SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-M (B-7): sc-398754

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

During mitosis, the transient assembly of the kinetochore occurs on a platform known as the centromere, a specialized chromatin structure that is comprised of various centromere proteins (CENPs). There are two multi-protein centromere complexes, known as CENPA-NAC (nucleosome-associated) and CENPA-CAD (nucleosome distal), which interact with one another to facilitate both the assembly and the activity of the centromere. CENP-M (centromere protein M), also known as CENPM, ICEN39 or PANE1, is a 180 amino acid centromeric protein that localizes to the nucleus in non-confluent cells and to the cytoplasm in dividing or confluent cells. One of several components of the CENPA-NAC complex, CENP-M plays a crucial role in the assembly of the kinetochore and the subsequent chromosome segregation and progression through mitosis. Additionally, CENP-M is thought to be involved in the incorporation of newly synthesized CENP-A into centromeres. Three isoforms of CENP-M exist due to alternative splicing events. Isoform 3 is expressed in B-lineage chronic lymphocytic leukemia (B-CLL) cells, suggesting a possible role in carcinogenesis.

CHROMOSOMAL LOCATION

Genetic locus: CENPM (human) mapping to 22q13.2; Cenpm (mouse) mapping to 15 E1.

SOURCE

CENP-M (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-27 at the N-terminus of CENP-M of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CENP-M (B-7) is available conjugated to agarose (sc-398754 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398754 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398754 PE), fluorescein (sc-398754 FITC), Alexa Fluor® 488 (sc-398754 AF488), Alexa Fluor® 546 (sc-398754 AF546), Alexa Fluor® 594 (sc-398754 AF594) or Alexa Fluor® 647 (sc-398754 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398754 AF680) or Alexa Fluor® 790 (sc-398754 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398754 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

CENP-M (B-7) is recommended for detection of CENP-M 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 CENP-M siRNA (h): sc-72859, CENP-M siRNA (m): sc-142266, CENP-M shRNA Plasmid (h): sc-72859-SH, CENP-M shRNA Plasmid (m): sc-142266-SH, CENP-M shRNA (h) Lentiviral Particles: sc-72859-V and CENP-M shRNA (m) Lentiviral Particles: sc-142266-V.

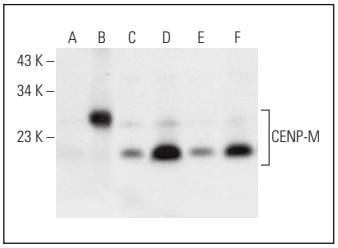
Molecular Weight of CENP-M: 20 kDa.

Positive Controls: CENP-M (h): 293T Lysate: sc-369169, K-562 whole cell lysate: sc-2203 or HT-1080 whole cell lysate: sc-364183.

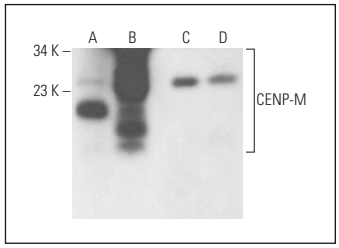
RECOMMENDED SUPPORT REAGENTS

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



CENP-M (B-7): sc-398754. Western blot analysis of CENP-M expression in non-transfected 293T: sc-117752 (**A**), human CENP-M transfected 293T: sc-369169 (**B**), K-562 (**C**), Ramos (**D**), HT-1080 (**E**) and MOLT-4 (**F**) whole cell lysates.



CENP-M (B-7): sc-398754. Western blot analysis of CENP-M expression in Ramos (**A**), Raji (**B**), RAW 264.7 (**C**) and TK-1 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wei, J., et al. 2022. Geranylgeranylation signaling promotes breast cancer cell mitosis via the YAP-activated transcription of kinetochore/centromere genes. Am. J. Cancer Res. 12: 1143-1155.

RESEARCH USE

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