SANTA CRUZ BIOTECHNOLOGY, INC.

SMRTe (C-19): sc-1612

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 D3 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 1495 amino acids and contains an 8 amino acid sequence that is not present in SMRTe (SMRT-extended), which contains 2514 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 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-1612 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SMRTe (C-19) 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 (C-19) is also recommended for detection of SMRT and SMRTe in additional species, including canine, bovine, porcine and avian.

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.

Molecular Weight of SMRT: 160 kDa.

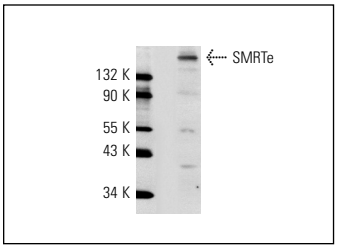
Molecular Weight of SMRTe: 270 kDa.

Positive Controls: K-562 nuclear extract : sc-2130.

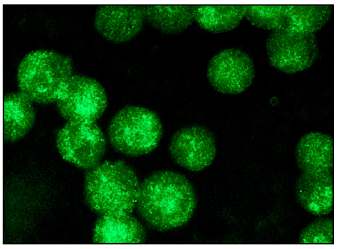
STORAGE

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

DATA



SMRTe (C-19): sc-1612. Western blot analysis of SMRT expression in K-562 nuclear extract.



SMRTe (C-19): sc-1612. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Nakajima, H., et al. 2001. Functional interaction of Stat5 and nuclear receptor co-repressor SMRT: implications in negative regulation of Stat5-dependent transcription. EMBO J. 20: 6836-6844.
2. Villamar-Cruz, O., et al. 2006. Regulation of the content of progesterone and estrogen receptors, and their cofactors SRC-1 and SMRT by the 26S proteasome in the rat brain during the estrous cycle. Brain Res. Bull. 69: 276-281.
3. Hitomi, T., et al. 2007. Oct-1 is involved in the transcriptional repression of the p15^{INK4b} gene. FEBS Lett. 581: 1087-1092.
4. Laudes, M., et al. 2008. Transcription factor FBI-1 acts as a dual regulator in adipogenesis by coordinated regulation of cyclin-A and E2F-4. J. Mol. Med. 86: 597-608.
5. Hong, W., et al. 2009. Bag-1M inhibits the transactivation of the glucocorticoid receptor via recruitment of corepressors. FEBS Lett. 583: 2451-2456.
6. Wang, D., et al. 2009. Negative regulation of TSHα target gene by thyroid hormone involves histone acetylation and corepressor complex dissociation. Mol. Endocrinol. 23: 600-609.
7. Ungaro, P., et al. 2010. Hepatocyte nuclear factor (HNF)-4α-driven epigenetic silencing of the human PED gene. Diabetologia 53: 1482-1492.
8. Wang, D., et al. 2010. Distinct and histone-specific modifications mediate positive versus negative transcriptional regulation of TSHα promoter. PLoS ONE 5: e9853.

RESEARCH USE

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