

CDCA2 (D7T4P) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H Mk	Endogenous	140-150	Rabbit IgG	#Q69YH5	157313

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

CDCA2 (D7T4P) Rabbit mAb recognizes endogenous levels of total CDCA2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr50 of human CDCA2 protein.

Background

Cell division cycle associated 2 (CDCA2, Repo-Man) is a cell-cycle protein that recruits protein phosphatase 1 (PP1) to mitotic chromatin at anaphase onset, which is essential for cell proliferation (1). Carboxy-terminal phosphorylation of CDCA2 at Ser893 by Aurora B inhibits the protein and leads to diffuse localization during prometaphase and metaphase. Dephosphorylation of CDCA2 by PP2A is necessary for CDCA2/PP1 complex reformation (2). The CDCA2/PP1 complex is required for chromatin binding and dephosphorylation of histone H3 at Thr3, Ser10, and Ser28 (2-4). The CDCA2/PP1 complex is also involved in nuclear envelope reformation during mitotic exit for proper progression through the M/G1 transition (4). The interaction of CDCA2 with importin beta and Nup153, which is required for nuclear envelope formation, is negatively regulated by CDK phosphorylation of the amino-terminal domain of CDCA2 (5). CDCA2 may play a role in DNA repair as the release of CDCA2 from chromatin at sites of DNA damage promotes the activation of DNA damage response (6). These results imply that the CDCA2/PP1 complex may play a part in cancer progression. Research studies indicate that CDCA2 may serve as a prognostic marker, as increased CDCA2 expression is seen in a number of cancers, including melanoma, neuroblastoma tumors, squamous cell carcinoma, and synovial sarcomas (7-9).

Background References

1. Trinkle-Mulcahy, L. et al. (2006) *J Cell Biol* 172, 679-92.
2. Qian, J. et al. (2013) *Curr Biol* 23, 1136-43.
3. Adams, R.R. et al. (2001) *J Cell Biol* 153, 865-80.
4. Vagnarelli, P. et al. (2011) *Dev Cell* 21, 328-42.
5. Vagnarelli, P. and Earnshaw, W.C. (2012) *Nucleus* 3, 138-42.
6. Peng, A. et al. (2010) *Curr Biol* 20, 387-96.
7. Vagnarelli, P. (2014) *Adv Exp Med Biol* 773, 401-14.
8. Uchida, F. et al. (2013) *PLoS One* 8, e56381.
9. Lagarde, P. et al. (2013) *J Clin Oncol* 31, 608-15.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **Mk:** Monkey

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