SANTA CRUZ BIOTECHNOLOGY, INC.

CD3EAP (N-17): sc-82549

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

1. Whitehead, C.M., et al. 1997. ASE-1: a novel protein of the fibrillar centres of the nucleolus and nucleolus organizer region of mitotic chromosomes. Chromosoma 106: 493-502.
2. Yamazaki, T., et al. 1999. CAST, a novel CD3ε-binding protein transducing activation signal for interleukin-2 production in T cells. J. Biol. Chem. 274: 18173-18180.
3. Yamamoto, K., et al. 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.
4. 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/
5. Vogel, U., et al. 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.
6. Panov, K.I., et al. 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.
7. Vogel, U., et al. 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 (human) mapping to 19q13.32; Cd3eap (mouse) mapping to 7 A3.

SOURCE

CD3EAP (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CD3EAP of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82549 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-82549 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD3EAP (N-17) is recommended for detection of CD3EAP of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other CD3 family members.

CD3EAP (N-17) is also recommended for detection of CD3EAP in additional species, including equine, canine, bovine and porcine.

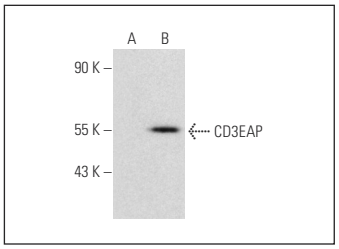
Suitable for use as control antibody for CD3EAP siRNA (h): sc-72829, CD3EAP siRNA (m): sc-72830, CD3EAP shRNA Plasmid (h): sc-72829-SH, CD3EAP shRNA Plasmid (m): sc-72830-SH, CD3EAP shRNA (h) Lentiviral Particles: sc-72829-V and CD3EAP shRNA (m) Lentiviral Particles: sc-72830-V.

CD3EAP (N-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CD3EAP: 49 kDa.

Positive Controls: CD3EAP (m2): 293T Lysate: sc-126605.

DATA



CD3EAP (N-17): sc-82549. Western blot analysis of CD3EAP expression in non-transfected: sc-117752 (**A**) and mouse CD3EAP transfected: sc-126605 (**B**) 293T whole cell lysates.

RESEARCH USE

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