

CD3EAP (m2): 293T Lysate: sc-126605

BACKGROUND

RNA polymerase I (Pol I) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA, specifically via the synthesis of ribosomal RNA precursors. CD3EAP, also known as ASE1, CAST or PAF49, is a 510 amino acid protein that localizes to the nucleus and belongs to the eukaryotic RPA34 RNA polymerase subunit family. Existing as two alternatively spliced isoforms, CD3EAP functions as a component of the Pol I complex, specifically exhibiting DNA-dependent RNA polymerase activity and effectively catalyzing the the conversion of a nucleoside triphosphate into a diphosphate, thereby transcribing DNA into RNA. Isoform 2 of CD3EAP may be a component of the T cell receptor (TCR) complex and is subject to tyrosine phosphorylation in response to TCR stimulation. Both isoforms of CD3EAP are subject to DNA damage-dependent phosphorylation, probably by ATM or ATR.

REFERENCES

- Whitehead, C.M., Winkfein, R.J., Fritzler, M.J. and Rattner, J.B. 1997. ASE-1: a novel protein of the fibrillar centres of the nucleolus and nucleolus organizer region of mitotic chromosomes. *Chromosoma* 106: 493-502.
- Yamazaki, T., Hamano, Y., Tashiro, H., Itoh, K., Nakano, H., Miyatake, S. and Saito, T. 1999. CAST, a novel CD3ε-binding protein transducing activation signal for interleukin-2 production in T cells. *J. Biol. Chem.* 274: 18173-18180.
- Yamamoto, K., Yamamoto, M., Hanada, K., Nogi, Y., Matsuyama, T. and Muramatsu, M. 2004. Multiple protein-protein interactions by RNA polymerase I-associated factor PAF49 and role of PAF49 in rRNA transcription. *Mol. Cell. Biol.* 24: 6338-6349.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 107325. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Vogel, U., Olsen, A., Wallin, H., Overvad, K., Tjønneland, A. and Nexø, B.A. 2005. Effect of polymorphisms in XPD, RAI, ASE-1 and ERCC1 on the risk of basal cell carcinoma among Caucasians after age 50. *Cancer Detect. Prev.* 29: 209-214.
- Panov, K.I., Panova, T.B., Gadai, O., Nishiyama, K., Saito, T., Russell, J. and Zomerdijs, J.C. 2006. RNA polymerase I-specific subunit CAST/hPAF49 has a role in the activation of transcription by upstream binding factor. *Mol. Cell. Biol.* 26: 5436-5448.
- Vogel, U., Sørensen, M., Hansen, R.D., Tjønneland, A., Overvad, K., Wallin, H., Nexø, B.A. and Raaschou-Nielsen, O. 2007. Gene-environment interactions between smoking and a haplotype of RAI, ASE-1 and ERCC1 polymorphisms among women in relation to risk of lung cancer in a population-based study. *Cancer Lett.* 247: 159-165.

CHROMOSOMAL LOCATION

Genetic locus: Cd3eap (mouse) mapping to 7 A3.

PRODUCT

CD3EAP (m2): 293T Lysate represents a lysate of mouse CD3EAP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CD3EAP (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CD3EAP antibodies. Recommended use: 10-20 µl per lane.

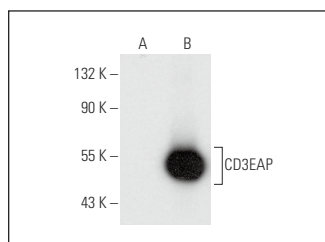
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CD3EAP (A-9): sc-393818 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CD3EAP expression in CD3EAP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

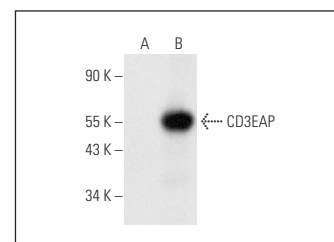
RECOMMENDED SUPPORT REAGENTS

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.

DATA



CD3EAP (A-9): sc-393818. Western blot analysis of CD3EAP expression in non-transfected: sc-117752 (A) and mouse CD3EAP transfected: sc-126605 (B) 293T whole cell lysates.



CD3EAP (G-5): sc-393781. Western blot analysis of CD3EAP expression in non-transfected: sc-117752 (A) and mouse CD3EAP transfected: sc-126605 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.