SANTA CRUZ BIOTECHNOLOGY, INC.

SMRT (1212): sc-32298

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.

SOURCE

SMRT (1212) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 994-1005 of human SMRT.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SMRT (1212) is available conjugated to agarose (sc-32298 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32298 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32298 PE), fluorescein (sc-32298 FITC), Alexa Fluor® 488 (sc-32298 AF488), Alexa Fluor® 546 (sc-32298 AF546), Alexa Fluor® 594 (sc-32298 AF594) or Alexa Fluor® 647 (sc-32298 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32298 AF680) or Alexa Fluor® 790 (sc-32298 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

SMRT (1212) is recommended for detection of SMRT and SMRTe of human origin by Western Blotting (starting dilution 1:250, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with rat.

Molecular Weight of SMRT: 160 kDa.

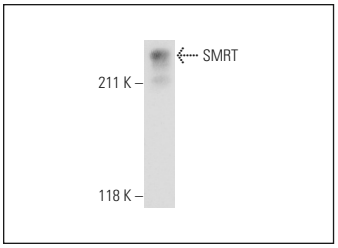
Molecular Weight of SMRTe: 270 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SMRT (1212): sc-32298. Western blot analysis of SMRT expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Cowger, J.J., et al. 2006. Direct association between the CREB-binding protein (CBP) and nuclear receptor corepressor (N-CoR). Biochemistry 45: 13150-13162.
2. Bowe, D.B., et al. 2006. O-GlcNAc integrates the proteasome and transcriptome to regulate nuclear hormone receptors. Mol. Cell. Biol. 26: 8539-8550.
3. Kumar, S., et al. 2016. Nuclear receptor corepressors Ncor1 and Ncor2 (SMRT) are required for retinoic acid-dependent repression of Fgf8 during somitogenesis. Dev. Biol. 418: 204-215.
4. Zhang, F., et al. 2018. Ligand activation of PPARγ by ligustrazine suppresses pericyte functions of hepatic stellate cells via SMRT-mediated transrepression of HIF-1α. Theranostics 8: 610-626.
5. Lee, D.C., et al. 2019. Daylight saving time is not associated with an increased number of trauma activations. West. J. Emerg. Med. 20: 585-586.
6. Jha, A., et al. 2020. MiR193a modulation and podocyte phenotype. Cells 9: 1004.

STORAGE

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