Anti- Cyclin B1

Clone	Species	Ig Class
CCNB1/9242R	Rabbit	IgG/ Kappa

Catalog No.	Description
	Manual
AND83-5M	6 ml of Ready-to-Use Antibody for use with BioGenex Super Sensitive™ Detection Systems
	Concentrated
NUD83-UC	1 ml of Concentrated Antibody for use with BioGenex Super Sensitive™ Detection Systems
NUD83-5UC	0.5 ml of Concentrated Antibody for use with BioGenex Super Sensitive™ Detection Systems
	Automation
AND83-10M	10 ml of Ready-to-Use Antibody in a barcode labeled vial for use with BioGenex Super Sensitive™ Detection Systems and i6000™ Automated Staining Systems
AYD83-YCD	Ready-to-Use Antibody in Barcode labeled vial for use on the Xmatrx® Elite Staining System, 160 tests
AYD83-50D	Ready-to-Use Antibody in Barcode labeled vial for use on the Xmatrx® Elite Staining System, 50 tests
AYD83-4M	Ready-to-Use Antibody in Barcode labeled Vial for use on the NanoVip™ /NMtrx™ 100 Staining System, 50 tests.
AYD83-10M	Ready-to-Use Antibody in Barcode labeled Vial for use on the NanoVip™ 300/NMtrx™ 300 Staining System, 100 tests.

Recommended Detection Kits:
https://biogenex.com/ihc-detection-kits/

Antibody Incubation: 30-60 Min at RT

Control Tissue: Prostate tissue is available with Biogenex FB-D83N* & FG-D83N*
Recommended Dilution for Concentrated Antibody: 1:20-50 in HK941
Recommended Pretreatment: EZ-AR2 (HK522-XAK)

Intended Use
For Research Use. This antibody is designed for the specific localization of human Cyclin B1 in formalin-fixed, paraffin-embedded (FFPE) tissue sections. Evaluation must be performed by a qualified pathologist.

Summary and Explanation
Cyclin B1 (CCNB1) is a regulatory protein that plays a pivotal role in cell-cycle progression, particularly during the transition from the G2 phase to mitosis (M phase). Cyclin B1 forms a complex with cyclin-dependent kinase 1 (CDK1), creating the maturation-promoting factor (MPF), which drives entry into mitosis through phosphorylation of numerous cellular substrates. Cyclin B1 accumulates during S and G2 phases, reaches peak levels during mitosis, and undergoes rapid degradation through the ubiquitin-proteasome pathway at mitotic exit, ensuring proper cell-cycle control. Dysregulation and overexpression of Cyclin B1 have been observed in a wide range of human malignancies and are often associated with increased proliferation, genomic instability, aggressive tumor behavior, and poor clinical outcome.
Clone CCNB1/9242R is a recombinant rabbit monoclonal antibody specific for human Cyclin B1 protein. The antibody recognizes Cyclin B1 in formalin-fixed, paraffin-embedded tissues and is commonly used in immunohistochemistry (IHC) to assess proliferative activity and cell-cycle dysregulation in neoplastic tissues. In normal tissues, staining is primarily observed in cells undergoing G2/M transition, whereas increased expression is frequently detected in rapidly proliferating tumors. Clone CCNB1/9242R has been validated for IHC applications and recognizes human CCNB1 protein derived from a recombinant Cyclin B1 immunogen.
Cyclin B1 immunohistochemical expression has diagnostic, prognostic, and research utility in studies of cell proliferation, tumor progression, therapeutic response, and cell-cycle regulation. Elevated Cyclin B1 expression has been reported in breast, prostate, lung, colorectal, gastric, and other carcinomas, where it may correlate with unfavorable prognosis and increased tumor aggressiveness.

Storage and Handling
Store at 2–8°C. Fresh dilutions, if required, should be prepared prior to use and are stable and steady for up to one day at room temperature (20-26°C). Diluted antibody preparations can be refrigerated or frozen for extended shelf life.

Principles of the Procedure
IHC involves binding of a primary antibody to a target antigen, followed by visualization using a chromogenic detection system. The procedure can be manual or automated. Include appropriate positive and negative controls in each run.

Reagents Provided
Rabbit Monoclonal Antibody to human Cyclin B1 is affinity purified and diluted in PBS, pH 7.2, containing 1% BSA and 0.09% sodium azide.

Precautions
Contains <0.1% sodium azide. Follow standard safety protocols. Wear appropriate PPE, avoid skin and mucous membrane contact, and do not pipette by mouth. Dispose of reagents per regulatory guidelines. SDS available on request.

Quality Control
Refer to BioGenex Detection System documentation for guidance on quality control, including recommended positive and negative controls.

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Troubleshooting

For detection-related issues, consult the BioGenex Detection System documentation. For assistance, contact BioGenex Technical Support at 1-800-421-4149 or support@biogenex.com, or reach out to your local distributor.

Expected Results

This antibody shows Cytoplasm staining in positive cells in FFPE tissues. Refer to the BioGenex website for representative images. Result interpretation is the user's responsibility and should be confirmed with established diagnostic methods.

Limitations of the Procedure

1. Staining results may vary due to improper tissue processing, fixation, or tissue variability. Endogenous enzymes or biotin may cause non-specific staining. HBsAg-positive tissues may yield false positives with HRP systems. Poor counterstaining or mounting can affect interpretation.
2. Please choose the appropriate catalogs as per the Instrument, as per the Automation/ Manual staining process and as per the user validated protocols.

Bibliography:

1. Pines J and Hunter T. Human cyclins A and B1 are differentially located in the cell and undergo cell cycle-dependent nuclear transport. *Journal of Cell Biology*. 1991;115(1):1–17. DOI: 10.1083/jcb.115.1.1.
2. King RW et al. A 20S complex containing CDC27 and CDC16 catalyzes the mitosis-specific conjugation of ubiquitin to cyclin B. *Cell*. 1995;81(2):279–288. DOI: 10.1016/0092-8674(95)90338-0.
3. Malumbres M and Barbacid M. Cell cycle, CDKs and cancer: a changing paradigm. *Nature Reviews Cancer*. 2009;9(3):153–166. DOI: 10.1038/nrc2602.
4. Yasuda M et al. Expression of cyclin B1 in human breast cancer and its clinical significance. *Cancer Letters*. 2002;182(2):171–178. DOI: 10.1016/S0304-3835(02)00082-5.
5. Santos SD et al. Cyclin B1 levels determine timing of mitotic entry and cell-cycle progression. *Nature Cell Biology*. 2012;14(7):731–741. DOI: 10.1038/ncb2517.

2°C 8°C	Temperature Limitation	RUO	Research Use only
	Use By Date	LOT	Batch Code
NON STERILE	Non-Sterile		Consult Instructions for Use
	Manufacturer, BioGenex		

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