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Retinoic Acid and Retinoid X Receptors Antibody Sampler Kit

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
RAR α (E6Z6K) Rabbit mAb	62294	20 μ l	60 kDa	Rabbit IgG
RXR α (D6H10) Rabbit mAb	3085	20 μ l	53 kDa	Rabbit IgG
RXR β Antibody	8715	20 μ l	70-72 kDa	Rabbit
RAR γ 1 (D3A4) XP® Rabbit mAb	8965	20 μ l	58 kDa	Rabbit IgG
RXR γ Antibody	5629	20 μ l	55 kDa	Rabbit
Anti-rabbit IgG, HRP-linked Antibody	7074	100 μ l		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Retinoic Acid and Retinoid X Receptors Antibody Sampler Kit provides an economical means to investigate the expression of various subtypes of retinoic acid and retinoid X receptors. The kit contains enough primary antibody to perform two western blot experiments per primary.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.

Background

Nuclear retinoic acid (RA) receptors (RARs) consist of three subtypes encoded by separate genes: α (NR1B1), β (NR1B2), and γ (NR1B3). For each subtype, there are at least two isoforms, which are generated by differential promoter usage and alternative splicing and differ only in their N-terminal regions. Retinoids, which are metabolites of vitamin A, serve as ligands for RARs (1). RARs function as ligand-dependent transcriptional regulators and are found to be heterodimerized with retinoid X receptors (RXRs). These transcriptionally active dimers regulate the expression of genes involved in cellular differentiation, proliferation, and apoptosis (2,3). Consequently, RARs play critical roles in a variety of biological processes, including development, reproduction, immunity, and organogenesis (4-6). RAR mutations, fusion proteins, altered expression levels, or aberrant post-translational modifications result in multiple diseases due to altered RAR function and disruption of homeostasis.

In contrast to the ubiquitously expressed RAR α subtype, RAR γ displays a complex tissue-specific expression pattern (7). The hematopoietic system expresses significant levels of RAR γ , and a recent study identified a role for RAR γ in hematopoietic stem cell maintenance (8). RAR γ is the predominant subtype in human and mouse epidermis, representing 90% of the RARs in this tissue (9-11). Given the high level of RAR γ expression in the skin, it has been suggested that this nuclear receptor participates in a transcriptional program that governs maintenance and differentiation of normal epidermis and skin appendages. The transcriptional activity of RAR γ is under stringent control, in part, through retinoic acid-induced phosphorylation and proteasomal degradation (12).

The human retinoid X receptors (RXRs) are encoded by three distinct genes (RXR α , RXR β , and RXR γ) and bind selectively and with high affinity to the vitamin A derivative, 9-*cis*-retinoic acid. RXRs are type-II nuclear hormone receptors that are largely localized to the nuclear compartment independent of ligand binding. Nuclear RXRs form heterodimers with nuclear hormone receptor subfamily 1 proteins, including thyroid hormone receptor, retinoic acid receptors, vitamin D receptor, peroxisome proliferator-activated receptors, liver X receptors, and farnesoid X receptor (13). Since RXRs heterodimerize with multiple nuclear hormone receptors, they play a central role in transcriptional control of numerous hormonal signaling pathways by binding to *cis*-acting response elements in the promoter/enhancer region of target genes (14).

Background References

1. Rochette-Egly, C. and Germain, P. (2009) *Nucl Recept Signal* 7, e005.
2. Delacroix, L. et al. (2010) *Mol Cell Biol* 30, 231-44.
3. Eifert, C. et al. (2006) *Mol Reprod Dev* 73, 796-824.
4. Mark, M. et al. (2006) *Annu Rev Pharmacol Toxicol* 46, 451-80.
5. Niederreither, K. and Dollé, P. (2008) *Nat Rev Genet* 9, 541-53.
6. Mark, M. et al. (2009) *Nucl Recept Signal* 7, e002.
7. Dollé, P. (2009) *Nucl Recept Signal* 7, e006.

8. Purton, L.E. et al. (2006) *J Exp Med* 203, 1283-93.
 9. Fisher, G.J. et al. (1994) *J Biol Chem* 269, 20629-35.
 10. Zelent, A. et al. (1989) *Nature* 339, 714-7.
 11. Elder, J.T. et al. (1991) *J Invest Dermatol* 96, 425-33.
 12. Gianni, M. et al. (2002) *EMBO J* 21, 3760-9.
 13. Gronemeyer, H. et al. (2004) *Nat Rev Drug Discov* 3, 950-64.
 14. Mangelsdorf, D.J. et al. (1992) *Genes Dev* 6, 329-44.
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