Revision 4

Store at -20C

#8715

RXRβ Antibody

Cell Signaling TECHNOLOGY®

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

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

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

RXRβ Antibody recognizes endogenous levels of total RXRβ protein. This antibody does not cross-react with either RXRα or RXRγ 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 RXRβ 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*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 (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).
RXRβ, like other members of the RXR subfamily, possesses a characteristic tripartite modular structure consisting of (a) a highly conserved central region containing the C_4/C_5 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 RXRβ was initially identified because of its ability to bind to the regulatory region II in the murine major histocompatability 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. Mascrez, 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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Limited Uses