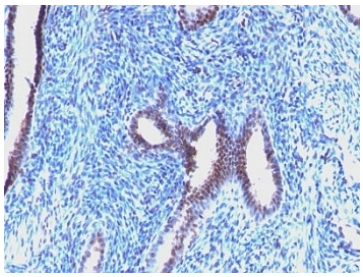
Cyclin B1 Antibody / Cell Cycle Regulator Antibody [clone CCNB1/1098] (V2946)

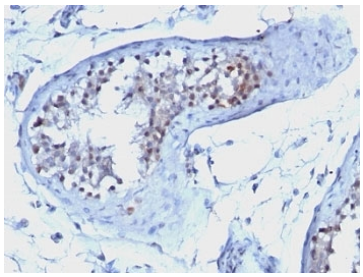
Catalog No.	Formulation	Size
V2946-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2946-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2946SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2946IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

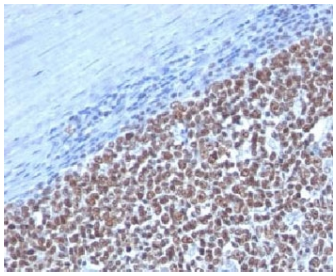
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CCNB1/1098
Purity	Protein G affinity chromatography
UniProt	P14635
Localization	Cytoplasmic & nuclear
Applications	Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Cyclin B1 Antibody / Cell Cycle Regulator Antibody is available for research use only.



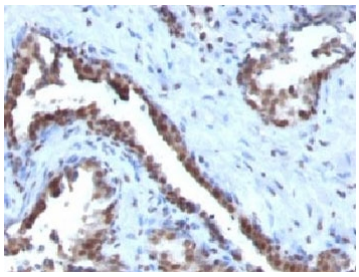
Cyclin B1 Antibody Endometrial Tissue IHC. Immunohistochemistry staining demonstrates Cyclin B1 expression within epithelial cell populations, with HRP-DAB brown staining localized predominantly to glandular epithelial structures. Cyclin B1 is a key regulator of G2/M cell cycle progression that controls entry into mitosis through formation of the Cyclin B1-CDK1 complex. The observed staining pattern is consistent with proliferative cellular compartments where active cell cycle regulation is required for tissue maintenance and growth. Cyclin B1 expression is widely utilized as a marker of cellular proliferation and mitotic activity in both normal and neoplastic tissues.



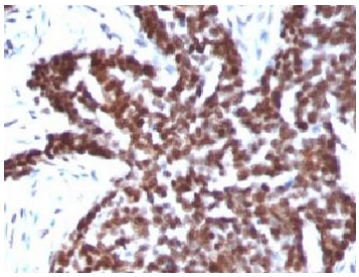
Cyclin B1 Antibody Testicular Carcinoma IHC. Immunohistochemistry staining of FFPE human testicular carcinoma tissue using Cyclin B1 Antibody / Cell Cycle Regulator Antibody demonstrates predominantly nuclear HRP-DAB brown staining within neoplastic cell populations. The staining pattern is consistent with Cyclin B1 expression in actively proliferating tumor cells undergoing cell cycle progression and mitotic regulation. Cyclin B1 functions as a critical regulator of the G2/M transition through activation of the Cyclin B1-CDK1 complex and is frequently used as a marker of cellular proliferation and mitotic activity in cancer tissues. The observed nuclear localization is consistent with the established role of Cyclin B1 in controlling cell cycle progression and promoting entry into mitosis.



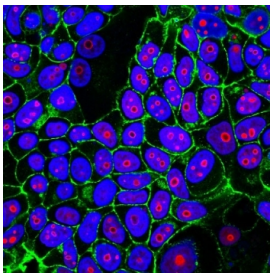
Cyclin B1 Antibody Tonsil IHC. Immunohistochemistry staining of FFPE human tonsil tissue using Cyclin B1 Antibody / Cell Cycle Regulator Antibody demonstrates strong nuclear HRP-DAB brown staining within proliferating lymphoid cell populations. The staining pattern is consistent with Cyclin B1 expression in actively cycling cells progressing through the G2/M phase of the cell cycle. Cyclin B1 forms a regulatory complex with CDK1 to control mitotic entry and is widely recognized as a marker of cellular proliferation and cell cycle activity. The prominent nuclear staining observed within the lymphoid compartment reflects the high proliferative activity characteristic of germinal center-associated immune cells and is consistent with the established role of Cyclin B1 in regulating mitosis and cellular expansion.



