

CAP1 (E-4): sc-376191

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.

CHROMOSOMAL LOCATION

Genetic locus: CAP1 (human) mapping to 1p34.2.

SOURCE

CAP1 (E-4) is a mouse monoclonal antibody raised against amino acids 14-74 mapping near the N-terminus of CAP1 of human origin.

PRODUCT

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

CAP1 (E-4) is available conjugated to agarose (sc-376191 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376191 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376191 PE), fluorescein (sc-376191 FITC), Alexa Fluor® 488 (sc-376191 AF488), Alexa Fluor® 546 (sc-376191 AF546), Alexa Fluor® 594 (sc-376191 AF594) or Alexa Fluor® 647 (sc-376191 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376191 AF680) or Alexa Fluor® 790 (sc-376191 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

CAP1 (E-4) is recommended for detection of CAP1 of 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), 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).

Suitable for use as control antibody for CAP1 siRNA (h): sc-88068, CAP1 shRNA Plasmid (h): sc-88068-SH and CAP1 shRNA (h) Lentiviral Particles: sc-88068-V.

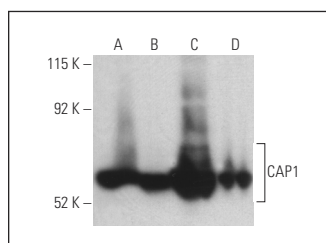
Molecular Weight of CAP1: 52 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

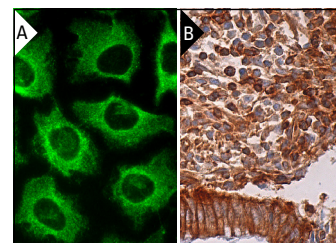
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CAP1 (E-4): sc-376191. Western blot analysis of CAP1 expression in HeLa (A), HL-60 (B), THP-1 (C) and A-431 (D) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



CAP1 (E-4): sc-376191. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and membrane staining of lymphoid and glandular cells (B).

SELECT PRODUCT CITATIONS

- Yu, X.F., et al. 2014. Knocking down the expression of adenylate cyclase-associated protein 1 inhibits the proliferation and migration of breast cancer cells. *Exp. Mol. Pathol.* 96: 188-194.
- Aspit, L., et al. 2019. CAP2 mutation leads to impaired Actin dynamics and associates with supraventricular tachycardia and dilated cardiomyopathy. *J. Med. Genet.* 56: 228-235.

STORAGE

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

PROTOCOLS

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

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