Revision 2

Store at -20C

#9870

Cell Cycle Regulation Antibody Sampler Kit II

1 Kit (8 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-cdc2 (Tyr15) (10A11) Rabbit mAb	4539	20 µl	34 kDa	Rabbit
Cyclin A2 (BF683) Mouse mAb	4656	20 µl	55 kDa	Mouse IgE
Cyclin B1 (D5C10) XP® Rabbit mAb	12231	20 µl	55 kDa	Rabbit IgG
Cyclin E2 Antibody	4132	20 µl	48 kDa	Rabbit
Phospho-Histone H3 (Ser10) (D2C8) XP® Rabbit mAb	3377	20 µl	17 kDa	Rabbit IgG
Myt1 Antibody	4282	20 µl	60 to 70 kDa	Rabbit
p21 Waf1/Cip1 (12D1) Rabbit mAb	2947	20 µl	21 kDa	Rabbit IgG
Phospho-Wee1 (Ser642) (D47G5) Rabbit mAb	4910	20 µl	95 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Cell Cycle Regulation Sampler Kit II provides an economical means of evaluating cell cycle proteins. The kit contains enough primary and secondary antibodies to perform two western blot experiments.

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.

Background

The critical regulatory step in activating cdc2 during progression into mitosis appears to be dephosphorylation of cdc2 at Tyr15 and Thr14 (1). Phosphorylation of cdc2 by the protein kinases Wee1 and Myt1 at Thr14 and Tyr15 results in inhibition of cdc2 (2,3). Progression through the G1/S checkpoint and initiation of DNA replication requires cyclin E; traversing the G2/M checkpoint to initiate mitosis requires cyclin B, and cyclin A may be required for both S-phase and M-phase (4). The versatile p21 cyclin-dependent kinase inhibitor, which interacts with several cyclin-CDK complexes to regulate cyclin-CDK during the cell cycle, is regulated by phosphorylation and ubiquitin-mediated degradation (5). Phosphorylation of histone H3 at Ser10 and neighboring residues correlates with chromosomal condensation, which is essential for segregation of chromosomes during mitosis (6).

Background References

1. Norbury, C. et al. (1991) *EMBO J* 10, 3321-9.
2. McGowan, C.H. and Russell, P. (1993) *EMBO J* 12, 75-85.
3. Wells, N.J. et al. (1999) *J Cell Sci* 112 (Pt 19), 3361-71.
4. Pagano, M. et al. (1992) *EMBO J* 11, 961-71.
5. Abbas, T. and Dutta, A. (2009) *Nat Rev Cancer* 9, 400-14.
6. Hendzel, M.J. et al. (1997) *Chromosoma* 106, 348-60.

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