

**#4135** Store at -20°C

## Cyclin B1 (V152) Mouse mAb


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, FC-FP	H M	Endogenous	55	Mouse IgG1	#P14635	891

<b>Product Usage Information</b>	<b>Application</b> Western Blotting Flow Cytometry (Fixed/Permeabilized)	<b>Dilution</b> 1:2000 1:800
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	Cyclin B1 (V152) Mouse mAb detects endogenous levels of cyclin B1 independent of phosphorylation.	
<b>Species predicted to react based on 100% sequence homology:</b>	Hamster	
<b>Source / Purification</b>	Monoclonal antibody was produced by immunizing animals with a peptide corresponding to a sequence from hamster cyclin B1.	
<b>Background</b>	Cyclins are a family of proteins that activate specific cyclin-dependent kinases required for progression through the cell cycle. The entry of all eukaryotic cells into mitosis is regulated by activation of cdc2/cdk1 at the G2/M transition. This activation is a multi-step process that begins with the binding of the regulatory subunit, cyclin B1, to cdc2/cdk1 to form the mitosis-promoting factor (MPF). MPF remains in the inactive state until phosphorylation of cdc2/cdk1 at Thr161 by cdk activating kinase (CAK) (1,2) and dephosphorylation of cdc2/cdk1 at Thr14/Tyr15 by cdc25C (3-5). Five cyclin B1 phosphorylation sites (Ser116, 126, 128, 133, and 147) are located in the cytoplasmic retention signal (CRS) domain and are thought to regulate the translocation of cyclin B1 to the nucleus at the G2/M checkpoint, promoting nuclear accumulation and initiation of mitosis (6-9). While MPF itself can phosphorylate Ser126 and Ser128, polo-like kinase 1 (PLK1) phosphorylates cyclin B1 preferentially at Ser133 and possibly at Ser147 (6,10). At the end of mitosis, cyclin B1 is targeted for degradation by the anaphase-promoting complex (APC), allowing for cell cycle progression (11). Research studies have shown that cyclin B1 is overexpressed in breast, prostate, and non-small cell lung cancers (12-14).	
<b>Background References</b>	1. Lorca, T. et al. (1992) <i>EMBO J</i> 11, 2381-90. 2. Harper, J.W. and Elledge, S.J. (1998) <i>Genes Dev</i> 12, 285-9. 3. Norbury, C. et al. (1991) <i>EMBO J</i> 10, 3321-9. 4. McGowan, C.H. and Russell, P. (1993) <i>EMBO J</i> 12, 75-85. 5. Atherton-Fessler, S. et al. (1994) <i>Mol Biol Cell</i> 5, 989-1001. 6. Toyoshima-Morimoto, F. et al. (2001) <i>Nature</i> 410, 215-20. 7. Li, J. et al. (1997) <i>Proc Natl Acad Sci U S A</i> 94, 502-7. 8. Takizawa, C.G. and Morgan, D.O. (2000) <i>Curr Opin Cell Biol</i> 12, 658-65. 9. Santos, S.D. et al. (2012) <i>Cell</i> 149, 1500-13. 10. Jackman, M. et al. (2003) <i>Nat Cell Biol</i> 5, 143-8. 11. Gong, D. and Ferrell, J.E. (2010) <i>Mol Biol Cell</i> 21, 3149-61. 12. Mashal, R.D. et al. (1996) <i>Cancer Res</i> 56, 4159-63. 13. Kawamoto, H. et al. (1997) <i>Am J Pathol</i> 150, 15-23. 14. Soria, J.C. et al. (2000) <i>Cancer Res</i> 60, 4000-4.	

### 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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting **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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