

#12790 Store at -20C

CDK4 (D9G3E) Rabbit mAb

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-P, IF-IC, FC-FP	H Mk	Endogenous	30	Rabbit IgG	#P11802	1019

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

1. Hirai, H. et al. (1995) *Mol Cell Biol* 15, 2672-81.
2. Sherr, C.J. (1996) *Science* 274, 1672-7.
3. Lukas, J. et al. (1996) *Mol Cell Biol* 16, 6917-25.
4. 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

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

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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