Datasheet for ABIN967777

anti-CDK2 antibody (AA 109-298)

4 Images | 5 Publications

Go to Product page

Overview

Quantity:	150 µg
Target:	CDK2
Binding Specificity:	AA 109-298
Reactivity:	Human, Mouse, Rat, Dog
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CDK2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), BioImaging (BI)

Product Details

Immunogen:	Human Cdk2 aa. 109-298
Clone:	55-Cdk2
Isotype:	IgG2a
Cross-Reactivity:	Dog (Canine), Mouse (Murine), Rat (Rattus)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. This antibody has been developed and certified for the bioimaging application. However, a routine bioimaging test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance. 3. Triton is a trademark of the Dow Chemical Company. 4. Source of all serum proteins is from USDA inspected abattoirs located in the United States. 5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide

Product Details

	compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 6. Please refer to us for technical protocols.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	CDK2
Alternative Name:	Cdk2 (CDK2 Products)
Background:	Cyclin-dependent kinase 2 (Cdk2) is a member of a family of cdc2-related cell cycle protein kinases. Cdk2 shares 60% identity with cdc2 and its activity is regulated by phosphorylation in a similar fashion. Cdk2 is expressed earlier in the cell cycle than is cdc2. Like p34 [cdc2], p33 [cdk2] associates with Cyclin A in human cells. However, kinase activity associated with Cyclin A-Cdk2 is present in S phase, whereas, the kinase activity associated with Cyclin A-cdc2 is found only in G2. Cdk2 can also complex with cyclins E, D1, and D3. It is not known if the D cyclins can form active complexes with Cdk2. Cyclin E-Cdk2 kinase is active in the G1 and S phases of the cell cycle and is important (as is Cyclin A-Cdk2) for the progression from G1 to S phase. The levels of Cyclin A-Cdk2 are maximal at the G1/S transition and both Cdk2 and Cyclin A associate with DNA in the initiation complex during replication. The Rb protein has been identified as a substrate for Cdk2-Cyclin E and/or Cdk2-Cyclin A in vivo. This observation is supported by further evidence which shows that Cdk2 is activated and specifically localized to the nucleus during late G1, S phase, and G2.
Molecular Weight:	33 kDa
Pathways:	PI3K-Akt Signaling, Cell Division Cycle, Mitotic G1-G1/S Phases, DNA Replication, M Phase, Synthesis of DNA

Application Details

Application Notes:	Bioimaging 1. Seed the cells in appropriate culture medium at ~10,000 cells per well in an 96-well Imaging Plate and culture overnight. 2. Remove the culture medium from the wells, and fix the cells by adding 100 myl of Fixation Buffer to each well. Incubate for 10 minutes at room temperature (RT). 3. Remove the fixative from the wells, and permeabilize the cells using either 90% methanol, or

Application Details

	Triton™ X-100: a. Add 100 myl of -20°C 90% methanol to each well and incubate for 5 minutes at RT. OR b. Add 100 myl of 0.1% Triton™ X-100 to each well and incubate for 5 minutes at RT. 4. Remove the permeabilization buffer, and wash the wells twice with 100 myl of 1× PBS. 5. Remove the PBS, and block the cells by adding 100 myl of to each well. Incubate for 30 minutes at RT. 6. Remove the blocking buffer and add 50 myl of the optimally titrated primary antibody (diluted in Stain Buffer) to each well, and incubate for 1 hour at RT. 7. Remove the primary antibody, and wash the wells three times with 100 myl of 1× PBS. 8. Remove the PBS, and add the second step reagent at its optimally titrated concentration in 50 myl to each well, and incubate in the dark for 1 hour at RT. 9. Remove the second step reagent, and wash the wells three times with 100 myl of 1× PBS. 10. Remove the PBS, and counter-stain the nuclei by adding 200 myl per well of 2 myg/ml Hoechst 33342 in 1× PBS to each well at least 15 minutes before imaging. 11. View and analyze the cells on an appropriate imaging instrument.
Comment:	Related Products: ABIN967389, ABIN968537
Restrictions:	For Research Use only

Handling

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

Publications

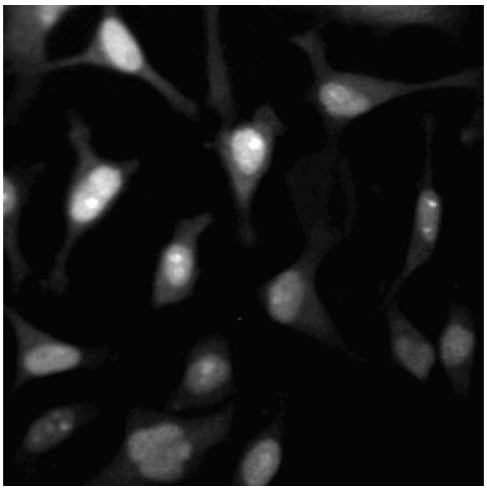
Mohapatra, Agrawal, Pledger: "p27Kip1 regulates T cell proliferation." in: **The Journal of biological chemistry**, Vol. 276, Issue 24, pp. 21976-83, (2001) (PubMed).

Porter, Zhang, Danes, McGahren, Harwell, Faruki, Keyomarsi: "Tumor-specific proteolytic processing of cyclin E generates hyperactive lower-molecular-weight forms." in: **Molecular and cellular biology**, Vol. 21, Issue 18, pp. 6254-69, (2001) (PubMed).

Mal, Chattopadhyay, Ghosh, Poon, Hunter, Harter: "p21 and retinoblastoma protein control the absence of DNA replication in terminally differentiated muscle cells." in: **The Journal of cell biology**, Vol. 149, Issue 2, pp. 281-92, (2000) (PubMed).

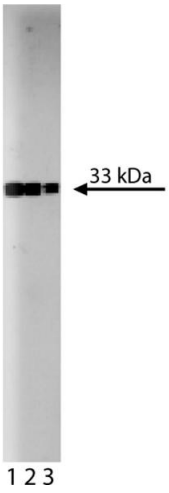
Hinds, Mittnacht, Dulic, Arnold, Reed, Weinberg: "Regulation of retinoblastoma protein functions by ectopic expression of human cyclins." in: **Cell**, Vol. 70, Issue 6, pp. 993-1006, (1992) (PubMed).

Images



Immunofluorescence

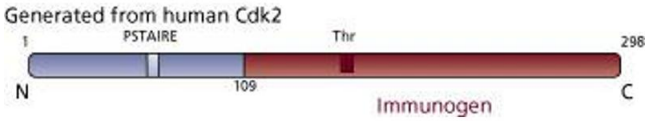
Image 1. Immunofluorescent staining of HeLa (ATCC CCL-2) cells. Cells were seeded in a 96 well imaging plate at ~ 10 000 cells per well. After overnight incubation, cells were stained using the alcohol perm protocol and the anti-Cdk2 antibody. The second step reagent was FITC goat anti mouse Ig. Images were taken on a BD Pathway™ 855 bioimaging system using a 20x objective. This antibody also stained A549 (ATCC CCL-185) and U-2 OS (ATCC HTB-96) cells and worked with both the Triton™ X-100 and alcohol fix/perm protocols.



Western Blotting

Image 2.

Image 3.



Please check the product details page for more images. Overall 4 images are available for ABIN967777.