



CCNB1 Polyclonal Antibody

E92056

Catalog Number: E92056**Amount:** 100ul

Background: 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). Four cyclin B1 phosphorylation sites (Ser126, 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).

Species: Rabbit**Isotype:** IgG

Storage/Stability: Store at -20oC or -80oC. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Synonyms: CCNB1; CCNB; cyclin B1**Immunogen:** A synthetic peptide of human CCNB1**Purification:** Affinity purification**Reactivity:** H M R**Applications:** WB IHC**Molecular Weight:** 48kDa**Swiss-Prot No. :** P14635**Gene ID:** 891

References: 1. Lorca, T. et al. (1992) EMBO J 11, 2381-90. 2. Harper, J.W. and Elledge, S.J. (1998) Genes Dev 12, 285-9. 3. Norbury, C. et al. (1991) EMBO J 10, 3321-9. 4. McGowan, C.H. and Russell, P. (1993) EMBO J 12, 75-85. 5. Atherton-Fessler, S. et al. (1994) Mol Biol Cell 5, 989-1001. 6. Toyoshima-Morimoto, F. et al. (2001) Nature 410, 215-20. 7. Li, J. et al. (1997) Proc Natl Acad Sci U S A 94, 502-7. 8. Hagting, A. et al. (1999) Curr Biol 9, 680-9. 9. Takizawa, C.G. and Morgan, D.O. (2000) Curr Opin Cell Biol 12, 658-65. 10. Jackman, M. et al. (2003) Nat Cell Biol 5, 143-8. 11. Gong, D. and Ferrell, J.E. (2010) Mol Biol Cell 21, 3149-61. 12. Mashal, R.D. et al. (1996) Cancer Res 56, 4159-63. 13. Kawamoto, H. et al. (1997) Am J Pathol 150, 15-23. 14. Soria, J.C. et al. (2000) Cancer Res 60, 4000-4.

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