

Product datasheet

Anti-Cdk4 antibody ab54515

4 Images

Overview

Product name	Anti-Cdk4 antibody
Description	Mouse monoclonal to Cdk4
Host species	Mouse
Tested applications	Suitable for: WB, ICC/IF
Species reactivity	Reacts with: Mouse, Human
Immunogen	Recombinant fragment corresponding to Human Cdk4 aa 211-303. Sequence: KPLFCGNSEADQLGKIFDLIGLPPEDDWPRDVSLPRGAF PPRGPRPVQSV VPEMEESGAQLLLEMLTFNPHKRISAFRALQHSYLHKDEG NPE

Database link: [P11802](#)

 [Run BLAST with](#)

 [Run BLAST with](#)

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None PBS, pH 7.2
Purity	Protein G purified
Clonality	Monoclonal
Isotype	IgG1
Light chain type	kappa

Applications

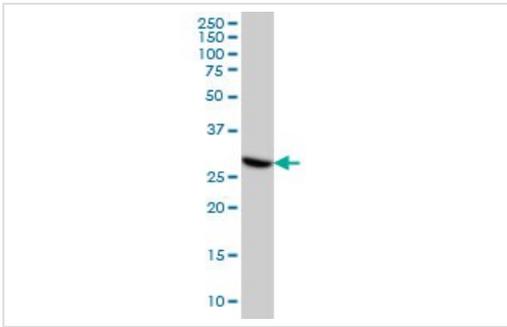
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab54515 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 1 - 5 µg/ml. Predicted molecular weight: 34 kDa.
ICC/IF		Use a concentration of 10 µg/ml.

Target

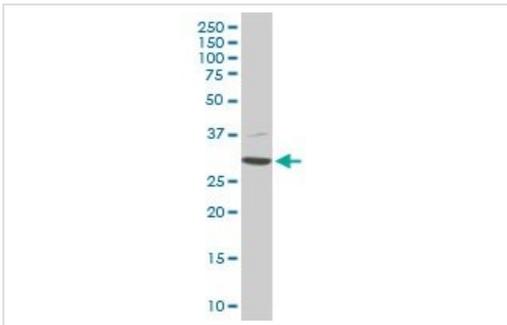
Function	Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dependent manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex.
Involvement in disease	Defects in CDK4 are a cause of susceptibility to cutaneous malignant melanoma type 3 (CMM3) [MIM:609048]. Malignant melanoma is a malignant neoplasm of melanocytes, arising de novo or from a pre-existing benign nevus, which occurs most often in the skin but also may involve other sites.
Sequence similarities	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily. Contains 1 protein kinase domain.
Post-translational modifications	Phosphorylation at Thr-172 is required for enzymatic activity. Phosphorylated, in vitro, at this site by CCNH-CDK7, but, in vivo, appears to be phosphorylated by a proline-directed kinase. In the cyclin D-CDK4-CDKN1B complex, this phosphorylation and consequent CDK4 enzyme activity, is dependent on the tyrosine phosphorylation state of CDKN1B. Thus, in proliferating cells, CDK4 within the complex is phosphorylated on Thr-172 in the T-loop. In resting cells, phosphorylation on Thr-172 is prevented by the non-tyrosine-phosphorylated form of CDKN1B.
Cellular localization	Cytoplasm. Nucleus. Membrane. Cytoplasmic when non-complexed. Forms a cyclin D-CDK4 complex in the cytoplasm as cells progress through G(1) phase. The complex accumulates on the nuclear membrane and enters the nucleus on transition from G(1) to S phase. Also present in nucleoli and heterochromatin lumps. Colocalizes with RB1 after release into the nucleus.

Images



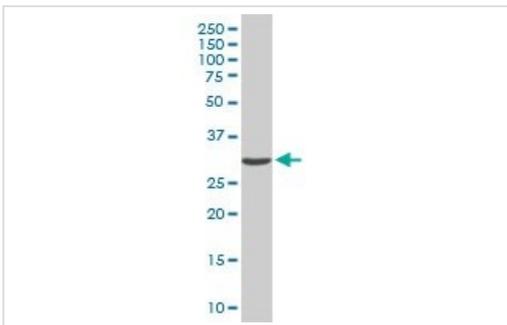
Western blot - Anti-Cdk4 antibody (ab54515)

Cdk4 antibody (ab54515) at 1ug/lane + HeLa cell lysate at 25ug/lane.



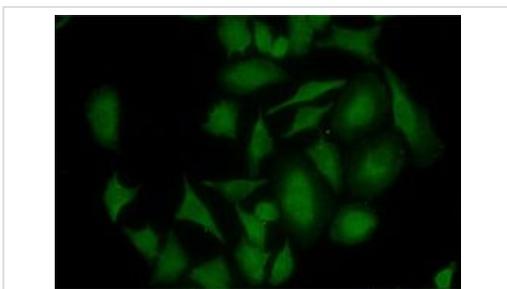
Western blot - Anti-Cdk4 antibody (ab54515)

Cdk4 antibody (ab54515) at 1ug/ml + Raw 264.7 cell lysate at 25ug/lane.



Western blot - Anti-Cdk4 antibody (ab54515)

Cdk4 antibody (ab54515) at 1ug/ml + NIH/3T3 cell lysate at 25ug/lane.



Immunocytochemistry/ Immunofluorescence - Anti-Cdk4 antibody (ab54515)

ab54515 at 10µg/ml staining Cdk4 in human HeLa cells by Immunocytochemistry / Immunofluorescence.

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