SANTA CRUZ BIOTECHNOLOGY, INC.

SMRTe (1542/H7): sc-13554

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

SMRTe (1542/H7) is a mouse monoclonal antibody raised against amino acids 994-1005 of SMRTe of human origin.

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.

SMRTe (1542/H7) is available conjugated to agarose (sc-13554 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13554 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13554 PE), fluorescein (sc-13554 FITC), Alexa Fluor® 488 (sc-13554 AF488), Alexa Fluor® 546 (sc-13554 AF546), Alexa Fluor® 594 (sc-13554 AF594) or Alexa Fluor® 647 (sc-13554 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13554 AF680) or Alexa Fluor® 790 (sc-13554 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

SMRTe (1542/H7) is recommended for detection of SMRT and SMRTe of 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of SMRT: 160 kDa.

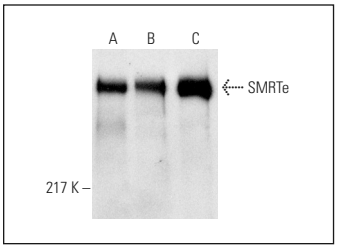
Molecular Weight of SMRTe: 270 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

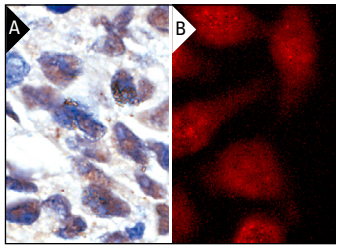
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SMRTe (1542/H7): sc-13554. Western blot analysis of SMRTe expression in HeLa (**A**), Jurkat (**B**) and K-562 (**C**) nuclear extracts.



SMRTe (1542/H7): sc-13554. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing nuclear staining (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Frasor, J., et al. 2005. Estrogen down-regulation of the corepressor N-CoR: mechanism and implications for estrogen derepression of N-CoR-regulated genes. Proc. Natl. Acad. Sci. USA 102: 13153-13157.
2. Trtková, K., et al. 2010. Formation of AR-SMRT binding in prostate cancer cells treated with natural histone deacetylase inhibitor. Cancer Biomark. 7: 79-90.
3. Trtkova, K., et al. 2010. Binding of AR to SMRT/N-CoR complex and its co-operation with PSA promoter in prostate cancer cells treated with natural histone deacetylase inhibitor NaB. Neoplasma 57: 406-414.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.