SANTA CRUZ BIOTECHNOLOGY, INC.

CAP2 (A-5): sc-377471

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclase-associated proteins (CAPs) are a family of evolutionary conserved proteins that participate in signal transduction and function to regulate events associated with the Actin cytoskeleton. CAP1 and CAP2 (adenylate cyclase-associated protein 1 and 2, respectively) are two members of the CAP family, both of which localize to the cell membrane and contain one C-CAP/cofactor C-like domain. CAP1 is involved in the regulation of Actin filaments and is thought to mediate processes such as establishment of cell polarity and mRNA localization, while CAP2 has a bifunctional regulatory role and can interact directly with Actin. Although CAP1 is expressed throughout the body, CAP2 is predominately expressed in skin, brain, heart and skeletal muscle. Overexpression of CAP2 is associated with hepatocellular carcinoma, suggesting a possible role for CAP2 in carcinogenesis.

REFERENCES

1. Matviw, H., et al. 1992. Identification of a human cDNA encoding a protein that is structurally and functionally related to the yeast adenylyl cyclase-associated CAP proteins. Mol. Cell. Biol. 12: 5033-5040.
2. Yu, G., et al. 1994. Comparison of human CAP and CAP2, homologs of the yeast adenylyl cyclase-associated proteins. J. Cell Sci. 107: 1671-1678.
3. Hubberstey, A., et al. 1996. Mammalian CAP interacts with CAP, CAP2, and Actin. J. Cell. Biochem. 61: 459-466.
4. Moriyama, K. and Yahara, I. 2002. Human CAP1 is a key factor in the recycling of Cofilin and Actin for rapid Actin turnover. J. Cell Sci. 115: 1591-1601.

CHROMOSOMAL LOCATION

Genetic locus: CAP2 (human) mapping to 6p22.3; Cap2 (mouse) mapping to 13 A5.

SOURCE

CAP2 (A-5) is a mouse monoclonal antibody raised against amino acids 77-121 mapping near the N-terminus of CAP2 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.

CAP2 (A-5) is available conjugated to agarose (sc-377471 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377471 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377471 PE), fluorescein (sc-377471 FITC), Alexa Fluor® 488 (sc-377471 AF488), Alexa Fluor® 546 (sc-377471 AF546), Alexa Fluor® 594 (sc-377471 AF594) or Alexa Fluor® 647 (sc-377471 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377471 AF680) or Alexa Fluor® 790 (sc-377471 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CAP2 (A-5) is recommended for detection of CAP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for CAP2 siRNA (h): sc-95443, CAP2 siRNA (m): sc-142002, CAP2 shRNA Plasmid (h): sc-95443-SH, CAP2 shRNA Plasmid (m): sc-142002-SH, CAP2 shRNA (h) Lentiviral Particles: sc-95443-V and CAP2 shRNA (m) Lentiviral Particles: sc-142002-V.

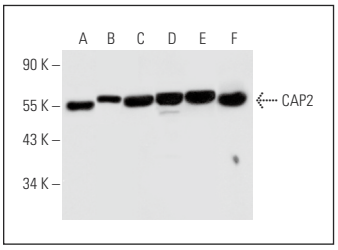
Molecular Weight of CAP2: 53 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, Saos-2 cell lysate: sc-2235 or A-673 cell lysate: sc-2414.

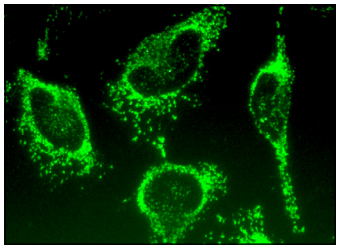
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CAP2 (A-5): sc-377471. Western blot analysis of CAP2 expression in SH-SY5Y (**A**), Saos-2 (**B**), A-673 (**C**), PC-3 (**D**) and U-698-M (**E**) whole cell lysates and human kidney tissue extract (**F**).



CAP2 (A-5): sc-377471. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Purde, V., et al. 2019. Oligomerization affects the ability of human cyclase-associated proteins 1 and 2 to promote Actin severing by cofilins. Int. J. Mol. Sci. 20: 5647.

RESEARCH USE

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