SANTA CRUZ BIOTECHNOLOGY, INC.

SPT16 (8): sc-136406

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 α catalytic subunit interacts with Cdc68/Spt16 and with Pob3, a protein similar to an HMG1-like protein. Mol. Cell. Biol. 17: 4178-4190.
3. Orphanides, G., et al. 1998. FACT, a factor that facilitates transcript elongation through nucleosomes. Cell 92: 105-116.
4. Shilatifard, A. 1998. Factors regulating the transcriptional elongation activity of RNA polymerase II. FASEB J. 12: 1437-1446.
5. Dyer, M.A., et al. 1998. The HMG domain protein SSRP1/PREIIBF is involved in activation of the human embryonic-like globin gene. Mol. Cell. Biol. 18: 2617-2628.
6. LeRoy, G., et al. 1998. Requirement of RSF and FACT for transcription of chromatin templates *in vitro*. Science 282: 1900-1904.
7. Orphanides, G., et al. 1999. The chromatin-specific transcription elongation factor FACT comprises human SPT16 and SSRP1 proteins. Nature 400: 284-288.

CHROMOSOMAL LOCATION

Genetic locus: SUPT16H (human) mapping to 14q11.2; Supt16 (mouse) mapping to 14 C2.

SOURCE

SPT16 (8) is a mouse monoclonal antibody raised against amino acids 95-202 of SPT16 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SPT16 (8) is recommended for detection of SPT16 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

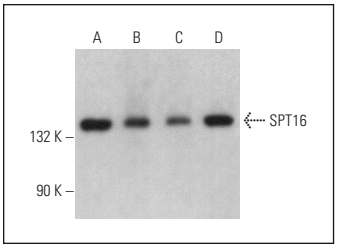
Molecular Weight of SPT16: 140 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

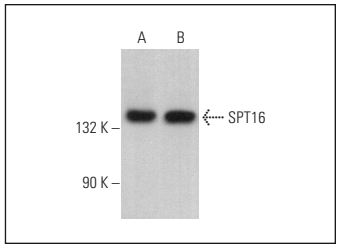
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SPT16 (8): sc-136406. Western blot analysis of SPT16 expression in K-562 (**A**) and A-673 (**B**) nuclear extracts and A549 (**C**) and MCF7 (**D**) whole cell lysates.



SPT16 (8): sc-136406. Western blot analysis of SPT16 expression in Jurkat whole cell lysate (**A**) and HeLa nuclear extract (**B**).

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.