

# CapZ- $\alpha$ (C-1): sc-374303

## BACKGROUND

The F-Actin family of capping proteins includes CapZ- $\alpha$ 1, CapZ- $\alpha$ 2, CapZ- $\alpha$ 3 and CapZ- $\beta$ 3, all of which function in a calcium-dependent manner and bind to the fast growing barbed end of Actin filaments, thereby blocking protein exchange at these ends. The F-Actin capping protein complex is a heterodimer consisting of  $\alpha$  and  $\beta$  subunits that caps the barbed ends of Actin filaments and nucleates the polymerization of Actin monomers, yet does not sever Actin filaments. CapZ- $\alpha$ 1, also known as F-Actin-capping protein subunit  $\alpha$ -1, is a 286 amino acid subunit of the heterodimer that forms the F-Actin capping protein complex. CapZ- $\alpha$ 1 also has been shown to bind S-100  $\beta$  chain, a signaling molecule involved in the calcium-sensitive assembly of intermediate filaments that has been linked to Alzheimer's disease.

## REFERENCES

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- Inman, K.G., et al. 2002. Solution NMR structure of S100B bound to the high-affinity target peptide TRTK-12. *J. Mol. Biol.* 324: 1003-1014.
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- Huang, S., et al. 2003. *Arabidopsis* capping protein (AtCP) is a heterodimer that regulates assembly at the barbed ends of Actin filaments. *J. Biol. Chem.* 278: 44832-44842.
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- Cooper, J.A., et al. 2008. New insights into mechanism and regulation of Actin capping protein. *Int. Rev. Cell Mol. Biol.* 267: 183-206.

## CHROMOSOMAL LOCATION

Genetic locus: CAPZA1 (human) mapping to 1p13.2, CAPZA2 (human) mapping to 7q31.2; Capza1 (mouse) mapping to 3 F2.2, Capza2 (mouse) mapping to 6 A2.

## SOURCE

CapZ- $\alpha$  (C-1) is a mouse monoclonal antibody raised against amino acids 157-286 mapping at the C-terminus of CapZ- $\alpha$ 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CapZ- $\alpha$  (C-1) is recommended for detection of CapZ- $\alpha$ 1 and CapZ- $\alpha$ 2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

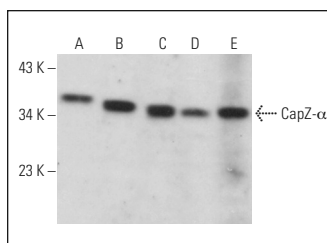
Molecular Weight of CapZ- $\alpha$ : 36 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, BYDP whole cell lysate: sc-364368 or Jurkat whole cell lysate: sc-2204.

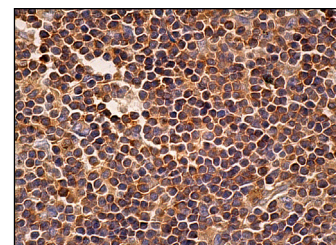
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CapZ- $\alpha$  (C-1): sc-374303. Western blot analysis of CapZ- $\alpha$  expression in Jurkat (A), CCRF-CEM (B), BYDP (C) and 3611-RF (D) whole cell lysates and rat thymus tissue extract (E).



CapZ- $\alpha$  (C-1): sc-374303. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers.

## 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.