

p55 CDC (h4): 293T Lysate: sc-177684

BACKGROUND

Cyclins, regulatory subunits which associate with kinases, control many of the important steps in cell cycle progression. The Cdc2 protein kinase (Cdc2 p34) exhibits protein kinase activity *in vitro* and exists in a complex with both cyclin B and a protein homologous to p13suc 1. Cdc2 kinase is the active subunit of the M phase promoting factor (MPF) and the M phase-specific histone H1 kinase. The Cdc2 p34/cyclin B complex is required for the G₂ to M transition. An additional cell cycle-dependent protein kinase termed p55 CDC exhibits a high degree of homology with the *S. cerevisiae* proteins Cdc20 and Cdc4. The p55 CDC transcript is readily detectable in a variety of cultured cell lines in growth phase, but disappears when cell growth is chemically arrested. p55 CDC shows kinase activity towards α -casein and myelin basic protein.

REFERENCES

- Brizuela, L., et al. 1987. p13suc 1 acts in the fission yeast cell division cycle as a component of the p34 Cdc2 protein kinase. *EMBO J.* 6: 3507-3514.
- Dunphy, W.G., et al. 1988. The *Xenopus* Cdc2 protein is a component of MPF, a cytoplasmic regulator of mitosis. *Cell* 54: 423-431.
- Arion, D., et al. 1988. Cdc2 is a component of the M phase-specific Histone H1 kinase: evidence for identity with MPF. *Cell* 55: 371-378.
- Morla, A.O., et al. 1989. Reversible tyrosine phosphorylation of Cdc2: dephosphorylation accompanies activation during entry into mitosis. *Cell* 58: 193-203.
- Pines, J., et al. 1989. Isolation of a human cyclin cDNA: evidence for cyclin mRNA and protein regulation in the cell cycle and for interaction with p34 Cdc2. *Cell* 58: 833-846.
- Jessus, C., et al. 1992. Oscillation of MPF is accompanied by periodic association between Cdc25 and Cdc2-cyclin B. *Cell* 68: 323-332.
- Weinstein, J., et al. 1994. A novel mammalian protein, p55 CDC, present in dividing cells, is associated with protein kinase activity and has homology to the *Saccharomyces cerevisiae* cell division cycle proteins Cdc20 and Cdc4. *Mol. Cell. Biol.* 14: 3350-3363.
- Ohtoshi, A., et al. 2000. Human p55 (CDC)/Cdc20 associates with cyclin A and is phosphorylated by the cyclin A-Cdk2 complex. *Biochem. Biophys. Res. Commun.* 268: 530-534.
- Conway, A.M., et al. 2007. Regulation of neuronal Cdc20 (p55 CDC) expression by the plasticity-related transcription factor zif268. *Synapse* 61: 463-468.

CHROMOSOMAL LOCATION

Genetic locus: CDC20 (human) mapping to 1p34.2.

PRODUCT

p55 CDC (h4): 293T Lysate represents a lysate of human p55 CDC transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

p55 CDC (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive p55 CDC antibodies.

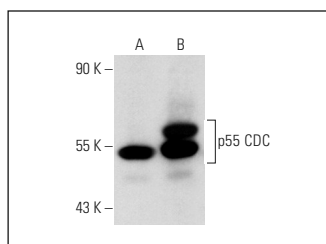
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p55 CDC (E-7): sc-13162 is recommended as a positive control antibody for Western Blot analysis of enhanced human p55 CDC expression in p55 CDC 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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



p55 CDC (E-7): sc-13162. Western blot analysis of p55 CDC expression in non-transfected: sc-117752 (A) and human p55 CDC transfected: sc-177684 (B) 293T whole cell lysates.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.