

# CD3EAP (A-9): sc-393818

## 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., 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 CD3 $\epsilon$ -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.

## CHROMOSOMAL LOCATION

Genetic locus: CD3EAP (human) mapping to 19q13.32; Cd3eap (mouse) mapping to 7 A3.

## SOURCE

CD3EAP (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 27-52 near the N-terminus of CD3EAP of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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-393818 X, 200  $\mu$ g/0.1 ml.

CD3EAP (A-9) is available conjugated to agarose (sc-393818 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393818 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393818 PE), fluorescein (sc-393818 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393818 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393818 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393818 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393818 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393818 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393818 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393818 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

CD3EAP (A-9) is recommended for detection of CD3EAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

CD3EAP (A-9) is also recommended for detection of CD3EAP in additional species, including 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 (A-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

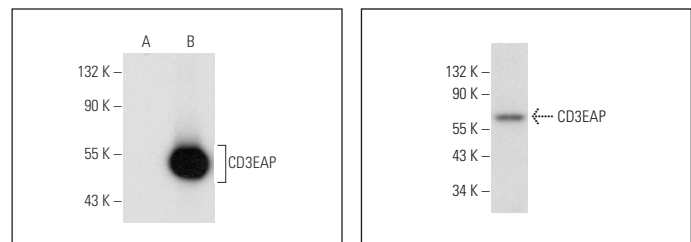
Molecular Weight of CD3EAP: 49 kDa.

Positive Controls: CD3EAP (m2): 293T Lysate: sc-126605 or KNRK nuclear extract: sc-2141.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## 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 (A-9): sc-393818. Western blot analysis of CD3EAP expression in KNRK nuclear extract.

## 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.