SANTA CRUZ BIOTECHNOLOGY, INC.

# SPT16 (A-1): sc-165987

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Expression of protein-coding genes requires the association of specific transcription factors, RNA polymerase and various accessory factors. These accessory factors are distinguished as either histone acetyltransferases or ATP-dependent chromatin-remodeling enzymes, which include FACT (for facilitates chromatin transcription), and they facilitate transcription initiation on DNA packaged into chromatin. FACT is a chromatin-specific elongation factor required for transcription of chromatin templates, and it specifically interacts with nucleosomes and Histone H2A/H2B dimers, to promote nucleosome disassembly upon transcription. FACT represents a complex between SPT16, a homologue of the *Saccharomyces cerevisiae* Spt16/Cdc68 protein, and the high-mobility group (HMG)-1-like protein structure-specific recognition protein-1 (SSRP-1). Similar to other (HMG) domain containing proteins, which are characterized by their ability to bend target DNAs, SSRP1 and the murine ortholog T160, physically interact with serum response factors (SRF) and function as a positive co regulatory proteins involved in modulating SRF-dependent gene expression.

## REFERENCES


1. Felsenfeld, G. 1992. Chromatin as an essential part of the transcriptional mechanism. Nature 355: 219-224.
2. Wittmeyer, J. and Formosa, T. 1997. The *Saccharomyces cerevisiae* DNA polymerase $\alpha$ catalytic subunit interacts with Cdc68/SPT16 and with Pob3, a protein similar to an HMG1-like protein. Mol. Cell. Biol. 17: 4178-4190.
3. Shilatifard, A. 1998. Factors regulating the transcriptional elongation activity of RNA polymerase II. FASEB J. 12: 1437-1446.


## CHROMOSOMAL LOCATION

Genetic locus: SUPT16H (human) mapping to 14q11.2; Supt16h (mouse) mapping to 14 C2.

## SOURCE

SPT16 (A-1) is a mouse monoclonal antibody raised against amino acids 748-1047 mapping at the C-terminus of SPT16 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.

SPT16 (A-1) is available conjugated to agarose (sc-165987 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-165987 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-165987 PE), fluorescein (sc-165987 FITC), Alexa Fluor® 488 (sc-165987 AF488), Alexa Fluor® 546 (sc-165987 AF546), Alexa Fluor® 594 (sc-165987 AF594) or Alexa Fluor® 647 (sc-165987 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-165987 AF680) or Alexa Fluor® 790 (sc-165987 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

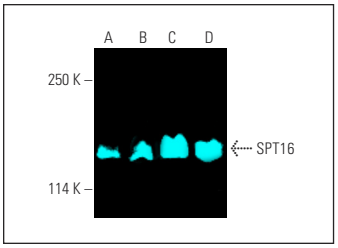
SPT16 (A-1) is recommended for detection of SPT16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SPT16 siRNA (h): sc-37875, SPT16 siRNA (m): sc-37876, SPT16 shRNA Plasmid (h): sc-37875-SH, SPT16 shRNA Plasmid (m): sc-37876-SH, SPT16 shRNA (h) Lentiviral Particles: sc-37875-V and SPT16 shRNA (m) Lentiviral Particles: sc-37876-V.

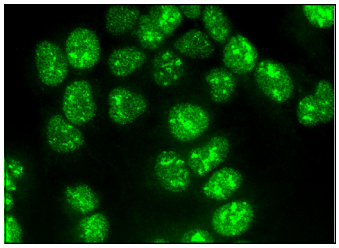
Molecular Weight of SPT16: 140 kDa.

Positive Controls: Hep G2 nuclear extract: sc-364819, A549 cell lysate: sc-2413 or K-562 nuclear extract: sc-2130.

## DATA




SPT16 (A-1): sc-165987. Fluorescent western blot analysis of SPT16 expression in A549 (**A**) and RAW 264.7 (**B**) whole cell lysates and Hep G2 (**C**) and K-562 (**D**) nuclear extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-$IgG_1$ BP-CFL 647: sc-533664.



SPT16 (A-1): sc-165987. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and nucleolar localization.

## SELECT PRODUCT CITATIONS


1. Zhu, J., et al. 2014. Comprehensive identification of host modulators of HIV-1 replication using multiple orthologous RNAi reagents. Cell Rep. 9: 752-766.
2. Huang, H., et al. 2015. FACT proteins, SUPT16H and SSRP1, are transcriptional suppressors of HIV-1 and HTLV-1 that facilitate viral latency. J. Biol. Chem. 290: 27297-27310.
3. Jean, M.J., et al. 2017. Curaxin CBL0100 blocks HIV-1 replication and reactivation through inhibition of viral transcriptional elongation. Front. Microbiol. 8: 2007.
4. Jiang, Y., et al. 2022. Cross-regulome profiling of RNA polymerases highlights the regulatory role of polymerase III on mRNA transcription by maintaining local chromatin architecture. Genome Biol. 23: 246.


## STORAGE

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