

Cdc2 p34 (Y100.4): sc-53217

BACKGROUND

In vertebrates, as in yeast, multiple cyclins have been identified, including a total of eight such regulatory proteins in mammals. In contrast to the situation in yeast, the Cdc2 p34 kinase is not the only catalytic subunit identified in vertebrates that can interact with cyclins. While Cdc2 p34 is essential for the G₂ to M transition in vertebrate cells, a second Cdc2-related kinase has also been implicated in cell cycle control. This protein, designated cyclin-dependent kinase 2 (Cdk2) p33, also binds to cyclins and its kinase activity is temporally regulated during the cell cycle. Several additional Cdc2 p34-related cyclin dependent kinases have been identified. These include Cdk3-Cdk8, PCTAIRE-1-3 and KIALRE.

CHROMOSOMAL LOCATION

Genetic locus: CDK1 (human) mapping to 10q21.2; Cdk1 (mouse) mapping to 10 B5.3.

SOURCE

Cdc2 p34 (Y100.4) is a mouse monoclonal antibody raised against peptide spanning the C-terminal 14 residues (AKRALQQNYLRDFH) of Cdc2 of *S. pombe*.

PRODUCT

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

APPLICATIONS

Cdc2 p34 (Y100.4) is recommended for detection of Cdc2 p34 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Cdc2 p34 siRNA (h): sc-29252, Cdc2 p34 siRNA (m): sc-29253, Cdc2 p34 shRNA Plasmid (h): sc-29252-SH, Cdc2 p34 shRNA Plasmid (m): sc-29253-SH, Cdc2 p34 shRNA (h) Lentiviral Particles: sc-29252-V and Cdc2 p34 shRNA (m) Lentiviral Particles: sc-29253-V.

Molecular Weight of Cdc2 p34: 34 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 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).

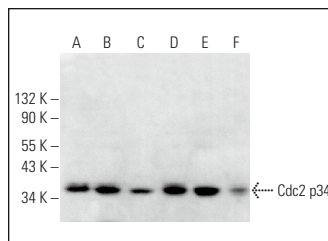
STORAGE

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.

DATA



Cdc2 p34 (Y100.4): sc-53217. Western blot analysis of Cdc2 p34 expression in HeLa (A), K-562 (B), PC-3 (C), F9 (D), Neuro-2A (E) and C6 (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Sugiyama, T. and Sugioka-Sugiyama, R. 2011. Red1 promotes the elimination of meiosis-specific mRNAs in vegetatively growing fission yeast. *EMBO J.* 30: 1027-1039.
- de León, N., et al. 2013. Regulation of cell wall synthesis by the clathrin light chain is essential for viability in *Schizosaccharomyces pombe*. *PLoS ONE* 8: e71510.
- Munoz, S., et al. 2014. The checkpoint-dependent nuclear accumulation of Rho1p exchange factor Rgf1p is important for tolerance to chronic replication stress. *Mol. Biol. Cell* 25: 1137-1150.
- Vijaykrishna, N., et al. 2016. The fission yeast pre-mRNA-processing factor 18 (prp18+) has intron-specific splicing functions with links to G₁-S cell cycle progression. *J. Biol. Chem.* 291: 27387-27402.
- Folco, H.D., et al. 2017. Untimely expression of gametogenic genes in vegetative cells causes uniparental disomy. *Nature* 543: 126-130.
- Curto, M.Á., et al. 2018. The ancient claudin Dni2 facilitates yeast cell fusion by compartmentalizing Dni1 into a membrane subdomain. *Cell. Mol. Life Sci.* 75: 1687-1706.
- Xie, G., et al. 2019. A conserved dimer interface connects ERH and YTH family proteins to promote gene silencing. *Nat. Commun.* 10: 251.
- Ghosal, A., et al. 2020. Communication between Cyclin dependent kinase Cdc2 and the Wis1-Spc1 MAPK pathway determines mitotic timing in *Schizosaccharomyces pombe*. *Biol. Open* 9: bio053322.
- Wu, G., et al. 2021. The interactome of Singapore grouper iridovirus protein ICP18 as revealed by proximity-dependent BioID approach. *Virus Res.* 291: 198218.

CONJUGATES

See **Cdc2 p34 (17): sc-54** for Cdc2 p34 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.