

CMPK (H-2): sc-376153

BACKGROUND

Nucleoside monophosphate kinases are required for pharmacological activation of therapeutic nucleosides and nucleotide analogs. CMPK (cytidine monophosphate kinase), also known as UMP-CMP kinase and deoxycytidylate kinase, is a 196 amino acid protein that catalyzes the phosphoryl transfer from ATP to UMP, CMP and dCMP. This enzymatic reaction leads to the formation of ADP and the corresponding nucleoside diphosphate, which are required for cellular nucleic acid synthesis. Primarily localized to the cytoplasm, CMPK also plays an important role in the activation of pyrimidine analogs, which is clinically useful anti-cancer and anti-viral drugs. CMP is the best substrate for CMPK, followed by UMP and dCMP.

CHROMOSOMAL LOCATION

Genetic locus: CMPK1 (human) mapping to 1p33; Cmpk1 (mouse) mapping to 4 D1.

SOURCE

CMPK (H-2) is a mouse monoclonal antibody raised against amino acids 92-196 mapping at the C-terminus of CMPK 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.

CMPK (H-2) is available conjugated to agarose (sc-376153 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376153 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376153 PE), fluorescein (sc-376153 FITC), Alexa Fluor® 488 (sc-376153 AF488), Alexa Fluor® 546 (sc-376153 AF546), Alexa Fluor® 594 (sc-376153 AF594) or Alexa Fluor® 647 (sc-376153 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376153 AF680) or Alexa Fluor® 790 (sc-376153 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CMPK (H-2) is recommended for detection of CMPK 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).

CMPK (H-2) is also recommended for detection of CMPK in additional species, including porcine and canine.

Suitable for use as control antibody for CMPK siRNA (h): sc-88593, CMPK siRNA (m): sc-105219, CMPK shRNA Plasmid (h): sc-88593-SH, CMPK shRNA Plasmid (m): sc-105219-SH, CMPK shRNA (h) Lentiviral Particles: sc-88593-V and CMPK shRNA (m) Lentiviral Particles: sc-105219-V.

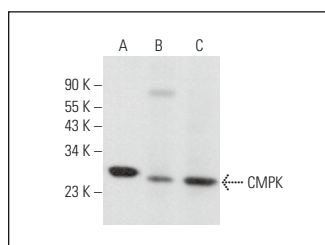
Molecular Weight of CMPK: 26 kDa.

Positive Controls: CMPK (h): 293T Lysate: sc-170057, rat kidney extract: sc-2394 or U-251-MG whole cell lysate: sc-364176.

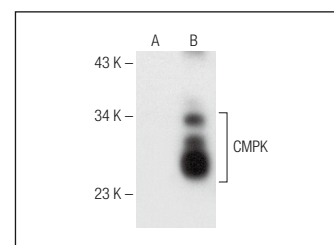
RECOMMENDED SUPPORT REAGENTS

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



CMPK (H-2): sc-376153. Western blot analysis of CMPK expression in U-251-MG whole cell lysate (A) and rat colon (B) and rat kidney (C) tissue extracts.



CMPK (H-2): sc-376153. Western blot analysis of CMPK expression in non-transfected: sc-117752 (A) and human CMPK transfected: sc-170057 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dhillon, P. and Durga Rao, C. 2018. Rotavirus induces formation of remodeled stress granules and P-bodies and their sequestration in viroplasm to promote progeny virus production. J. Virol. 92: e01363-18.
2. Ma, Y., et al. 2021. Temporal quantitative profiling of newly synthesized proteins during Aβ accumulation. J. Proteome Res. 20: 763-775.

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.

PROTOCOLS

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