



DB103: Cdc2 p34 (17)

Background:

Cyclin dependent kinases are key regulators of the progression of the cell cycle. Early in the cell cycle Cdk2, Cdk4, Cdk6 and their associated cyclins regulate the G1 to S phase transition (1, 2). Cdk2 plays a key role in the G1/S and S/G2 transitions through its associations with cyclin D1, cyclin D2, cyclin D3, cyclin E and cyclin A. Cdk4 also forms complexes with the D type cyclins, and is thought to regulate cell growth through the G1 phase of the cell cycle (3-6). The late stages of the cell cycle are regulated by another cyclin dependent kinase, Cdc2 p34. This kinase exists as a complex with both cyclin A and cyclin B. The best characterized of these associations is the Cdc2 p34-cyclin B complex that is required for the G2 to M phase transition (7,8).

Origin:

Cdc2 p34 (17) is provided as mouse monoclonal IgG_{2a} corresponding to amino acids 225-230, mapping within a central region of Cdc2 p34 of human origin.

Product Details:

Each vial contains 100 µg/ml of mouse monoclonal IgG_{2a} Cdc2 p34 (17) DB103, in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

Specificity:

Cdc2 p34 (17) DB103 reacts with Cdc2 p34 of murine, human, and *Xenopus* origin by western blotting, immunoprecipitation (as active kinase) and immunohistochemistry (including paraffin-embedded sections). Non cross-reactive with other cyclin dependent kinases. Western blotting starting dilution: 1:200.

Storage:

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

References:

1. Ekholm SV, Reed SI. 2000. Regulation of G(1) cyclin-dependent kinases in the mammalian cell cycle. *Curr Opin Cell Biology* 12(6): 676-684
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3. Tong W, Pollard JW. 1999. Progesterone inhibits estrogen-induced cyclin D1 and cdk4 nuclear translocation, cyclin E- and cyclin A-cdk2 kinase activation, and cell proliferation in uterine epithelial cells in mice. *Mol Cell Biology* 19(3): 2251-64.
4. Sweeney KJ, Sarcevic B, Sutherland RL, Musgrove EA. 1997. Cyclin D2 activates Cdk2 in preference to Cdk4 in human breast epithelial cells. *Oncogene* 14(11): 1329-1340.
5. Chu CY, Lim RW. 2000. Involvement of p27(kip1) and cyclin D3 in the regulation of cdk2 activity during skeletal muscle differentiation. *Biochimica Biophysica Acta* 1497(2): 175-185.
6. Kishimoto T, Okumura E. In vivo regulation of the entry into M-phase: initial activation and nuclear translocation of cyclin B/Cdc2. 1997. *Prog Cell Cycle Res* 3:241-249.
7. Morla AO, Draetta G, Beach D, Wang JY. 1989. Reversible tyrosine phosphorylation of cdc2: dephosphorylation accompanies activation during entry into mitosis. *Cell* 58(1): 193-203.
8. O'Connor PM, Ferris DK, Pagano M, Draetta G, Pines J, Hunter T, Longo DL, Kohn KW. 1993. G2 delay induced by nitrogen mustard in human cells affects cyclin A/cdk2 and cyclin B1/cdc2-kinase complexes differently. *J Biological Chemistry* 268(11): 8298-8308.