

## Rabbit Anti-RAR alpha antibody

SL0251R

**Product Name** RAR alpha

**Chinese Name** 维甲酸受体 RAR  $\alpha$ /RAR  $\alpha$  抗体

**Alias** Acute Promyelocytic Leukemia Breakpoint Cluster Region; Acute Promyelocytic Leukemia Breakpoint Cluster Region; NR1B1; Nuclear mitotic apparatus protein retinoic acid receptor alpha fusion protein; Nuclear receptor subfamily 1 group B member 1; Nucleophosmin retinoic acid receptor alpha fusion protein NPM RAR long form; RAR A; RAR alpha; RAR alpha; RAR alpha form; RAR alpha form; RAR; RAR-alpha; RARA; RARA; RARA protein; RARA/PML Fusion Gene; RARA/PML Fusion Gene; RARA\_HUMAN; RARalpha; RARalpha1; Retinoic acid receptor alpha; Retinoic acid receptor alpha polypeptide

**Research Area** Tumour Cell biology immunology Neurobiology Signal transduction Apoptosis Kinases and Phosphatases

**Immunogen Species** Rabbit

**Clonality** Polyclonal

**React Species** Human, (predicted: Mouse, Rat, )

**Applications** IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500 (Paraffin sections need antigen repair)  
not yet tested in other applications.  
optimal dilutions/concentrations should be determined by the end user.

**Theoretical molecular weight** 48kDa

**Cellular localization** The nucleus cytoplasmic

**Form** Liquid

**Concentration** 1mg/ml

**immunogen** KLH conjugated synthetic peptide derived from human RAR alpha: 361-462/462

**Lsotype** IgG

**Purification** affinity purified by Protein A

**Buffer Solution** 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.



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<b>Storage</b>	Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
<b>Attention</b>	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
<b>PubMed</b>	<a href="#">PubMed</a> Retinoic acid receptor alpha (RAR-alpha) is a receptor for retinoic acid. This metabolite has profound effects on vertebrate development. Retinoic acid is a morphogen and is a powerful teratogen. This receptor controls cell function by directly regulating gene expression. Subunit: Interacts with CDK7 (By similarity). Interacts with NCOA3 and NCOA6 coactivators, leading to a strong increase of transcription of target genes.
<b>Product Detail</b>	<p><b>Function:</b> Receptor for retinoic acid. 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. The RXR/RAR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5. In the absence of ligand, the RXR-RAR heterodimers associate with a multiprotein complex containing transcription corepressors that induce histone acetylation, chromatin condensation and transcriptional suppression. On ligand binding, the corepressors dissociate from the receptors and associate with the coactivators leading to transcriptional activation. RARA plays an essential role in the regulation of retinoic acid-induced germ cell development during spermatogenesis. Has a role in the survival of early spermatocytes at the beginning prophase of meiosis. In Sertoli cells, may promote the survival and development of early meiotic prophase spermatocytes. In concert with RARG, required for skeletal growth, matrix homeostasis and growth plate function (By similarity). Regulates expression of target genes in a ligand-dependent manner by recruiting chromatin complexes containing MLL5. Mediates retinoic acid-induced granulopoiesis.</p> <p><b>Subunit:</b> Heterodimer; with RXRA. Binds DNA preferentially as a heterodimer. Interacts with CDK7 By similarity. Interacts with coactivators NCOA3 and NCOA6. Interacts with NCOA7; the interaction requires ligand-binding. Interacts with MLL5. Interacts (via the ligand-binding domain) with PRAME; the interaction is ligand (retinoic acid)-dependent. Interacts with AKT1; the interaction phosphorylates RARA and represses transactivation. Interacts with PRKAR1A; the interaction negatively regulates RARA transcriptional activity. Interacts with NCOR1 and NCOR2. Interacts with PRMT2. Interacts with LRIF1. Interacts with ASXL1 and NCOA1.</p> <p><b>Subcellular Location:</b> Nucleus. Cytoplasm. Nuclear localization depends on ligand binding, phosphorylation and sumoylation. Translocation to the nucleus in the absence of ligand is dependent on</p>

activation of PKC and the downstream MAPK phosphorylation.

