

CAP2 (K-15): sc-167380

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

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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., et al. 2002. Human CAP1 is a key factor in the recycling of cofilin and actin for rapid actin turnover. *J. Cell Sci.* 115: 1591-1601.
5. Dodatko, T., et al. 2004. Crystal structure of the actin binding domain of the cyclase-associated protein. *Biochemistry* 43: 10628-10641.
6. Bertling, E., et al. 2004. Cyclase-associated protein 1 (CAP1) promotes cofilin-induced actin dynamics in mammalian nonmuscle cells. *Mol. Biol. Cell* 15: 2324-2334.
7. Shibata, R., et al. 2006. Overexpression of cyclase-associated protein 2 in multistage hepatocarcinogenesis. *Clin. Cancer Res.* 12: 5363-5368.
8. Peche, V., et al. 2007. CAP2, cyclase-associated protein 2, is a dual compartment protein. *Cell. Mol. Life Sci.* 64: 2702-2715.

CHROMOSOMAL LOCATION

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

SOURCE

CAP2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CAP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167380 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CAP2 (K-15) is recommended for detection of CAP2 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)], 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); non cross-reactive with CAP1.

CAP2 (K-15) is also recommended for detection of CAP2 in additional species, including equine, canine, bovine, porcine and avian.

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.

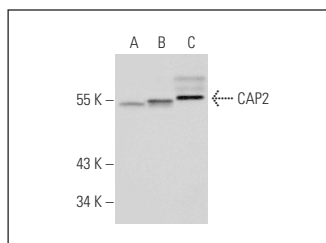
Molecular Weight of CAP2: 53 kDa.

Positive Controls: Saos-2 cell lysate: sc-2235, A-673 cell lysate: sc-2414 or mouse heart extract: sc-2254.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CAP2 (K-15): sc-167380. Western blot analysis of CAP2 expression in Saos-2 (A) and A-673 (B) whole cell lysates and mouse heart tissue extract (C).

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.