Cdk2 Ab-4 (Clone 2B6 + 8D4)
Mouse Monoclonal Antibody
Cat. #MS-617-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 200\(\mu\)g/ml) (Purified Ab with BSA and Azide)
Cat. #MS-617-P1ABX or -PABX (0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide)
Cat. #MS-617-PCL (0.1ml) (Positive Control for Western Blot)

**Description:**
p33\(^{cdk2}\) associates with cyclin A in human cells. Kinase activity associated with cyclin A-cdc2 is found only in G\(_2\)-phase. Cdk2 also complexes with cyclins E, D1, and D3. Cyclin E-cdk2 kinase is active in the G\(_1\)- and S-phases of the cell cycle and is important (as does cyclin A-cdk2) for the progression from G\(_1\)-to S-phase. The levels of cyclin A-cdk2 is maximal at the G\(_1\)/S transition and both cdk2 and cyclin A are found associated with DNA in the initiation complex during replication. Rb protein acts as substrate for cdk2-cyclin E and/or cdk2-cyclin A *in vivo*. Cdk2 is activated and specifically localized to the nucleus during late G\(_1\), S-, and G\(_2\)-phase.

**Comments:** Ab-4 is a cocktail of Ab-1 and Ab-2 and is especially designed for sensitive detection of cdk2 protein.

**Mol. Wt. of Antigen:** 33kDa

**Epitope:** Not determined

**Species Reactivity:** Human, Mouse, and Rat. Others not known.

**Clone Designation:** 2B6 + 8D4

**Ig Isotype:** IgG\(_{2b}\) (2B6) + IgG\(_{2a}\) (8D4)

**Immunogen:** Human recombinant cdk2 protein.

**Applications and Suggested Dilutions:**
- Immunofluorescence
- Immunoprecipitation (Denatured only) (Use Protein A) (Ab 2\(\mu\)g/mg protein lysate)
- Western Blotting (Ab 1-2\(\mu\)g/ml for 2hrs at RT)

The optimal dilution for a specific application should be determined by the investigator.

**Positive Control:** HeLa cells.

**Cellular Localization:** Cytoplasmic and nuclear

**Storage and Stability:** Ab with sodium azide is stable for 36 months when stored at below 0°C. WITHOUT sodium azide is stable for 36 months when stored at below 0°C.

**Supplied As:**
200\(\mu\)g/ml of antibody purified from ascites fluid by Protein A chromatography. Prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide. Also available without BSA and azide at 1mg/ml.

**Suggested References:**

**Limitations and Warranty:**
Our products are intended FOR RESEARCH USE ONLY and are not approved for clinical diagnosis, drug use or therapeutic procedures. No products are to be construed as a recommendation for use in violation of any patents. We make no representations, warranties or assurances as to the accuracy or completeness of information provided on our data sheets and website. Our warranty is limited to the actual price paid for the product. NeoMarkers is not liable for any property damage, personal injury, time or effort or economic loss caused by our products.

**Material Safety Data:**
This product is not licensed or approved for administration to humans or to animals other than the experimental animals. Standard Laboratory Practices should be followed when handling this material. The chemical, physical, and toxicological properties of this material have not been thoroughly investigated. Appropriate measures should be taken to avoid skin and eye contact, inhalation, and ingestion. The material contains 0.09% sodium azide as a preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material as indicated above. The National Institute of Occupational Safety and Health has issued a bulletin citing the potential explosion hazard due to the reaction of sodium azide with copper, lead, brass, or solder in the plumbing systems. Sodium azide forms hydrazoic acid in acidic conditions and should be discarded in a large volume of running water to avoid deposits forming in metal drainage pipes.
Cdk2 Ab-4 (Clone 2B6 + 8D4)
Mouse Monoclonal Antibody
Cat. #MS-617-PO, -P1, or -P (-0.1ml, 0.5ml, or 1.0ml at 200µg/ml) (Purified Ab with BSA and Azide)
Cat. #MS-617-P1ABX or -PABX (-0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide)
Cat. #MS-617-PCL (0.1ml) (Positive Control for Western Blot)

Additional Suggested References:
2. De Luca A; De Maria R; Baldi A; Trotta R; Facchiano F; Giordano A; Testi R; Condorelli G. Fas-induced changes in cdc2 and cdk2 kinase activity are not sufficient for triggering apoptosis in HUT-78 cells. Journal of Cellular Biochemistry, 1997 Mar 15, 64(4):579-85.
3. De Luca A; MacLachlan TK; Bagella L; Dean C; Howard CM; Claudio PP; Baldi A; Khalili K; Giordano A. A unique domain of pRB2/p130 acts as an inhibitor of Cdk2 kinase activity. Journal of Biological Chemistry, 1997, 272(34):20971-4.
10. Prall OWJ; Sarcevic B; Musgrove EA; Watts CKW; Sutherland RL. Estrogen-induced activation of Cdk4 and Cdk2 during G1-S phase progression is accompanied by increased cyclin D1 expression and decreased cyclin-dependent kinase inhibitor association with cyclin E-Cdk2. Journal of Biological Chemistry, 1997, 272(16):10882-94.
11. PurI PL; Balsano C; Burgio VL; Chirillo P; Natoli G; Ricci L; Mattei E; Graessmann A; Levrero M. MyoD prevents entry into mitosis as a positive regulator of Cdc2-cyclin B kinase activity. Cell, 1996, 84(1):73-82.
13. Sheaff RJ; Groudine M; Gordon M; Roberts JM; Clurman BE. Cyclin E-Cdk2 is a regulator of p27Kip1. Genes and Development, 1997 Jun 1, 11(11):1464-78.
16. Ziebold U; Bartsch O; Marais R; Ferrari S; Klemmpnauer KH. Phosphorylation and activation of B-Myb by cyclin A-Cdk2. Current Biology, 1997 Apr 1, 7(4):253-60.
19. Bresnaham WA; Boldogh I; Ma T; Albrecth T; Thompson EA. Cyclin E/Cdk2 activity is controlled by different mechanisms in the G0 and G1 phases of the cell cycle. Cell Growth and Differentiation, 1996 Oct, 7(10):1283-90.
24. Fotedar R; Fitzgerald P; Rousselle T; Cannella D; Doree M; Competence J; Lifton R; Gruss P. Expression and subcellular localization of CDK2 and Cdk2 and their common partner cyclin A in thyroid anaplastic cells: comparison of cyclin A-dependent and -independent cell cycles. Journal of Cellular Physiology, 1996 Dec, 166(2):256-73.