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RARα Antibody

Store at -20C
#2554

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: M R	Sensitivity: Endogenous	MW (kDa): 55	Source/Isotype: Rabbit	UniProt ID: #P10276	Entrez-Gene Id: 5914
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

RARα Antibody detects endogenous levels of total RARα protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human RARα. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Retinoids (vitamin A and its active retinoic acid derivatives) are non-steroid hormones that regulate cell proliferation, differentiation and apoptosis. Retinoic acid receptors (RARα, -β and -γ) and retinoid X receptors (RXRα, -β and -γ) are nuclear receptors that function as RAR-RXR heterodimers or RXR homodimers (1-2). In response to retinoid binding, these dimers control gene expression by binding to specific retinoic acid response elements, by recruiting cofactors and the transcriptional machinery, and by indirectly regulating chromatin structure. Finally, ligand binding and phosphorylation of RARα by JNK at Thr181, Ser445 and Ser461 controls the stability of RAR-RXR through the ubiquitin-proteasome pathway (3-4). At least four distinct genetic lesions affect RARα and result in acute promyelocytic leukemia (APL). The t(15;17) translocation that results in the PML-RARα fusion protein is responsible for more than 99% of APL cases, and the fusion protein inhibits PML-dependent apoptotic pathways in a dominant negative fashion. In addition PML-RARα inhibits transcription of retinoic acid target genes by recruiting co-repressors, attenuating myeloid differentiation (5-6).

Background References

- Mangelsdorf, D. J. et al. (1995) *Cell* 83, 835-839.
- Mangelsdorf, D.J. and Evans, R.M. (1995) *Cell* 83, 841-850.
- Bastien, J. and Rochette-Egly, C. (2004) *Gene* 328, 1-16.
- Srinivas, H. et al. (2005) *Mol. Cell. Biol.* 25, 1054-1069.
- de The, H. et al. (1990) *Nature* 347, 558-561.
- Slack, J.L. and Rusiniak, M.E. (2000) *Ann. Hematol.* 79, 227-238.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

M: Mouse **R:** Rat

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