DELTA BIOLABS

DB011: Cdk4 (C22)

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:

Cdk4 (C22) is provided as an affinity purified rabbit polyclonal antibody, raised against a peptide mapping to the carboxy terminus of mouse Cdk4.

Product Details:

Each vial contains 200 µg/ml of affinity purified rabbit IgG, Cdk4 *(C22) DB011*, in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

Competition Studies:

A blocking peptide is also available, *DB011P*, for use in competition studies. Each vial contains 100 µg of peptide in 0.5 ml PBS with 0.1% sodium azide and 100 µg BSA.

Specificity:

Cdk4 *(C22) DB011* reacts with Cdk4 of mouse, rat, and human origin by western blotting, immunoprecipitation and immunohistochemistry.

Storage:

Store this product at 4º 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
2. Morisaki H, Ando A, Nagata Y, Pereira-Smith O, Smith JR, Ikeda K, Nakanishi M. 1999. Complex mechanisms underlying impaired activation of Cdk4 and Cdk2 in replicative senescence: roles of p16, p21, and cyclin D1. Exp Cell Research 253(2): 503-510.
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.

Delta Biolabs, LLC 503A Vandell Way Campbell, Ca 95008
Voice: (800) 595-1994 or (408) 376-0596 Fax: (408) 376-0597 www.deltabiolabs.com