

cyclin B2 (m): 293T Lysate: sc-119545

BACKGROUND

In eukaryotic cells, mitosis is initiated following the activation of a protein kinase known variously as maturation-promoting factor, M-phase specific histone kinase or M-phase kinase. This protein kinase is composed of a catalytic subunit (Cdc2), a regulatory subunit (cyclin B) and a low molecular weight subunit (p13-Suc 1). The Cdc/cyclin enzyme is subject to multiple levels of control of which the regulation of the catalytic subunit by tyrosine phosphorylation is the best understood. Tyrosine phosphorylation inhibits the Cdc/cyclin B enzyme and tyrosine dephosphorylation, occurring at the onset of mitosis, directly activates the pre-MPF complex. Evidence has established that B-type cyclins not only act on M-phase regulatory subunits of the Cdc2 protein kinase, but also activate the Cdc25A and Cdc25B endogenous tyrosine phosphatase, of which Cdc2 is the physiological substrate. The two B-type cyclins, cyclin B1 and cyclin B2, have been shown to have distinct tissue distributions.

REFERENCES

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2. Morla, A.O., et al. 1989. Reversible tyrosine phosphorylation of Cdc2: dephosphorylation accompanies activation during entry into mitosis. *Cell* 58: 193-203.
3. Jessus, C., et al. 1990. Direct activation of Cdc2 with phosphatase: identification of p13 Suc1 sensitive and insensitive steps. *FEBS Lett.* 266: 4-8.
4. Doree, M. 1990. Control of M-phase by maturation promoting factor. *Curr. Opin. Cell Biol.* 2: 269-273.
5. Gautier, J., et al. 1990. Cyclin is a component of maturation-promoting factor from *Xenopus*. *Cell* 60: 487-494.
6. Gautier, J., et al. 1991. Cyclin B in *Xenopus* oocytes: Implications for the mechanism of pre-MPF activation. *EMBO J.* 10: 177-182.
7. Galaktionov, K., et al. 1991. Specific activation of Cdc25 tyrosine phosphatases by B-type cyclins: Evidence for multiple roles of mitotic cyclins. *Cell* 67: 1181-1194.
8. Chapman, D.L., et al. 1993. Isolation of the murine cyclin B2 cDNA and characterization of the lineage and temporal specificity of expression of the B1 and B2 cyclins during oogenesis, spermatogenesis and early embryogenesis. *Development* 118: 229-240.

CHROMOSOMAL LOCATION

Genetic locus: Ccnb2 (mouse) mapping to 9 D.

PRODUCT

cyclin B2 (m): 293T Lysate represents a lysate of mouse cyclin B2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

cyclin B2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive cyclin B2 antibodies. Recommended use: 10-20 µl per lane.

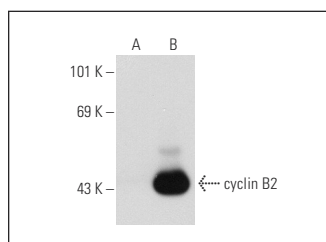
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

cyclin B2 (A-2): sc-28303 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse cyclin B2 expression in cyclin B2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



cyclin B2 (A-2): sc-28303. Western blot analysis of cyclin B2 expression in non-transfected: sc-117752 (A) and mouse cyclin B2 transfected: sc-119545 (B) 293T whole cell lysates.

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.