**Post-translational modifications:**

Phosphorylated on serine and threonine residues. Phosphorylation does not change during cell cycle. Phosphorylation on Ser-77 is crucial for transcriptional activity. Phosphorylation by AKT1 is required for the repressor activity but has no effect on DNA binding, protein stability nor subcellular localization. Phosphorylated by PKA in vitro. This phosphorylation on Ser-219 and Ser-369 is critical for ligand binding, nuclear localization and transcriptional activity in response to FSH signaling. Sumoylated with SUMO2, mainly on Lys-399 which is also required for SENP6 binding. On all-trans retinoic acid (ATRA) binding, a conformational change may occur that allows sumoylation on two additional site, Lys-166 and Lys-171. Probably desumoylated by SENP6. Sumoylation levels determine nuclear localization and regulate ATRA-mediated transcriptional activity. Trimethylation enhances heterodimerization with RXRA and positively modulates the transcriptional activation. Ubiquitinated.

**DISEASE:**

Chromosomal aberrations involving RARA are commonly found in acute promyelocytic leukemia. Translocation t(11;17)(q32;q21) with ZBTB16/PLZF; translocation t(15;17)(q21;q21) with PML; translocation t(5;17)(q32;q11) with NPM. The PML-RARA oncoprotein requires both the PML ring structure and coiled-coil domain for both interaction with UBE2I, nuclear microspeckle location and sumoylation. In addition, the coiled-coil domain functions in blocking RA-mediated transactivation and cell differentiation.

**Similarity:**

Belongs to the nuclear hormone receptor family. NR1 subfamily. Contains 1 nuclear receptor DNA-binding domain.

