

cyclin F (2123D1a): sc-81242

BACKGROUND

Cyclins are the regulatory subunits of Cdc2 p34 and related cyclin dependent kinases (Cdks) which play critical roles in the control of cell cycle progression. The catalytic subunit for cyclin A and B is Cdc2 p34 kinase. The Cdc2-cyclin B complex controls G₂ to M transition whereas Cdc2-cyclin A regulates S phase progression. The G₁ to S transition, however, appears to be controlled by the G₁ cyclins. Cyclin D1 accumulates during G₁ and associates with Cdk2, Cdk4 and Cdk5. Cyclin E and Cdk2 interact during the G₁ to S transition. Cyclin F is the largest of the cyclins described to date. It contains an extensive PEST-rich C-terminus and a cyclin box region that is most related to cyclins A and B. Cyclin F is ubiquitously expressed in human cells but fluctuates dramatically through the cell cycle, peaking in G₂ like cyclin A and decreasing prior to decline of cyclin B. Cyclin F exhibits regulated subcellular localization, being localized in the nucleus in most cells, with a significant percentage of cells showing only perinuclear staining.

REFERENCES

1. Pines, J., et al. 1990. Human cyclin A is adenovirus E1A-associated protein p60 and behaves differently from cyclin B. *Nature* 346: 760-763.
2. Girard, F., et al. 1991. Cyclin A is required for the onset of DNA replication in mammalian fibroblasts. *Cell* 67: 1169-1179.
3. Fang, F., et al. 1991. Evidence that the G₁-S and G₂-M transitions are controlled by different cdc2 proteins in higher eukaryotes. *Cell* 66: 731-742.
4. Koff, A., et al. 1991. Human cyclin E, a new cyclin that interacts with two members of the CDC2 gene family. *Cell* 66: 1217-1228.
5. Matsushime, H., et al. 1992. Identification and properties of an atypical catalytic subunit (p34PSK-J3/cdk4) for mammalian D type G₁ cyclins. *Cell* 71: 323-334.
6. Xiong, Y., et al. 1992. D type cyclins associate with multiple protein kinases and the DNA replication and repair factor PCNA. *Cell* 71: 505-514.
7. Tamura, K., et al. 1993. Cyclin G: a new mammalian cyclin with homology to fission yeast Cig1. *Oncogene* 8: 2113-2118.
8. Bai, C., et al. 1994. Human cyclin F. *EMBO J.* 13: 6087-6098.
9. Tetzlaff, M.T., et al. 2004. Cyclin F disruption compromises placental development and affects normal cell cycle execution. *Mol. Cell. Biol.* 24: 2487-2498.

CHROMOSOMAL LOCATION

Genetic locus: CCNF (human) mapping to 16p13.3.

SOURCE

cyclin F (2123D1a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminal region of cyclin F of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

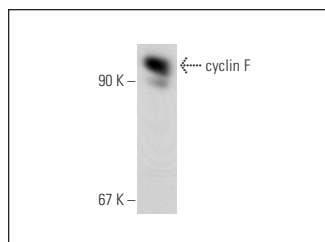
cyclin F (2123D1a) is recommended for detection of cyclin F of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for cyclin F siRNA (h): sc-35138, cyclin F shRNA Plasmid (h): sc-35138-SH and cyclin F shRNA (h) Lentiviral Particles: sc-35138-V.

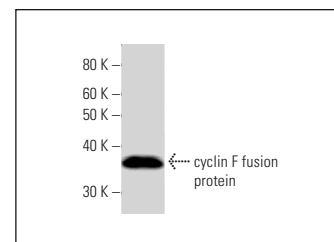
Molecular Weight of cyclin F: 110 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or Ramos nuclear extract: sc-2153.

DATA



cyclin F (2123D1a): sc-81242. Western blot analysis of cyclin F expression in Ramos nuclear extract.



cyclin F (2123D1a): sc-81242. Western Blot analysis of human recombinant cyclin F fusion protein.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.