

Store at  
-20C  
#12790**CDK4 (D9G3E) Rabbit mAb**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IHC-P, IF-IC, FC-FP	<b>Reactivity:</b> H Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 30	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P11802	<b>Entrez-Gene Id:</b> 1019
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**Product Usage Information****Application**

Western Blotting  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:400 - 1:1600  
1:200 - 1:800  
1:100 - 1:400

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #23972.

**Specificity/Sensitivity**

CDK4 (D9G3E) Rabbit mAb recognizes endogenous levels of total CDK4 protein. In COS-7 cells, this antibody recognizes a 40 kDa background band of unknown origin. This antibody does not cross-react with CDK1, 2, or 6.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human CDK4 protein.

**Background**

Cyclin-dependent kinase activity is regulated by T-loop phosphorylation (Thr172 in the case of CDK4), by the abundance of their cyclin partners, and by association with CDK inhibitors of the Cip/Kip or INK family of proteins (1). The inactive ternary complex of CDK4/cyclin D and p27 Kip1/Cip1 requires extracellular mitogenic stimuli for the release and degradation of p27, which affects progression through the restriction point and pRb-dependent entry into S-phase (2). The active complex of CDK4/cyclin D targets the retinoblastoma protein for phosphorylation, allowing the release of E2F transcription factors that activate G1/S-phase gene expression (3). In HeLa cells, upon UV irradiation, upregulation of p16 INK4A association with CDK4/cyclin D3 leads to a G2 delay, implicating CDK4/cyclin D3 activity in progression through the G2-phase of the cell cycle (4).

**Background References**

- Hirai, H. et al. (1995) *Mol Cell Biol* 15, 2672-81.
- Sherr, C.J. (1996) *Science* 274, 1672-7.
- Lukas, J. et al. (1996) *Mol Cell Biol* 16, 6917-25.
- Gabrielli, B.G. et al. (1999) *J Biol Chem* 274, 13961-9.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key**

**H:** Human **Mk:** Monkey

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