Revision 1

Store at -20C

#5948

NCoR1 Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	270	Rabbit	#O75376	9611

Product Usage Information

Application	Dilution
Western Blotting	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

NCoR1 Antibody recognizes endogenous levels of total NCoR1 protein. This antibody does not cross-react with SMRT/NCoR2.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro1387 of human NCoR1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The most well characterized nuclear receptor corepressors are SMRT (silencing mediator for retinoic acid and thyroid hormone receptors) and its close paralog NCoR1 (nuclear receptor corepressor) (1,2). NCoR1 functions to transcriptionally silence various unliganded, DNA bound non-steroidal nuclear receptors by serving as a large molecular scaffold that bridges the receptors with multiple chromatin remodeling factors that repress nuclear receptor-mediated gene transcription, in part, through deacetylation of core histones surrounding target promoters. Indeed, the N-terminal portion of NCoR1 possesses multiple distinct transcriptional repression domains (RDs) reponsible for the recruitment of additional components of the corepressor complex such as HDACs, mSin3, GPS2, and TBL1/TBLR1. In between the RDs lies a pair of potent repressor motifs known as SANT motifs (SWI3, ADA2, N-CoR, and TFIIIB), which recruit HDAC3 and histones to the repressor complex in order to enhance HDAC3 activity (3). The C-terminal portion of NCoR1 contains multiple nuclear receptor interaction domains (NDs), each of which contains a conserved CoRNR box (or L/I-X-X-I/V-I) motif that allow for binding to various unliganded nuclear hormone receptors such as thyroid hormone (THR) and retinoic acid (RAR) receptors (4,5).

Recent genetic studies in mice have not only corroborated the wealth of biochemical studies involving NCoR1 but have also provided significant insight regarding the function of NCoR1 in mammalian development and physiology. Although it has been observed that loss of *Ncor1* does not affect early embyonic development, likely due to compensation by *Smrt*, embryonic lethality ultimately results during mid-gestation, largely due to defects in erythropoesis and thymopoesis (6). Another study demonstrated that the NDs of NCoR1 are critical for its ability to function in a physiological setting as a transcriptional repressor of hepatic THR and Liver X Receptor (LXR) (7).

Background References

1. Chen, J.D. and Evans, R.M. (1995) *Nature* 377, 454-7.
2. Hörlein, A.J. et al. (1995) *Nature* 377, 397-404.
3. Jones, P.L. and Shi, Y.B. (2003) *Curr Top Microbiol Immunol* 274, 237-68.
4. Downes, M. et al. (1996) *Nucleic Acids Res* 24, 4379-86.
5. Wong, C.W. and Privalsky, M.L. (1998) *Mol Cell Biol* 18, 5724-33.
6. Jepsen, K. et al. (2000) *Cell* 102, 753-63.
7. Astapova, I. et al. (2008) *Proc Natl Acad Sci U S A* 105, 19544-9.

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

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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