Revision 1

Store at -20C

#4936

Wee1 Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:
W, IP, FC-FP	H Mk	Endogenous	95	Rabbit

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Flow Cytometry (Fixed/Permeabilized)	1:100

Storage

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

Specificity/Sensitivity

Wee1 Antibody detects endogenous levels of Wee1 protein independent of phosphorylation.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino-terminus of human Wee1. Antibodies are purified by protein A and peptide affinity chromatography.

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 beta-TrCP-mediated ubiquitination and degradation (1,9,10).

Background References

1. Watanabe, N. et al. (1995) *EMBO J.* 14, 1878-1891.
2. Hunter, T. (1995) *Cell* 80, 225-236.
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. Watanabe, N. et al. (2004) *Proc. Natl. Acad. Sci. USA* 101, 4419-4424.

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 **IP:** Immunoprecipitation **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses

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