

CapZ- α (H-9): sc-374302

BACKGROUND

The F-Actin family of capping proteins includes CapZ- α 1, CapZ- α 2, CapZ- α 3 and CapZ- β 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 α and β subunits that caps the barbed ends of Actin filaments and nucleates the polymerization of Actin monomers, yet does not sever Actin filaments. CapZ- α 1, also known as F-Actin-capping protein subunit α -1, is a 286 amino acid subunit of the heterodimer that forms the F-Actin capping protein complex. CapZ- α 1 also has been shown to bind S-100 β chain, a signaling molecule involved in the calcium-sensitive assembly of intermediate filaments that has been linked to Alzheimer's disease.

REFERENCES

1. Casella, J.F., et al. 1994. Interaction of CapZ with Actin. The NH₂-terminal domains of the α 1 and β subunits are not required for Actin capping, and α 1 β and α 2 β heterodimers bind differentially to Actin. *J. Biol. Chem.* 269: 6992-6998.
2. Hart, M.C., et al. 1997. Vertebrates have conserved capping protein α isoforms with specific expression patterns. *Cell Motil. Cytoskeleton* 38: 120-132.
3. 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.
4. Wear, M.A., et al. 2003. How capping protein binds the barbed end of the Actin filament. *Curr. Biol.* 13: 1531-1537.
5. Hutchings, N.J., et al. 2003. Linking the T cell surface protein CD2 to the Actin-capping protein CapZ via CMS and CIN85. *J. Biol. Chem.* 278: 22396-22403.

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- α (H-9) is a mouse monoclonal antibody raised against amino acids 157-286 mapping at the C-terminus of CapZ- α 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CapZ- α (H-9) is available conjugated to agarose (sc-374302 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374302 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374302 PE), fluorescein (sc-374302 FITC), Alexa Fluor® 488 (sc-374302 AF488), Alexa Fluor® 546 (sc-374302 AF546), Alexa Fluor® 594 (sc-374302 AF594) or Alexa Fluor® 647 (sc-374302 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374302 AF680) or Alexa Fluor® 790 (sc-374302 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CapZ- α (H-9) is recommended for detection of CapZ- α 1 and CapZ- α 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

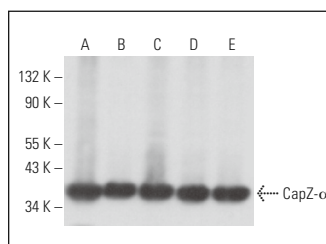
Molecular Weight of CapZ- α : 36 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, A-10 cell lysate: sc-3806 or RAW 264.7 whole cell lysate: sc-2211.

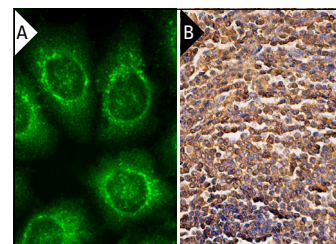
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CapZ- α (H-9): sc-374302. Western blot analysis of CapZ- α expression in T24 (A), 3T3-L1 (B), RAW 264.7 (C), A-10 (D) and RPE-J (E) whole cell lysates.



CapZ- α (H-9): sc-374302. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white and red pulps (B).

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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