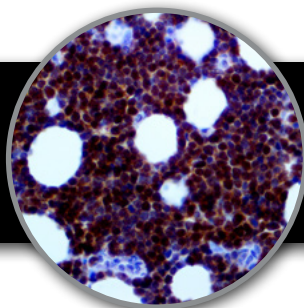


CDK2, RMab

Clone: RBT-CDK2
Rabbit Monoclonal



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Inset: IHC of CDK2 on a FFPE Lymphoblastic Lymphoma Tissue

Intended Use

For In Vitro Diagnostic Use.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections and cell preparations. Interpretation of results should be performed by a qualified medical professional.

Immunogen

A synthetic peptide corresponding to the N-terminus of the human CDK2 protein.

Summary and Explanation

CDK2 (also known as Cyclin-dependent kinase 2 or cell division protein kinase 2) is a 33 kDa enzyme that in humans is encoded by the CDK2 gene on Chromosome 12. CDK2 is a catalytic subunit of the cyclin-dependent kinase complex, whose activity is restricted to the G1-S phase of the cell cycle, and is essential for the cellular G1/S transition.

Studies indicate that over expression of CDK2 may cause the abnormal regulation of cell-cycle, which would could directly contribute to hyper-proliferation of cancerous cells. HOX genes, which play a key role in cell differentiation and morphogenesis, are regulated by CDK2. Studies have shown that HOXA7 promoted cell proliferation (mediated by cyclin E1/CDK2) is evident in cases of Hepatocellular carcinoma, indicating that CDK2 may prove to be a useful marker in such cases.

Antibody Type	Rabbit Monoclonal	Clone	RBT-CDK2
Isotype	IgG	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic, Nuclear	Control	Testis, Tonsil, Prostate
Species Reactivity	Human, Mouse		

Presentation

CDK2 is a rabbit monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Presentations

Catalog Num.	Antibody Type	Dilution	Volume/Qty
BSB 2636	Tinto Prediluted	Ready-to-Use	3.0 mL
BSB 2637	Tinto Prediluted	Ready-to-Use	7.0 mL
BSB 2638	Tinto Prediluted	Ready-to-Use	15.0 mL
BSB 2639	Concentrated	1:25 - 1:100	0.1 mL
BSB 2640	Concentrated	1:25 - 1:100	0.5 mL
BSB 2641	Concentrated	1:25 - 1:100	1.0 mL
BSB 2642	Control Slides	Not Applicable	5 slides

Precautions

1. For professional users only. Ensure results are interpreted by a medical professional.
2. This product contains sodium azide (NaN₃), a toxic chemical which may react with plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent sodium azide build-up.
3. Ensure proper handling procedures are used with reagent. Always wear proper laboratory equipment such as laboratory coat and gloves when handling reagents.
4. Unused solution should be disposed of according to local and federal regulations.
5. Do not ingest reagent. If reagent ingested, contact a poison control center immediately.
6. For complete recommendations for handling biological specimens please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (5).

Storage

Store at 2-8 °C. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

Specimen Preparation

Paraffin sections: The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation to ensure best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033) or ImmunoDNA Digestor (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

Frozen sections and cell preparations: The antibody can be used for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.

Staining Procedure

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positive charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).
2. Air dry for 2 hours at 58° C.
3. Deparaffinize, dehydrate and rehydrate tissues.
4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023) or EDTA (BSB 0030-BSB 0033).
5. Any of three heating methods may be used:

a. TintoRetriever Pressure Cooker or Equivalent

Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA, and place in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.

b. TintoRetriever PT Module or Water Bath Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA at 95°-99° C. Incubate for 30-60 minutes.

c. Conventional Steamer Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA in a Steamer, cover and steam for 30-60 minutes.

6. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
7. For manual staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
8. Wash slides with IHC wash buffer or DI water.
9. Continue IHC staining protocol.

Recommended IHC Protocol

Step	ImmunoDetector AP/HRP	PolyDetector AP/HRP	PolyDetector Plus HRP
Peroxidase/AP Blocker	5 min.	5 min.	5 min
Primary Antibody	30-60 min.	30-60 min.	30-60 min.
1st Step Detection	10 min.	30-45 min.	15 min.
2nd Step Detection	10 min.	Not Applicable	15 min.
Substrate-Chromogen	5-10 min.	5-10 min.	5-10 min.
Counterstain	Varies	Varies	Varies

Performance Characteristics

Normal Tissues

Positive (+)	
Testis	10/10 (100%)
Tonsil	10/10 (100%)
Negative (-)	
Myometrium	0/5 (0%)
Skeletal Muscle	0/4 (0%)

Abnormal Tissues

Positive (+)	
Hepatocellular Carcinoma	3/3 (100%)
Lymphoblastic Lymphoma	5/5 (100%)
Breast Carcinoma	3/4 (75%)
Negative (-)	
Bladder TCC	0/3 (0%)





Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a medical professional.

References

1. Li Y, et. al, Oncol Rep. 2014 Dec 11.
2. Wang GW, et. al., PLoS One. 2014 Dec 11;9(12)
3. Oakes V., et. al., Cell Cycle. 2014 Oct 15;13(20):3302-11
4. Padmakumar VC, Mol Cell Biol. 2009 May;29(10):2582-93
5. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012.

Symbol Key / Légende des symboles/Erläuterung der Symbole

EC REP	EMERGO EUROPE Prinsessegracht 20 2514 AP The Hague The Netherlands	 Storage Temperature Limites de température Zulässiger Temperaturbereich	 Manufacturer Fabricant Hersteller	REF	Catalog Number Référence du catalogue Bestellnummer
IVD	In Vitro Diagnostic Medical Device Dispositif médical de diagnostic in vitro In-Vitro-Diagnostikum	 Read Instructions for Use Consulter les instructions d'utilisation Gebrauchsanweisung beachten	 Expiration Date Utiliser jusqu'à Verwendbar bis	LOT	Lot Number Code du lot Chargenbezeichnung



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