**SWISS:**

P11416

**Gene ID:**

5914

**Database links:**

[Entrez Gene: 5914](#) Human

[Entrez Gene: 19401](#) Mouse

[Entrez Gene: 24705](#) Rat

[Omim: 180240](#) Human

[SwissProt: P10276](#) Human

[SwissProt: P11416](#) Mouse

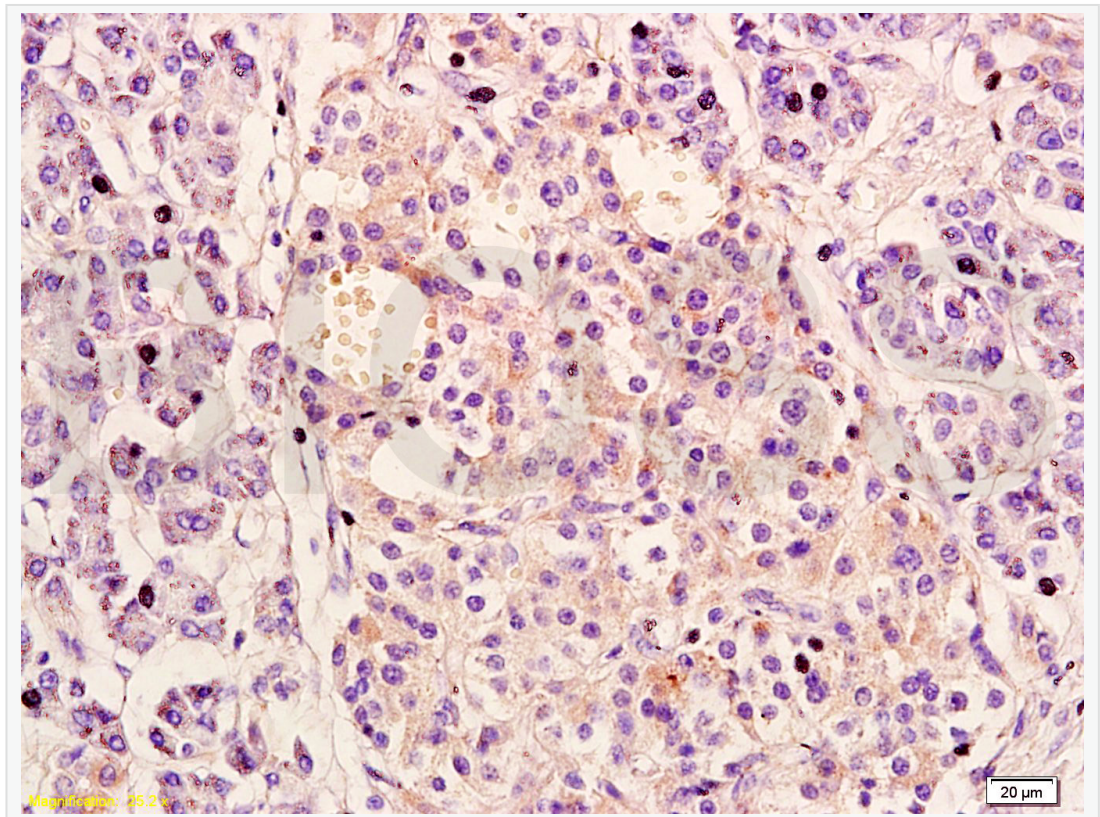
[Unigene: 654583](#) Human

[Unigene: 439744](#) Mouse

[Unigene: 91057](#) Rat

类固醇受体（Steroid Receptors）RAR- $\alpha$  在人组织 Cell differentiation 过程中具有重要作用，尤其在 Tumour 分化的特殊阶段起到一定的作用，在造血细胞中，RAR $\alpha$  表达丰富。

