



Cdc20 (1-175): sc-4326 WB

BACKGROUND

Cyclins, regulatory subunits which associate with kinases, control many of the important steps in cell cycle progression. The Cdc2 protein kinase (p34Cdc2) 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 p34Cdc2/cyclin B complex is required for the G₂ to M transition. An additional cell cycle-dependent protein kinase termed Cdc20 exhibits a high degree of homology with the *S. cerevisiae* proteins Cdc20 and Cdc4. The Cdc20 transcript is readily detectable in a variety of cultured cell lines in growth phase, but disappears when cell growth is chemically arrested. Cdc20 shows kinase activity towards α -casein and myelin basic protein.

REFERENCES

1. Brizuela, L., et al. 1987. p13suc 1 acts in the fission yeast cell division cycle as a component of the p34Cdc2 protein kinase. *EMBO J.* 6: 3507-3514.
2. 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.
3. Dunphy, W.G., et al. 1988. The *Xenopus* Cdc2 protein is a component of MPF, a cytoplasmic regulator of mitosis. *Cell* 54: 423-431.
4. Morla, A.O., et al. 1989. Reversible tyrosine phosphorylation of Cdc2: dephosphorylation accompanies activation during entry into mitosis. *Cell* 58: 193-203.
5. 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.
6. Jesus, C., et al. 1992. Oscillation of MPF is accompanied by periodic association between Cdc25 and Cdc2-cyclin B. *Cell* 68: 323-332.
7. 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.
8. 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.
9. Conway, A.M., et al. 2007. Regulation of neuronal Cdc20 (p55 CDC) expression by the plasticity-related transcription factor zif268. *Synapse* 61: 463-468.

SOURCE

Cdc20 (1-175) is expressed in *E. coli* as a 46 kDa tagged fusion protein corresponding to amino acids 1-175 of Cdc20 of human origin.

PRODUCT

Cdc20 (1-175) is purified from bacterial lysates (> 98%) by column chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Cdc20 (1-175) is suitable as a Western blotting control for sc-1907, sc-5296, sc-8358 and sc-13162.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

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.