

# CapZ- $\beta$ (52): sc-136502

## BACKGROUND

CapZ- $\beta$  (capping protein (Actin filament) muscle Z-line,  $\beta$ ) gene encodes the  $\beta$  subunit of a barbed-end F-Actin capping protein complex. This protein complex regulates growth of the Actin filament by capping the barbed end of growing Actin filaments. 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. Capping protein binds to the barbed ends of Actin filaments and prevents the addition and loss of Actin monomers at the end.

## REFERENCES

- Barron-Casella, E.A., et al. 1995. Sequence analysis and chromosomal localization of human CapZ. Conserved residues within the Actin-binding domain may link CapZ to Gelsolin/severin and Profilin protein families. *J. Biol. Chem.* 270: 21472-21479.
- Ivanenkov, V.V., et al. 1996. Interaction of S100a0 protein with the Actin capping protein, CapZ: characterization of a putative S100a0 binding site in CapZ- $\alpha$ -subunit. *Biochem. Biophys. Res. Commun.* 221: 46-50.
- Yamashita, A., et al. 2003. Crystal structure of CapZ: structural basis for Actin filament barbed end capping. *EMBO J.* 22: 1529-1538.
- 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.
- McGregor, E., et al. 2004. F-Actin capping (CapZ) and other contractile saphenous vein smooth muscle proteins are altered by hemodynamic stress: a proteomic approach. *Mol. Cell. Proteomics* 3: 115-124.
- Ponsuksili, S., et al. 2009. Porcine muscle sensory attributes associate with major changes in gene networks involving CAPZB, ANKRD1, and CtBP2. *Funct. Integr. Genomics* 9: 455-471.

## CHROMOSOMAL LOCATION

Genetic locus: CAPZB (human) mapping to 1p36.13; Capzb (mouse) mapping to 4 D3.

## SOURCE

CapZ- $\beta$  (52) is a mouse monoclonal antibody raised against amino acids 162-267 of CapZ- $\beta$  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.

CapZ- $\beta$  (52) is available conjugated to agarose (sc-136502 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136502 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA.

## STORAGE

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

## APPLICATIONS

CapZ- $\beta$  (52) is recommended for detection of CapZ- $\beta$  isoforms 1 and 2 of mouse, rat, human, canine and avian origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for CapZ- $\beta$  siRNA (h): sc-43661, CapZ- $\beta$  siRNA (m): sc-45351, CapZ- $\beta$  shRNA Plasmid (h): sc-43661-SH, CapZ- $\beta$  shRNA Plasmid (m): sc-45351-SH, CapZ- $\beta$  shRNA (h) Lentiviral Particles: sc-43661-V and CapZ- $\beta$  shRNA (m) Lentiviral Particles: sc-45351-V.

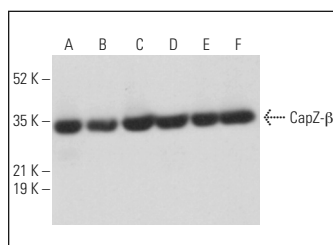
Molecular Weight of CapZ- $\beta$ : 31 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

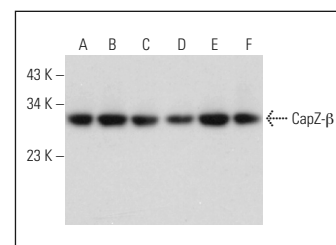
## RECOMMENDED SUPPORT REAGENTS

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).

## DATA



CapZ- $\beta$  (52): sc-136502. Western blot analysis of CapZ- $\beta$  expression in HeLa (A), HL-60 (B), MOLT-4 (C), A549 (D), Hep G2 (E) and K-562 (F) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.



CapZ- $\beta$  (52): sc-136502. Western blot analysis of CapZ- $\beta$  expression in HeLa (A), NIH/3T3 (B), 3T3-L1 (C), M1 (D) and Neuro-2A (E) whole cell lysates and rat brain tissue extract (F).

## SELECT PRODUCT CITATIONS

- Dürre, K., et al. 2018. Capping protein-controlled Actin polymerization shapes lipid membranes. *Nat. Commun.* 9: 1630.
- Saito, K., et al. 2020. Conformational diversity of Dynactin sidearm and domain organization of its subunit p150. *Mol. Biol. Cell* 31: 1218-1231.
- Ray, S., et al. 2022. Functional requirements for a Samd14-capping protein complex in stress erythropoiesis. *Elife* 11: e76497.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.