**Cyclin B1 Antibody**

**Applications**
- W, IF-IC

**Species Cross-Reactivity**
- H, M, R, Mk, Hm

**Molecular Wt.** 55 kDa

**Source** Rabbit

---

**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). 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 (10), 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).

**Specificity/Sensitivity:** Cyclin B1 Antibody detects endogenous levels of total cyclin B1.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human cyclin B1. Antibodies are purified using peptide affinity chromatography.

---

**Background References:**

---

**Recommended Antibody Dilutions:**
- Western blotting: 1:1000
- Immunofluorescence (IF-IC): 1:200

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**Western blot analysis of extracts from various cell types using Cyclin B1 Antibody.**

**Applications Key:**
- W—Western
- H—Human
- M—Mouse
- R—Rat
- Sc—S. cerevisiae
- Ce—C. elegans
- H—Human
- All—all species expected

**Species Cross-Reactivity Key:**
- H—Human
- M—Mouse
- R—Rat
- Sc—S. cerevisiae
- Ce—C. elegans
- H—Human
- All—all species expected

---

**Entrez-Gene ID:** #891
**UniProt Acc:** #P14635

**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.

*Species cross-reactivity is determined by western blot.*

**Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**
- Western blotting: 1:1000
- Immunofluorescence (IF-IC): 1:200

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc.

Tween® is a registered trademark of ICI Americas, Inc.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.