

Cyclin E1 (D7T3U) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	48	Rabbit IgG	#P24864	898

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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.

Specificity/Sensitivity

Cyclin E1 (D7T3U) Rabbit mAb recognizes endogenous levels of total cyclin E1 protein. Based on the sequence of the peptide antigen, this antibody is expected to detect all isoforms of cyclin E1. This antibody does not cross-react with cyclin E2.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly351 of human cyclin E1 protein.

Background

Cyclin E1 and cyclin E2 can associate with and activate CDK2 (1). Upon DNA damage, upregulation/activation of the CDK inhibitors p21 Waf1/Cip1 and p27 Kip1 prevent cyclin E/CDK2 activation, resulting in G1/S arrest. When conditions are favorable for cell cycle progression, cyclin D/CDK4/6 phosphorylates Rb and is thought to reduce the activity of p21 Waf1/Cip1 and p27 Kip1, allowing subsequent activation of cyclin E/CDK2 (1,2). Cyclin E/CDK2 further phosphorylates Rb to allow progression into S-phase, where cyclin E/CDK2 is thought to phosphorylate and activate multiple proteins involved in DNA synthesis (2,3). Turnover of cyclin E is largely controlled by phosphorylation that results in SCFFbw7-mediated ubiquitination and proteasome-dependent degradation (4,5). Cyclin E1 is phosphorylated at multiple sites *in vivo* including Thr62, Ser88, Ser72, Thr380, and Ser384, and is controlled by at least two kinases, CDK2 and GSK-3 (6,7).

Background References

1. Lauper, N. et al. (1998) *Oncogene* 17, 2637-43.
2. Lundberg, A.S. and Weinberg, R.A. (1998) *Mol Cell Biol* 18, 753-61.
3. Ewen, M.E. (2000) *Genes Dev* 14, 2265-70.
4. Won, K.A. and Reed, S.I. (1996) *EMBO J* 15, 4182-93.
5. Koepp, D.M. et al. (2001) *Science* 294, 173-7.
6. Welcker, M. et al. (2003) *Mol Cell* 12, 381-92.
7. Ye, X. et al. (2004) *J Biol Chem* 279, 50110-9.

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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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