Datasheet for ABIN967778

anti-CDK4 antibody (AA 1-303)

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Overview

Quantity:	50 µg
Target:	CDK4
Binding Specificity:	AA 1-303
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CDK4 antibody is un-conjugated
Application:	Western Blotting (WB), Immunoprecipitation (IP), Immunofluorescence (IF), Immunohistochemistry (Formalin-fixed Sections) (IHC (f))

Product Details

Immunogen:	Rat Cdk4 aa. 1-303
Clone:	97-Cdk4
Isotype:	IgG1
Cross-Reactivity:	Mouse (Murine), Human
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

Product Details

Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	CDK4
Alternative Name:	Cdk4 (CDK4 Products)
Background:	The Cdk4 kinase is a cell cycle-regulated cyclin-dependent kinase that associates with cyclins D1, D2, and D3. In macrophages and fibroblasts, Cdk4-Cyclin D1 complexes are predominant. Much like Cdk2 and Cdc2, the activity of Cdk4 is regulated by association with its respective kinase and by phosphorylation of specific threonine residues. The cdk-activating kinase (CAK) is a regulator of cdk-cyclin activity by virtue of its ability to phosphorylate single threonine residues on Cdk2, Cdc2, and Cdk4. Active Cdk4-Cyclin D1 complexes are capable of phosphorylating the retinoblastoma gene product (pRb), but not histone H1 or casein. Formation of the Cdk4-Cyclin D holoenzyme and phosphorylation of the catalytic subunit appear to be independently regulated. Therefore, other cellular factors may be necessary for stabilization of this protein complex in order to facilitate the phosphorylation of Cdk4. An inhibitor of Cdk4 kinase activity, known as p16, has been identified and partially characterized. The p16 gene appears to be altered in many tumors, suggesting that this is a tumor suppressor gene. It is thought that p16 inhibition of Cdk4-Cyclin D interferes with cell cycle progression by preventing phosphorylation of pRb by Cdk4 and the subsequent release of factors that activate transcription. This antibody is routinely tested by western blot analysis.
Molecular Weight:	33 kDa
Pathways:	Cell Division Cycle, Mitotic G1-G1/S Phases, Regulation of Cell Size

Application Details

Comment:	Related Products: ABIN967389
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	250 µg/mL
Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.

Handling

Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store undiluted at -20° C.

Publications

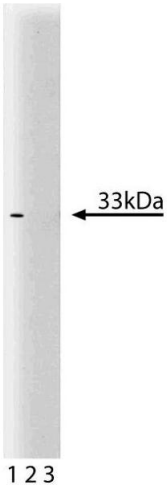
Product cited in:

Angus, Wheeler, Ranmal, Zhang, Markey, Mathews, Knudsen: "Retinoblastoma tumor suppressor targets dNTP metabolism to regulate DNA replication." in: **The Journal of biological chemistry**, Vol. 277, Issue 46, pp. 44376-84, (2002) (PubMed).

Saitoh, Pizzi, Wang: "Perturbation of SUMOlation enzyme Ubc9 by distinct domain within nucleoporin RanBP2/Nup358." in: **The Journal of biological chemistry**, Vol. 277, Issue 7, pp. 4755-63, (2002) (PubMed).

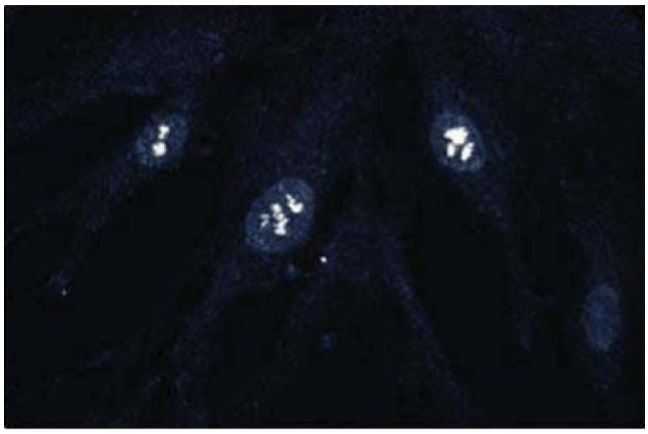
Bagui, Jackson, Agrawal, Pledger: "Analysis of cyclin D3-cdk4 complexes in fibroblasts expressing and lacking p27(kip1) and p21(cip1)." in: **Molecular and cellular biology**, Vol. 20, Issue 23, pp. 8748-57, (2000) (PubMed).

Kato, Matsushime, Hiebert, Ewen, Sherr: "Direct binding of cyclin D to the retinoblastoma gene product (pRb) and pRb phosphorylation by the cyclin D-dependent kinase CDK4." in: **Genes & development**, Vol. 7, Issue 3, pp. 331-42, (1993) (PubMed).



Western Blotting

Image 1. Western blot analysis of Cdk4 on a RSV-3T3 lysate. Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti- Cdk4 antibody.



Immunofluorescence

Image 2. Immunofluorescence staining of human fibroblasts.

