

#62370 Store at -20°C

SMRT (D8D2L) Rabbit mAb**Cell Signaling**
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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: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| WB, ChIP | H Mk | Endogenous | 270 | Rabbit IgG | #Q9Y618 | 9612 |

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

| Application | Dilution |
|------------------|----------|
| Western Blotting | 1:1000 |
| Chromatin IP | 1:50 |

Storage

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

Specificity / Sensitivity

SMRT (D8D2L) Rabbit mAb recognizes endogenous levels of total SMRT protein. This antibody does not cross-react with NCoR1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein corresponding to residues near the amino terminus of human SMRT protein.

Background

The most well characterized nuclear receptor corepressors are NCoR1 (nuclear receptor corepressor) and its close paralog NCoR2, also known as SMRT (silencing mediator for retinoic acid and thyroid hormone receptors) (1,2). NCoR1 and SMRT function 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 and SMRT possess multiple distinct transcriptional repression domains (RDs) responsible 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 and SMRT contain multiple nuclear receptor interaction domains (NDs), each of which contains a conserved CoNR 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).

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.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **ChIP:** Chromatin IP

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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