SANTA CRUZ BIOTECHNOLOGY, INC.

SMRTe (H-300): sc-20778

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Retinoids are metabolites of vitamin A (retinol) and represent important signaling molecules during vertebrate development and tissue differentiation. Retinoic acid receptors (RARs) have a high affinity for all trans retinoic acids and belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D_3 receptor and ecdysone receptor. Two cofactors that function to repress transcription, designated SMRT (silencing mediator for RARs and thyroid receptors (TR)) and N-CoR, associate with TR and RAR in their unliganded state and are released from them upon ligand binding. The carboxy termini of both proteins contain receptor interacting domains while their amino termini contain two repressor domains. SMRT is comprised of 1,495 amino acids and contains an 8 amino acid sequence that is not present in SMRTe (SMRT-extended), which contains 2,514 amino acids. SMRTe contains an N-terminal sequence spanning over 1,000 amino acids that is not present in SMRT, but that shows significant similarity with N-CoR. SMRTe expression is regulated during cell cycle progression, suggesting a role for SMRTe in the regulation of cycle-specific gene expression in diverse signaling pathways.

CHROMOSOMAL LOCATION

Genetic locus: NCOR2 (human) mapping to 12q24.31; Ncor2 (mouse) mapping to 5 F.

SOURCE

SMRTe (H-300) is a rabbit polyclonal antibody raised against amino acids 1981-2280 of SMRTe of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SMRTe (H-300) is recommended for detection of SMRT and SMRTe of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SMRTe (H-300) is also recommended for detection of SMRT and SMRTe in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SMRTe siRNA (h): sc-36514, SMRTe siRNA (m): sc-36515, SMRTe shRNA Plasmid (h): sc-36514-SH, SMRTe shRNA Plasmid (m): sc-36515-SH, SMRTe shRNA (h) Lentiviral Particles: sc-36514-V and SMRTe shRNA (m) Lentiviral Particles: sc-36515-V.

SMRTe (H-300) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of SMRT: 160 kDa.

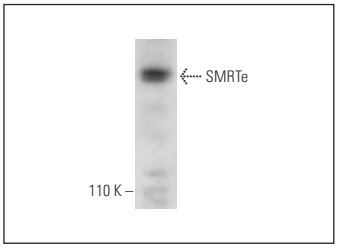
Molecular Weight of SMRTe: 270 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or MCF7 nuclear extract: sc-2149.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SMRTe (H-300): sc-20778. Western blot analysis of SMRTe expression in MCF7 nuclear extract.

SELECT PRODUCT CITATIONS

1. Metivier, R., et al. 2003. Estrogen receptor-α directs ordered, cyclical, and combinatorial recruitment of cofactors on a natural target promoter. Cell 115: 751-763.
2. Di Leva, G., et al. 2010. MicroRNA cluster 221-222 and estrogen receptor α interactions in breast cancer. J. Natl. Cancer Inst. 102: 706-721.
3. Romano, A., et al. 2010. Identification of novel ER-α target genes in breast cancer cells: gene- and cell-selective co-regulator recruitment at target promoters determines the response to 17β-estradiol and tamoxifen. Mol. Cell. Endocrinol. 314: 90-100.
4. Cassinat, B., et al. 2011. New role for granulocyte colony-stimulating factor-induced extracellular signal-regulated kinase 1/2 in histone modification and retinoic acid receptor α recruitment to gene promoters: relevance to acute promyelocytic leukemia cell differentiation. Mol. Cell. Biol. 31: 1409-1418.
5. Son, H.J., et al. 2012. Negative regulation of JAK2 by H3K9 methyltransferase G9a in leukemia. Mol. Cell. Biol. 32: 3681-3694.
6. Karakasilioti, I., et al. 2013. DNA damage triggers a chronic autoinflammatory response, leading to fat depletion in NER progeria. Cell Metab. 18: 403-415.
7. Samaan, S., et al. 2014. The Ddx5 and Ddx17 RNA helicases are cornerstones in the complex regulatory array of steroid hormone-signaling pathways. Nucleic Acids Res. 42: 2197-2207.

RESEARCH USE

For research use only, not for use in diagnostic procedures.