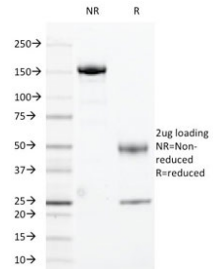
Cyclin B1 Antibody Prostate Carcinoma IHC. Immunohistochemistry staining of FFPE human prostate carcinoma tissue using Cyclin B1 Antibody / Cell Cycle Regulator Antibody demonstrates strong nuclear HRP-DAB brown staining within malignant epithelial cells. The staining pattern is consistent with Cyclin B1 expression in actively proliferating tumor cell populations and reflects the role of Cyclin B1 as a critical regulator of G2/M phase transition and mitotic entry. Cyclin B1 forms a functional complex with CDK1 to drive progression into mitosis and is frequently utilized as a marker of cell cycle activity and tumor proliferation. The observed nuclear localization is consistent with the established function of Cyclin B1 in regulating cell division and supporting neoplastic growth.



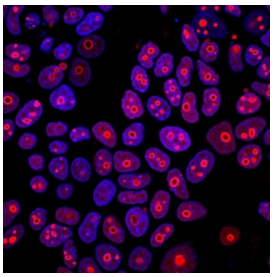
Cyclin B1 Antibody Ovarian Carcinoma IHC. Immunohistochemistry staining of FFPE human ovarian carcinoma tissue using Cyclin B1 Antibody / Cell Cycle Regulator Antibody demonstrates strong nuclear HRP-DAB brown staining throughout malignant epithelial cell populations. The staining pattern is consistent with elevated Cyclin B1 expression in actively proliferating tumor cells and highlights the role of Cyclin B1 as a central regulator of G2/M phase progression and mitotic entry. Cyclin B1 forms a functional complex with CDK1 to coordinate chromosome condensation, spindle assembly, and cell division, making it a widely utilized marker of cell cycle activity and proliferative status. The extensive nuclear staining observed in this ovarian carcinoma specimen is consistent with the increased proliferative activity characteristic of many malignant epithelial tumors.



Cyclin B1 Antibody IF. Immunofluorescent staining of human MCF7 cells using Cyclin B1 Antibody / Cell Cycle Regulator Antibody (clone CCNB1/1098) demonstrates prominent red fluorescence localized predominantly within cell nuclei, consistent with Cyclin B1 expression in actively cycling cells. Cyclin B1 is a key regulator of G2/M phase progression and forms a functional complex with CDK1 to control entry into mitosis. The observed nuclear staining pattern is consistent with the role of Cyclin B1 in regulating cell cycle progression and mitotic activity. CF488-conjugated phalloidin (green) highlights the actin cytoskeleton and cell boundaries, while Hoechst stain (blue) identifies cell nuclei. Red = Cyclin B1 antibody; Green = actin cytoskeleton; Blue = nuclei.



SDS-PAGE analysis of purified, BSA-free Cyclin B1 antibody (clone CCNB1/1098) as confirmation of integrity and purity.



Cyclin B1 Antibody Nuclear IF. Immunofluorescence analysis of formaldehyde-fixed human MCF-7 cells stained with Cyclin B1 Antibody / Cell Cycle Regulator Antibody (clone CCNB1/1098) demonstrates strong red fluorescence localized predominantly within cell nuclei. The staining pattern is consistent with Cyclin B1 expression in actively proliferating cells progressing through the G2/M phase of the cell cycle. Cyclin B1 functions as a regulatory partner of CDK1 and plays a critical role in controlling mitotic entry, chromosome condensation, and cell division. The prominent nuclear localization observed in this preparation is consistent with the established role of Cyclin B1 in cell cycle regulation and proliferative activity. Nuclei are counterstained with Hoechst (blue). Red = Cyclin B1 antibody; Blue = Hoechst nuclear stain.

