SANTA CRUZ BIOTECHNOLOGY, INC.

SPT5 (17): sc-136075

BACKGROUND

SPT4 (also designated suppressor of Ty4 and p14) and SPT5 (also designated DSIF p160) are highly conserved proteins from yeast to humans. Nuclear SPT4 and SPT5 are involved in both DRB (5,6-dichloro-1-β-D-ribofuranosylbenzimidazole)-mediated transcriptional inhibition as well as the activation of transcriptional elongation by the HIV-1 protein Tat. SPT4 binds SPT5 to form the DSIF (DRB-sensitivity-inducing factor) complex, which binds RNA polymerase II and directly regulates elongation. However, SPT5 protein in mitotic HeLa cells migrates more slowly on SDS-PAGE than does SPT5 isolated from interphase cells, as a result of enhanced SPT5 phosphorylation. The C-terminal CTR1 domain of SPT5 is the substrate for P-TEFb phosphorylation, which is critical for SPT5 function as a regulator of transcriptional elongation.

REFERENCES

1. Chiang, P.W., et al. 1996. Isolation and characterization of the human and mouse homologues (SUPT4H and Supt4h) of the yeast SPT4 gene. Genomics 34: 368-375.
2. Hartzog, G.A., et al. 1996. Identification and analysis of a functional human homolog of the SPT4 gene of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 16: 2848-2856.
3. Wada, T., et al. 1998. Evidence that P-TEFb alleviates the negative effect of DSIF on RNA polymerase II-dependent transcription *in vitro*. EMBO J. 17: 7395-7403.
4. Wada, T., et al. 1998. DSIF, a novel transcription elongation factor that regulates RNA polymerase II processivity, is composed of human SPT4 and SPT5 homologs. Genes Dev. 12: 343-356.
5. Yamaguchi, Y., et al. 1999. Structure and function of the human transcription elongation factor DSIF. J. Biol. Chem. 274: 8085-8092.

CHROMOSOMAL LOCATION

Genetic locus: SUPT5H (human) mapping to 19q13.2; Supt5 (mouse) mapping to 7 A3.

SOURCE

SPT5 (17) is a mouse monoclonal antibody raised against amino acids 866-985 of SPT5 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

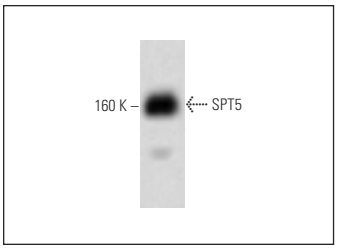
SPT5 (17) is recommended for detection of SPT5 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SPT5 siRNA (h): sc-38440, SPT5 siRNA (m): sc-38441, SPT5 shRNA Plasmid (h): sc-38440-SH, SPT5 shRNA Plasmid (m): sc-38441-SH, SPT5 shRNA (h) Lentiviral Particles: sc-38440-V and SPT5 shRNA (m) Lentiviral Particles: sc-38441-V.

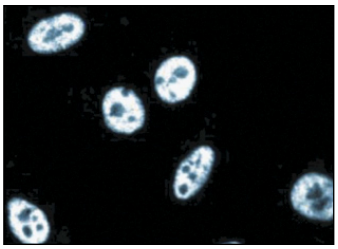
Molecular Weight of SPT5: 160 kDa.

Positive Controls: CCRF-CEM nuclear extract: sc-2146, DU 145 nuclear extract: sc-24960 or HeLa whole cell lysate: sc-2200.

DATA



SPT5 (17): sc-136075. Western blot analysis of SPT5 expression in HeLa whole cell lysate.



SPT5 (17): sc-136075. Immunofluorescence staining of human endothelial cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Abe, K., et al. 2022. Distinct patterns of RNA polymerase II and transcriptional elongation characterize mammalian genome activation. Cell Rep. 41: 111865.

RESEARCH USE

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