SANTA CRUZ BIOTECHNOLOGY, INC.

CapZ-α1 (2): sc-130309

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The F-Actin family of capping proteins includes CapZ-α1, CapZ-α2, CapZ-α3 and CapZ-β3, 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-α1, also known as F-Actin-capping protein subunit α1, is a 286 amino acid subunit of the heterodimer that forms the F-Actin capping protein complex. CapZ-α1 also has been shown to bind S-100 β chain, a signaling molecule involved in the calcium-sensitive assembly of intermediate filaments and has been linked to Alzheimer's disease.

REFERENCES

1. Casella, J.F. and Torres, M.A. 1994. Interaction of CapZ with actin. The NH_2-terminal domains of the α1 and β subunits are not required for actin capping, and α1β and α2β 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.

CHROMOSOMAL LOCATION

Genetic locus: CAPZA1 (human) mapping to 1p13.2; Capza1 (mouse) mapping to 3 F2.2.

SOURCE

CapZ-α1 (2) is a mouse monoclonal antibody raised against recombinant CapZ-α1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CapZ-α1 (2) is available conjugated to agarose (sc-130309 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-130309 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130309 PE), fluorescein (sc-130309 FITC), Alexa Fluor® 488 (sc-130309 AF488), Alexa Fluor® 546 (sc-130309 AF546), Alexa Fluor® 594 (sc-130309 AF594) or Alexa Fluor® 647 (sc-130309 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130309 AF680) or Alexa Fluor® 790 (sc-130309 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

CapZ-α1 (2) is recommended for detection of CapZ-α1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CapZ-α1 siRNA (h): sc-72787, CapZ-α1 siRNA (m): sc-72788, CapZ-α1 shRNA Plasmid (h): sc-72787-SH, CapZ-α1 shRNA Plasmid (m): sc-72788-SH, CapZ-α1 shRNA (h) Lentiviral Particles: sc-72787-V and CapZ-α1 shRNA (m) Lentiviral Particles: sc-72788-V.

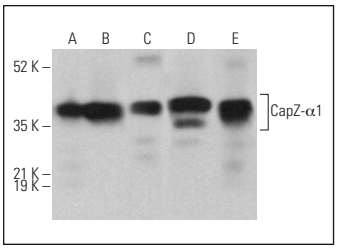
Molecular Weight of CapZ-α1: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CCRF-CEM cell lysate: sc-2225 or SP2/0 whole cell lysate: sc-364795.

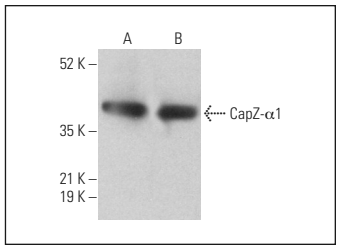
RECOMMENDED SUPPORT REAGENTS

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).

DATA



CapZ-α1 (2): sc-130309. Western blot analysis of CapZ-α1 expression in Jurkat (**A**), CCRF-CEM (**B**), SP2/0 (**C**) and 3611-RF (**D**) whole cell lysates and rat placenta tissue extract (**E**).



CapZ-α1 (2): sc-130309. Western blot analysis of CapZ-α1 expression in HeLa (**A**) and TK-1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lee, S.K., et al. 2009. Differential expression of cell surface proteins in human bone marrow mesenchymal stem cells cultured with or without basic fibroblast growth factor containing medium. Proteomics 9: 4389-4405.
2. Bior, B.K. and Ballif, B.A. 2013. Dab1 stabilizes its interaction with Cin85 by suppressing Cin85 phosphorylation at serine 587. FEBS Lett. 587: 60-66.

STORAGE

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