

CAP1 (H-2): sc-376286



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.

CHROMOSOMAL LOCATION

Genetic locus: CAP1 (human) mapping to 1p34.2; Cap1 (mouse) mapping to 4 D2.2.

SOURCE

CAP1 (H-2) 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 IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CAP1 (H-2) is available conjugated to agarose (sc-376286 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376286 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376286 PE), fluorescein (sc-376286 FITC), Alexa Fluor® 488 (sc-376286 AF488), Alexa Fluor® 546 (sc-376286 AF546), Alexa Fluor® 594 (sc-376286 AF594) or Alexa Fluor® 647 (sc-376286 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376286 AF680) or Alexa Fluor® 790 (sc-376286 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CAP1 (H-2) is recommended for detection of CAP1 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), 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 siRNA (m): sc-142001, CAP1 shRNA Plasmid (h): sc-88068-SH, CAP1 shRNA Plasmid (m): sc-142001-SH, CAP1 shRNA (h) Lentiviral Particles: sc-88068-V and CAP1 shRNA (m) Lentiviral Particles: sc-142001-V.

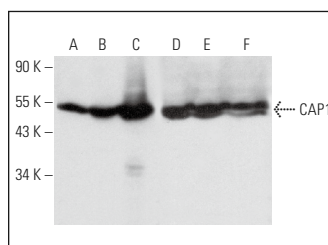
Molecular Weight of CAP1: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or THP-1 cell lysate: sc-2238.

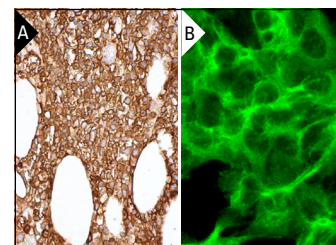
RECOMMENDED SUPPORT REAGENTS

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 (H-2): sc-376286. Western blot analysis of CAP1 expression in HeLa (A), HL-60 (B), THP-1 (C), NIH/3T3 (D), RAW 264.7 (E) and NRK (F) whole cell lysates.



CAP1 (H-2): sc-376286. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and membrane staining of hematopoietic cells (A). Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and membrane localization (B).

SELECT PRODUCT CITATIONS

1. Zhang, H., et al. 2014. The expression of CAP1 after traumatic brain injury and its role in astrocyte proliferation. *J. Mol. Neurosci.* 54: 653-663.
2. Hua, M., et al. 2015. CAP1 is overexpressed in human epithelial ovarian cancer and promotes cell proliferation. *Int. J. Mol. Med.* 35: 941-949.
3. Germany, C.E., et al. 2018. Pharmacoproteomics profile in response to acamprosate treatment of an alcoholism animal model. *Proteomics* 18: e1700417.
4. Singh, A.K., et al. 2022. MiRNA mediated downregulation of cyclase-associated protein 1 (CAP1) is required for myoblast fusion. *Front. Cell Dev. Biol.* 10: 899917.
5. Ramsey, A., et al. 2023. CAP1 (cyclase-associated protein 1) mediates the cyclic AMP signals that activate Rap1 in stimulating matrix adhesion of colon cancer cells. *Cell. Signal.* 104: 110589.

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.