ARG66316
anti-CDK4 antibody [SQab1864]

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Recombinant Rabbit Monoclonal antibody [SQab1864] recognizes CDK4
Tested Reactivity	Hu
Tested Application	FACS, ICC/IF, IHC-P, IP, WB
Host	Rabbit
Clonality	Monoclonal
Clone	SQab1864
Isotype	IgG
Target Name	CDK4
Species	Human
Immunogen	Synthetic peptide around the C-terminus of CDK4.
Conjugation	Un-conjugated
Alternate Names	Cyclin-dependent kinase 4; PSK-J3; CMM3; EC 2.7.11.22; Cell division protein kinase 4

Application Instructions

Application table

Application	Dilution
FACS	1:40 - 1:200
ICC/IF	1:10 - 1:50
IHC-P	1:100 - 1:200
IP	1:20
WB	1:1000 - 1:2000

Application Note: IHC-P: Antigen Retrieval: Heat mediated was performed using Tris/EDTA buffer pH 9.0.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

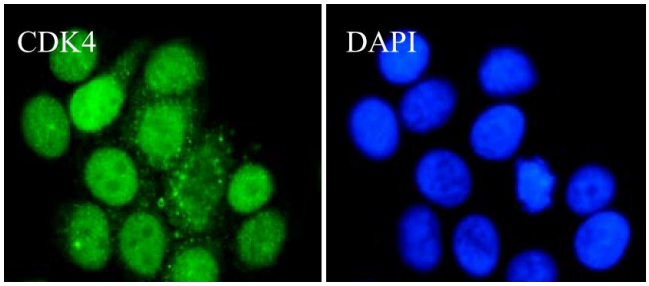
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and 0.05% BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw

	cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

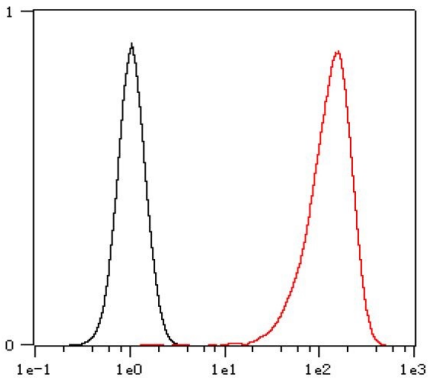
Gene Symbol	CDK4
Gene Full Name	cyclin-dependent kinase 4
Background	The protein encoded by this gene is a member of the Ser/Thr protein kinase family. This protein is highly similar to the gene products of S. cerevisiae cdc28 and S. pombe cdc2. It is a catalytic subunit of the protein kinase complex that is important for cell cycle G1 phase progression. The activity of this kinase is restricted to the G1-S phase, which is controlled by the regulatory subunits D-type cyclins and CDK inhibitor p16(INK4a). This kinase was shown to be responsible for the phosphorylation of retinoblastoma gene product (Rb). Mutations in this gene as well as in its related proteins including D-type cyclins, p16(INK4a) and Rb were all found to be associated with tumorigenesis of a variety of cancers. Multiple polyadenylation sites of this gene have been reported. [provided by RefSeq, Jul 2008]
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 mitogenenic 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. [UniProt]
Highlight	Related products: CDK4 antibodies; CDK4 Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: Cancer Pathology Markers (SQ clones)
Calculated Mw	34 kDa
PTM	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. [UniProt]

Images



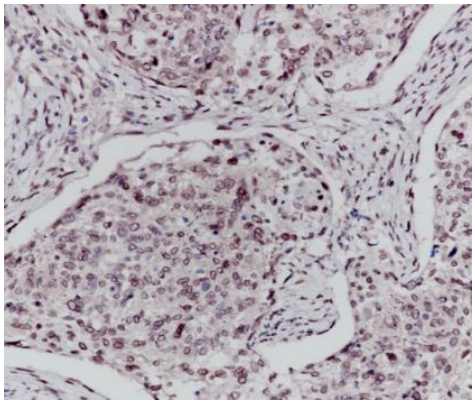
ARG66316 anti-CDK4 antibody [SQab1864] ICC/IF image

Immunofluorescence: MCF-7 cells were fixed with 4% paraformaldehyde for 30 min at RT, permeabilized with 0.1% Triton X-100 for 10 min at RT then blocked with 10% goat serum for 30 min at RT. Cells were stained with ARG66316 anti-CDK4 antibody [SQab1864] (green) at 1:10 and 4°C. DAPI (blue) was used as the nuclear counter stain.



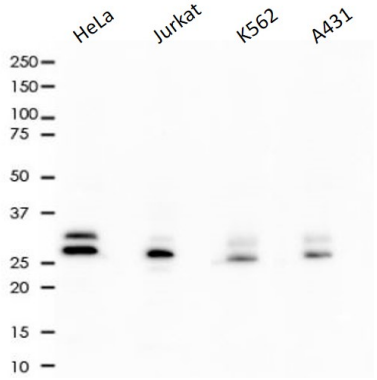
ARG66316 anti-CDK4 antibody [SQab1864] FACS image

Flow Cytometry: HeLa cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% TritonX-100 for 15 min. The cells were stained with ARG66316 anti-CDK4 antibody [SQab1864] (red) at 1:200 dilution in 1x PBS/1% BSA for 30 min at RT, followed by Alexa Fluor® 488 labelled secondary antibody. Unlabelled sample (black) was used as a control.



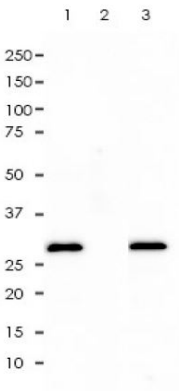
ARG66316 anti-CDK4 antibody [SQab1864] IHC-P image

Immunohistochemistry: Formalin-fixed and paraffin-embedded cervix cancer tissue stained with ARG66316 anti-CDK4 antibody [SQab1864] at 1:200 dilution. Antigen Retrieval: Heat mediated was performed using Tris/EDTA buffer pH 9.0.



ARG66316 anti-CDK4 antibody [SQab1864] WB image

Western blot: 10 µg of HeLa, Jurkat, K562 and A431 cell lysates stained with ARG66316 anti-CDK4 antibody [SQab1864] at 1:400 dilution.



ARG66316 anti-CDK4 antibody [SQab1864] IP image

Immunoprecipitation: 0.4 mg of Jurkat whole cell lysate immunoprecipitated (1:20) and stained with ARG66316 anti-CDK4 antibody [SQab1864]. 1) ARG66316 IP in Jurkat whole cell lysate, 2) PBS instead of ARG66316 in Jurkat whole cell lysate, and 3) Jurkat whole cell lysate, 10 µg (input).