**Product  
Picture**

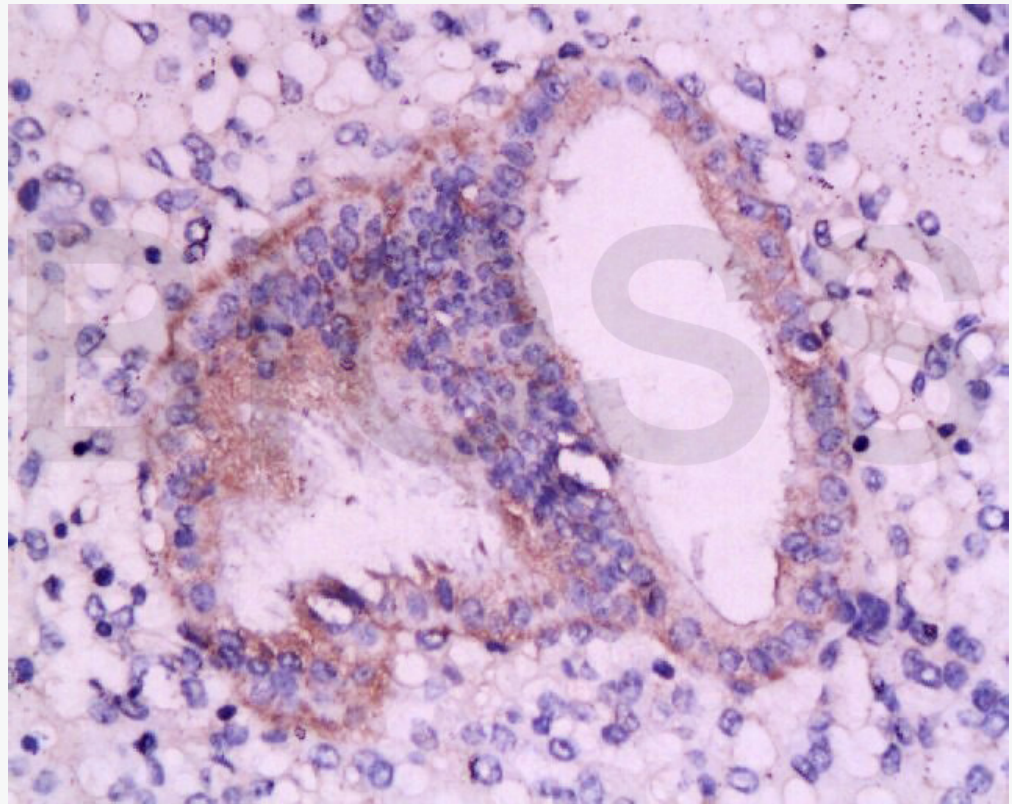


Tissue/cell: human ovary carcinoma; 4% Paraformaldehyde-fixed and

paraffin-embedded;

Antigen retrieval: citrate buffer ( 1M, pH 6.0 ), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

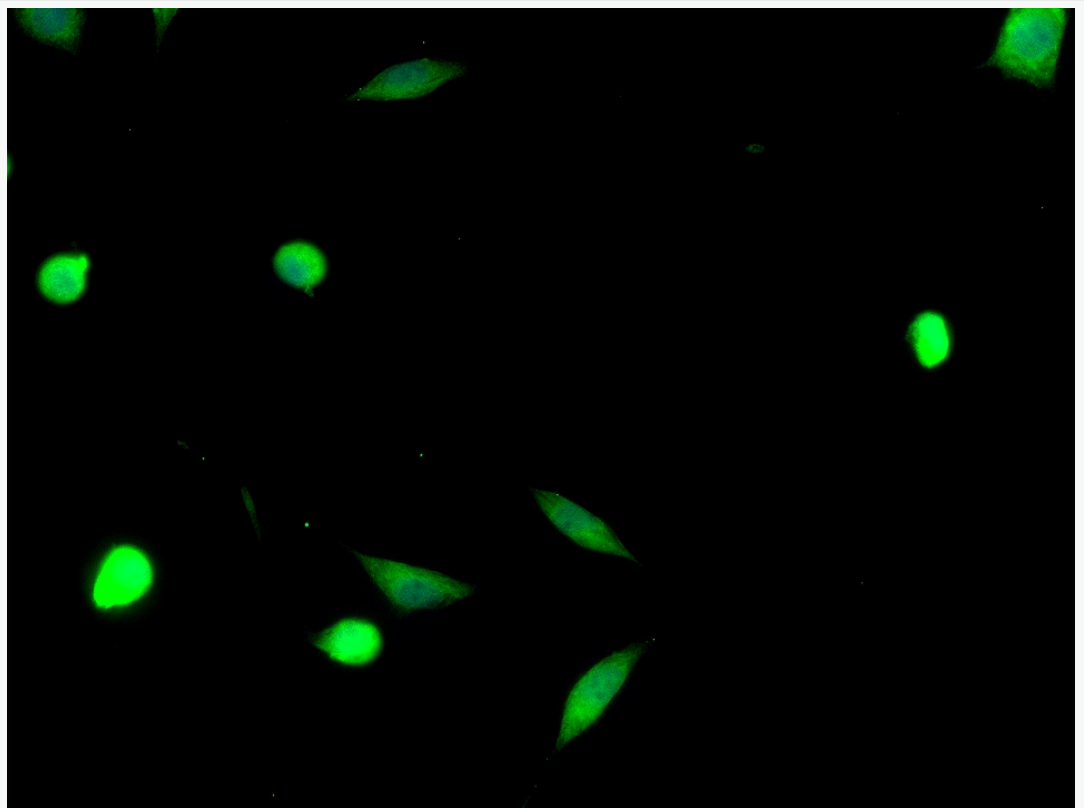
Incubation: Anti-RAR-alpha Polyclonal Antibody, Unconjugated(SL0251R) 1:800, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: human endometrium tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer ( 1M, pH 6.0 ), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-RAR-alpha Polyclonal Antibody, Unconjugated(SL0251R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



SH-SY5Y cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (RAR alpha) polyclonal Antibody, Unconjugated



(SL0251R) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.