CINP (m2): 293T Lysate: sc-119267



The Power to Questio

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). Cdk proteins work in concert with the cyclins to phosphorylate key substrates involved in each phase of cell cycle progression. Specifically, Cdk2 interacts with cyclins A, B1, B3, D, or E to control cell cycle progression. The cyclin-dependent kinase 2-interacting protein (CINP) interacts with components of the replication complex and Cdk2 and Cdc7, thereby providing a functional and physical link between Cdk2 and Cdc7 during firing of the origins of replication. However, CINP is phopshorylated by Cdc7, but not by Cdk2. CINP also interacts with ATR-interacting protein and regulates ATR-dependent signaling, resistance to replication stress and $\rm G_2$ checkpoint integrity.

REFERENCES

- Hengstschläger, M., Braun, K., Soucek, T., Miloloza, A. and Hengstschläger-Ottnad, E. 1999. Cyclin-dependent kinases at the G₁-S transition of the mammalian cell cycle. Mutat. Res. 436: 1-9.
- 2. Woo, R.A. and Poon, R.Y. 2003. Cyclin-dependent kinases and S phase control in mammalian cells. Cell Cycle 2: 316-324.
- Grishina, I. and Lattes, B. 2005. A novel Cdk2 interactor is phosphorylated by Cdc7 and associates with components of the replication complexes. Cell Cycle 4: 1120-1126.
- Montagnoli, A., Valsasina, B., Brotherton, D., Troiani, S., Rainoldi, S., Tenca, P., Molinari, A. and Santocanale, C. 2006. Identification of Mcm2 phosphorylation sites by S-phase-regulating kinases. J. Biol. Chem. 281: 10281-10290.
- Chuang, L.C., Teixeira, L.K., Wohlschlegel, J.A., Henze, M., Yates, J.R., Méndez, J. and Reed, S.I. 2009. Phosphorylation of Mcm2 by Cdc7 promotes pre-replication complex assembly during cell-cycle re-entry. Mol. Cell 35: 206-216.
- Lovejoy, C.A., Xu, X., Bansbach, C.E., Glick, G.G., Zhao, R., Ye, F., Sirbu, B.M., Titus, L.C., Shyr, Y. and Cortez, D. 2009. Functional genomic screens identify CINP as a genome maintenance protein. Proc. Natl. Acad. Sci. USA 106: 19304-19309.
- 7. Warmerdam, D.O., Kanaar, R. and Smits, V.A. 2010. Differential dynamics of ATR-mediated checkpoint regulators. J. Nucleic Acids pii: 319142.

CHROMOSOMAL LOCATION

Genetic locus: Cinp (mouse) mapping to 12 F1.

PRODUCT

CINP (m2): 293T Lysate represents a lysate of mouse CINP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CINP (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CINP antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com