

CdcA1 (E-6): sc-271251

BACKGROUND

Kinetochore play an essential role in chromosome segregation by forming dynamic connections with spindle microtubules. Cell division associated 1 (CdcA1) is a member of the evolutionarily conserved centromere protein complex along with kinetochore associated 2 (KNTC2), and these two proteins are involved in the regulation of cell-cycle progression. The novel human cell cycle genes CdcA1 through CdcA8 are co-expressed with the well-known cell cycle genes including Cdc2, Cdc7, Cdc23, cyclin and MCAK. Both CdcA1 and KNTC2 are implicated in non-small cell lung carcinomas (NSCLC), and selective suppression of CdcA1 or KNTC2 activity and/or inhibition of the CdcA1-KNTC2 complex formation may be a promising therapeutic target for treatment of lung cancers.

CHROMOSOMAL LOCATION

Genetic locus: NUF2 (human) mapping to 1q23.3.

SOURCE

CdcA1 (E-6) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of CdcA1 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.

CdcA1 (E-6) is available conjugated to agarose (sc-271251 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271251 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271251 PE), fluorescein (sc-271251 FITC), Alexa Fluor® 488 (sc-271251 AF488), Alexa Fluor® 546 (sc-271251 AF546), Alexa Fluor® 594 (sc-271251 AF594) or Alexa Fluor® 647 (sc-271251 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271251 AF680) or Alexa Fluor® 790 (sc-271251 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

CdcA1 (E-6) is recommended for detection of CdcA1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CdcA1 siRNA (h): sc-72839, CdcA1 shRNA Plasmid (h): sc-72839-SH and CdcA1 shRNA (h) Lentiviral Particles: sc-72839-V.

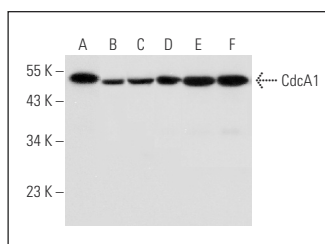
Molecular Weight of CdcA1: 53 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Hep G2 cell lysate: sc-2227 or PC-3 cell lysate: sc-2220.

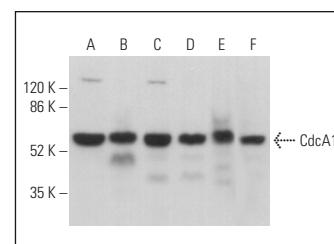
RECOMMENDED SUPPORT REAGENTS

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



CdcA1 (E-6): sc-271251. Western blot analysis of CdcA1 expression in HEK293 (A), PC-3 (B) and Hep G2 (C) whole cell lysates and HeLa (D), Jurkat (E) and K-562 (F) nuclear extracts.



CdcA1 (E-6): sc-271251. Western blot analysis of CdcA1 expression in Jurkat (A), T24 (B), A-431 (C), HEK293 (D), HeLa (E) and Hep G2 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Brobeil, A., et al. 2012. Interaction of PTIP51 with Tubulin, CGI-99 and Nuf2 during cell cycle progression. *Biomolecules* 2: 122-142.
2. Sugimasa, H., et al. 2015. Heterogeneous nuclear ribonucleoprotein K upregulates the kinetochore complex component NUF2 and promotes the tumorigenicity of colon cancer cells. *Biochem. Biophys. Res. Commun.* 459: 29-35.
3. Chhetri, J.B., et al. 2018. Generation of a cancer testis antigen mCherry reporter HCT116 colorectal carcinoma cell line. *Heliyon* 4: e00858.
4. Dietel, E., et al. 2019. Crosstalks of the PTIP51 interactome revealed in Her2 amplified breast cancer cells by the novel small molecule LDC3/Dynarrestin. *PLoS ONE* 14: e0216642.
5. Kucharski, T.J., et al. 2022. Small changes in phospho-occupancy at the kinetochore-microtubule interface drive mitotic fidelity. *J. Cell Biol.* 221: e202107107.

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.