

# CD3EAP (A-4): sc-393106

## 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 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., 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.
- 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.
- 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.
- 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., 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.
- 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.
- 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 (mouse) mapping to 7 A3.

## SOURCE

CD3EAP (A-4) is a mouse monoclonal antibody raised against amino acids 1-240 mapping at the N-terminus of CD3EAP of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain 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-393106 X, 200 µg/0.1 ml.

## APPLICATIONS

CD3EAP (A-4) is recommended for detection of CD3EAP of mouse 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 CD3EAP siRNA (m): sc-72830, CD3EAP shRNA Plasmid (m): sc-72830-SH and CD3EAP shRNA (m) Lentiviral Particles: sc-72830-V.

CD3EAP (A-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

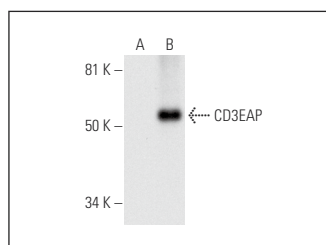
Molecular Weight of CD3EAP: 49 kDa.

Positive Controls: CD3EAP (m2): 293T Lysate: sc-126605 or Neuro-2A whole cell lysate: sc-364185.

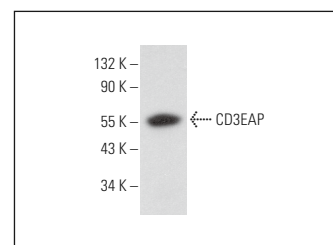
## RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CD3EAP (A-4): sc-393106. Western blot analysis of CD3EAP expression in non-transfected: sc-117752 (A) and mouse CD3EAP transfected: sc-126605 (B) 293T whole cell lysates.



CD3EAP (A-4): sc-393106. Western blot analysis of CD3EAP expression in Neuro-2A whole cell lysate.

## 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.