Description

Cyclin B1 Antibody / Cell Cycle Regulator Antibody (clone CCNB1/1098) detects Cyclin B1 (CCNB1), a highly conserved regulatory protein that functions as a master controller of cell cycle progression and mitotic entry. Cyclin B1 is an essential component of the molecular machinery that governs transition from G2 phase into M phase and is required for proper execution of cell division. By forming a complex with cyclin-dependent kinase 1 (CDK1), Cyclin B1 generates the maturation-promoting factor (MPF), a critical regulator of chromosome condensation, nuclear envelope breakdown, spindle formation, and mitotic progression. Because of its central role in cellular proliferation, Cyclin B1 is widely studied in developmental biology, stem cell research, regenerative medicine, and cancer biology. Cyclin B1 Antibody clone CCNB1/1098 is commonly used to investigate cell cycle activity, proliferative status, and mechanisms controlling cellular growth.

Cyclin B1 expression is tightly regulated throughout the cell cycle. Protein levels are typically low during G1 phase, begin to accumulate during S phase, and continue to increase throughout G2 phase before reaching maximal abundance immediately prior to mitosis. Activation of the Cyclin B1-CDK1 complex triggers a series of molecular events that commit cells to mitotic division. Following successful completion of mitosis, Cyclin B1 undergoes rapid degradation through ubiquitin-mediated proteolysis, allowing cells to exit mitosis and return to interphase. This cyclical pattern of accumulation and degradation makes Cyclin B1 one of the most widely recognized markers of actively cycling cells and mitotic activity.

As a critical regulator of cellular proliferation, Cyclin B1 contributes to tissue development, maintenance of proliferative cell populations, wound repair, and tissue regeneration. Expression is frequently observed in embryonic tissues, stem cell compartments, and rapidly renewing cellular populations where precise control of cell division is required. Researchers utilize Cyclin B1 Antibody to examine developmental growth, proliferative responses, and mechanisms that coordinate cell

cycle progression with differentiation and tissue organization. The ability of Cyclin B1 to govern entry into mitosis has established it as a cornerstone marker for studies of cellular expansion and tissue growth.

The Cyclin B1-CDK1 signaling axis occupies a pivotal position within the broader network of cell cycle checkpoints that ensure genomic stability and faithful chromosome segregation. Multiple signaling pathways converge on Cyclin B1 to regulate the timing of mitotic entry and coordinate cell division with DNA replication and repair processes. Dysregulation of these pathways can disrupt normal cell cycle control and contribute to abnormal proliferation. Consequently, Cyclin B1 has become an important marker for investigations of checkpoint signaling, mitotic regulation, and cellular responses to DNA damage and growth-promoting stimuli.

Altered Cyclin B1 expression has been reported in a wide range of human malignancies and is frequently associated with increased proliferative activity, aggressive tumor behavior, and dysregulated cell cycle control. Overexpression of Cyclin B1 may contribute to genomic instability and uncontrolled cellular growth, making it an important target in cancer research. Cyclin B1 is commonly evaluated in studies examining tumor progression, therapeutic response, and mechanisms of cell cycle-directed anticancer therapies. Because proliferative capacity is a defining characteristic of many cancers, Cyclin B1 remains one of the most biologically relevant markers for assessing cell division and mitotic activity in neoplastic tissues.

Beyond oncology, Cyclin B1 continues to be widely studied in stem cell biology, developmental biology, regenerative medicine, and tissue engineering. The evolutionary conservation of Cyclin B1 across vertebrate species highlights its fundamental importance in cellular physiology and organismal development. Analysis of Cyclin B1 expression provides valuable insight into proliferative status, cell cycle dynamics, and the molecular mechanisms that regulate tissue growth and maintenance. Cyclin B1 Antibody clone CCNB1/1098 is useful for researchers studying cell cycle progression, G2/M transition, mitosis, cellular proliferation, stem cell regulation, developmental biology, cancer progression, tissue regeneration, and checkpoint signaling pathways.

Explore our Cancer Antibodies page for additional markers involved in cellular proliferation, cell cycle regulation, mitotic progression, tumor growth, and cancer biology.

Application Notes

Optimal dilution of the Cyclin B1 Antibody / Cell Cycle Regulator Antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant human full-length protein was used as the immunogen for the Cyclin B1 antibody.

Storage

Store the Cyclin B1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Cyclin B1 Antibody, CCNB1 Antibody, Cell Cycle Regulator Antibody, Mitotic Cyclin Antibody, G2/M Transition Protein Antibody, Cell Division Regulatory Protein Antibody

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