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# RXR $\beta$ Antibody

Store at -20C  
#8715

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

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 70-72	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P28702	<b>Entrez-Gene Id:</b> 6257
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## Product Usage Information

### Application

Western Blotting  
Immunoprecipitation

### Dilution

1:1000  
1:50

## Storage

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

## Specificity/Sensitivity

RXR $\beta$  Antibody recognizes endogenous levels of total RXR $\beta$  protein. This antibody does not cross-react with either RXR $\alpha$  or RXR $\gamma$  proteins.

## Species predicted to react based on 100% sequence homology

Rat, Monkey, Bovine, Dog, Pig

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human RXR $\beta$  protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

The human retinoid X receptors (RXRs) are encoded by three distinct genes (*RXR $\alpha$* , *RXR $\beta$* , and *RXR $\gamma$* ) 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 (1). 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 (2).

RXR $\beta$ , like other members of the RXR subfamily, possesses a characteristic tripartite modular structure consisting of (a) a highly conserved central region containing the C<sub>4</sub>/C<sub>5</sub> zinc-finger domain, which is responsible for DNA binding; (b) a relatively well-conserved C-terminal region, which contains the hormone binding and dimerization domains; and (c) a variable N-terminal domain, which has been implicated in either transactivation or repression of target genes (2). Variability within the N-terminal domain is thought to be the result of alternative splicing and/or differential promoter usage (3-5). The murine RXR $\beta$  was initially identified because of its ability to bind to the regulatory region II in the murine major histocompatibility complex (MHC) class I promoter and is therefore also referred to as H-2RIIBP (6). Genetic ablation of murine *Rxrb* produced approximately 50% lethality *in utero* and males that survived had defects of spermatazoa, which resulted in sterility (7). Further studies revealed that expression of a *Rxrb* mutant with an impaired AF-2 core led to abnormal lipid metabolism in Sertoli cells, suggesting functional interactions between *Rxrb* and other nuclear receptors that control lipid metabolism (8).

## Background References

1. Gronemeyer, H. et al. (2004) *Nat Rev Drug Discov* 3, 950-64.
2. Mangelsdorf, D.J. et al. (1992) *Genes Dev* 6, 329-44.
3. Nagata, T. et al. (1994) *Gene* 142, 183-9.
4. Fleischhauer, K. et al. (1993) *Hum Genet* 90, 505-10.
5. Fleischhauer, K. et al. (1992) *Nucleic Acids Res* 20, 1801.
6. Hamada, K. et al. (1989) *Proc Natl Acad Sci USA* 86, 8289-93.
7. Kastner, P. et al. (1996) *Genes Dev* 10, 80-92.
8. Mascres, B. et al. (2004) *EMBO Rep* 5, 285-90.

## 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 **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse

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