for proper cerebellum development, regulates SHH gene expression, among others, to induce granule cells proliferation as well as expression of genes involved in calcium-mediated signal transduction. Regulates the circadian expression of several clock genes, including CLOCK, ARNTL/BMAL1, NPAS2 and CRY1. Competes with NR1D1 for binding to their shared DNA response element on some clock genes such as ARNTL/BMAL1, CRY1 and NR1D1 itself, resulting in NR1D1-mediated repression or RORA-mediated activation of clock genes expression, leading to the circadian pattern of clock genes expression. Therefore influences the period length and stability of the clock. Regulates genes involved in lipid metabolism such as apolipoproteins APOA1, APOA5, APOC3 and PPARG. In liver, has specific and redundant functions with RORC as positive or negative modulator of expression of genes encoding phase I and phase II proteins involved in the metabolism of lipids, steroids and xenobiotics, such as CYP7B1 and SULT2A1. Induces a rhythmic expression of some of these genes. In addition, interplays functionally with NR1H2 and NR1H3 for the regulation of genes involved in cholesterol metabolism. Also involved in the regulation of hepatic glucose metabolism through the modulation of G6PC and PCK1. In adipose tissue, plays a role as negative regulator of adipocyte differentiation, probably acting through dual mechanisms. May suppress CEBPB-dependent adipogenesis through direct interaction and PPARG-dependent adipogenesis through competition for DNA-binding. Downstream of IL6 and TGFB and synergistically with RORC isoform 2, is implicated in the lineage specification of uncommitted CD4(+) T-helper (T(H)) cells into T(H)17 cells, antagonizing the T(H)1 program. Probably regulates IL17 and IL17F expression on T(H) by binding to the essential enhancer conserved non-coding sequence 2 (CNS2) in the IL17-IL17F locus. Involved in hypoxia signaling by interacting with and activating the transcriptional activity of HIF1A. May inhibit cell growth in response to cellular stress. May exert an anti-inflammatory role by inducing CHUK expression and inhibiting NF-kappa-B signaling. [UniProt]
Calculated Mw	59 kDa
PTM	Phosphorylation by conventional PKCs in neurons inhibits transcriptional activity. Phosphorylated on Thr-183 by MAPK1/ERK1 in vitro. Sumoylated by SENP1 and SENP2. Sumoylation, promoted by PIAS2, PIAS3, PIAS4 but not PIAS1, enhances the transcriptional activity. Desumoylated by SENP1. Ubiquitinated, leading to its degradation by the proteasome. Proteasomal degradation is required for efficient transcriptional activity and is prevented by HR. Isoform 1: monomethylated at Lys-38 by EZH2, this creates a degron recognized by a DCX (DDB1-DCAF1/VPRBP-CUL4A-RBX1) E3 ubiquitin ligase complex. [UniProt]
Cellular Localization	Nucleus. [UniProt]

Images



ARG58393 anti-RORA antibody WB image

Western blot: 25 µg of Mouse brain lysate stained with ARG58393 anti-RORA antibody at 1:1000 dilution.