Revision 10

#13084 Store at -20C

Wee1 (D10D2) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, W-S, IP, IHC-P, FC-FP	H Mk	Endogenous	95	Rabbit IgG	#P30291	7465

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:100 - 1:400
Flow Cytometry (Fixed/Permeabilized)	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 #53692.

Specificity / Sensitivity

Wee1 (D10D2) Rabbit mAb recognizes endogenous levels of total Wee1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala54 of human Wee1 protein.

Background

Entry of all eukaryotic cells into mitosis is regulated by activation of cdc2 kinase. The critical regulatory step in activating cdc2 during progression into mitosis appears to be dephosphorylation of Tyr15 and Thr14 (1,2). Phosphorylation at Tyr15 and Thr14 and inhibition of cdc2 is carried out by Wee1 and Myt1 protein kinases, while Tyr15 dephosphorylation and activation of cdc2 is carried out by the cdc25 phosphatase (1,3,4). Hyperphosphorylation and inactivation of Myt1 in mitosis suggests that one or more kinases activated at the G2/M transition negatively regulates Myt1 activity. Kinases shown to phosphorylate Myt1 include cdc2, p90RSK, Akt, and Plk1 (5-7).

Wee1 is inactivated upon mitotic entry by phosphorylation at Ser53 and Ser123 by Plk1 and cdc2, followed by β-TrCP-mediated ubiquitination and degradation (1,9,10).

Background References

1. Watanabe, N. et al. (1995) *EMBO J* 14, 1878-91.
2. Hunter, T. (1995) *Cell* 80, 225-36.
3. Galaktionov, K. et al. (1995) *Genes Dev* 9, 1046-58.
4. McGowan, C.H. and Russell, P. (1993) *EMBO J* 12, 75-85.
5. Booher, R.N. et al. (1997) *J Biol Chem* 272, 22300-6.
6. Palmer, A. et al. (1998) *EMBO J* 17, 5037-47.
7. Nakajima, H. et al. (2003) *J Biol Chem* 278, 25277-80.
8. Parker, L.L. et al. (1995) *Proc Natl Acad Sci U S A* 92, 9638-42.
9. Watanabe, N. et al. (2004) *Proc Natl Acad Sci U S A* 101, 4419-24.

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 **W-S:** Simple Western™ **IP:** Immunoprecipitation
IHC-P: Immunohistochemistry (Paraffin) **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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