



DB104: cyclin A (E23.1)

Background:

During each cell cycle cyclins undergo periodic accumulation and destruction. As key regulators of the cell cycle the cyclins control important transitions by activating Cdks (1,2). Cyclin A regulates at least two cdks, Cdc2 p34 and Cdk2, and is believed to be necessary for progression through S phase and is active during the G2-M transition (1&3,4). Cyclin B1 also associates with Cdc2 p34 and this complex is requisite for the G2-M progression. The Cyclin B1/Cdc2 p34 complex is known as MPF, M-phase kinase, maturation-promoting factor, or M-phase specific histone kinase, is widely accepted as the trigger of mitosis in all organisms (5-9).

Origin:

Cyclin A (E23.1) is provided as mouse monoclonal IgG_{2a} derived from the fusion of Sp2 myeloma cells with the spleen cells of a mouse immunized with bovine cyclin A.

Product Details:

Each vial contains 200 µg/ml of mouse monoclonal IgG_{2a} cyclin A (E23.1), in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

Specificity:

Cyclin A (E23.1) DB104 reacts with cyclin A of murine, bovine, and human origin by Western blotting, immunoprecipitation and immunohistochemistry. Western blotting starting dilution: 1:100.

Storage:

Store this product at 4° C, do not freeze. The product is stable for one year from the date of shipment.

References:

1. Bandara LR, Adamczewski JP, Zamanian M, Poon RY, Hunt T, Thangue NB. 1992. Cyclin A recruits p33cdk2 to the cellular transcription factor DRTF1. *J Cell Sci Suppl* 16: 77-85.
2. Desdouets C, Sobczak-Thepot J, Murphy M, Brechot C. 1995. Cyclin A: Function and expression during cell proliferation. *Prog Cell Cycle Res* 1:115-123.
3. Brechot C. 1993. Oncogenic activation of cyclin A. *Curr Opin Genet Dev* 3(1): 11-18.
4. Goldstone S, Pavey S, Forrest A, Sinnamon J, Gabrielli B. 2001. Cdc25-dependent activation of cyclin A/cdk2 is blocked in G2 phase arrested cells independently of ATM/ATR. *Oncogene* 20(8): 921-932.
5. Liu D, Liao C, Wolgemuth DJ. 2000. A role for cyclin A1 in the activation of MPF and G2-M transition during meiosis of male germ cells in mice. *Dev Biol* 224(2): 338-400.
6. Hoffman I, Clarke PR, Marcotte MJ, Karsenti E, Draetta G. 1993. Phosphorylation and activation of human cdc25-C by cdc2-cyclin B and its involvement in the self-amplification of MPF at mitosis. *EMBO J* 12(1): 53-63.
7. Kishimoto T, Okumura E. 1997. In vivo regulation of the entry into M-phase: initial activation and nuclear translocation of cyclin B/Cdc2. *Prog Cell Cycle Res* 3:241-249.
8. Baratte B, Meijer L, Galaktionov K, Beach D. 1992. Screening for antimitotic compounds using the cdc25 tyrosine phosphatase, an activator of the mitosis-inducing p34cdc2/cyclin Bcdc13 protein kinase. *Anticancer Res* 12(3): 873-880.
9. Thron CD. 1994. Theoretical dynamics of the cyclin B-MPF system: a possible role for p13suc1. *Biosystems* 32(2):97-109.