Cyclin D1

Concentrated and Prediluted Rabbit Monoclonal Antibody
902-307-020222

BIOCARE MEDICAL

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
Concentrate	ACR 307 AK, BK, CK	0.1, 0.5, 1.0 mL	1:50	Renoir Red
Predilute	APR 307 AA	6.0 mL	Ready-to-use	N/A
Q Series– For Leica BOND-III	ALR 307 G7	7.0 mL	Ready-to-use	N/A

Intended Use:
For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:
This rabbit monoclonal antibody recognizes a protein of 36 kDa, identified as Cyclin D1 (also known as Bcl-1 or PRAD-1). Cyclin D1 is a regulatory subunit of certain protein kinases thought to advance the G1 phase of the cell cycle. Cyclin D1 used in tandem with CD5, CD10 and CD23 is a reliable immunohistochemical marker for mantle cell lymphoma. Cyclin D1 is also expressed in invasive breast cancer.

Principle of Procedure:
Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

Source: Rabbit monoclonal
Species Reactivity: Human, mouse and rat
Clone: SP4
Isotype: IgG
Protein Concentration: Lot specific Ig concentration is not available.
Epitope/Antigen: Cyclin D1
Cellular Localization: Nuclear
Positive Tissue Control: Mantle cell lymphoma and breast cancer

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative
Renoir Red Diluent (BRR904)

Storage and Stability:
Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Staining Protocol Recommendations (intelliPATH FLX® and manual use):

Peroxide Block: Block for 5 minutes with Peroxidazed 1.
Pretreatment: Perform heat retrieval using Borg or Reveal Decloaker. Refer to the Borg or Reveal Decloaker product data sheet for specific instructions.
Protein Block (Optional): Incubate for 5-10 minutes at RT with Background Punisher.
Primary Antibody: Incubate for 30-60 minutes at RT.
Probe: N/A
Polymer: Incubate for 30 minutes at RT with a secondary-conjugated polymer.
Chromogen: Incubate for 5 minutes at RT with Biocare's DAB - OR - Incubate for 5-7 minutes at RT with Warp Red.
Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:
This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

Staining Protocol Recommendations (Q Series – For Leica BOND-III):
ALR307 is intended for use with the Leica BOND-III. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

Protocol Name: IHC Protocol F
Detection: Bond Polymer Refine
HIER: 20 min with ER1
Peroxide Block: 5 min
Marker (Primary Antibody): 15 min
Post Primary: 8 min
Polymer: 8 min
Mixed DAB Refine: 10 min
Hematoxylin: 5 min

Limitations:
This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:
1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN_3) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (9)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water. (10)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at http://biocare.net.

Technical Support:
Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. de Leon ED, *et al.* Usefulness of an immunohistochemical panel in paraffin-embedded tissues for the differentiation of B-cell non-Hodgkin's lymphomas of small lymphocytes. Mod Pathol. 1998 Nov;11(11):1046-51.
2. Singh N, Wright DH. The value of immunohistochemistry on paraffin wax embedded tissue sections in the differentiation of small lymphocytic and mantle cell lymphomas. J Clin Pathol. 1997 Jan;50(1):16-21.
3. Quintanilla-Martinez L, *et al.* Mantle cell lymphomas lack expression of p27Kip1, a cyclin-dependent kinase inhibitor. Am J Pathol. 1998 Jul;153(1):175-82.
4. Samaha H, *et al.* Mantle cell lymphoma: a retrospective study of 121 cases. Leukemia. 1998 Aug;12(8):1281-7.
5. Nakamura S, Yatabe Y, Seto M. Cyclin D1 overexpression in malignant lymphomas. Pathol Int. 1997 Jul;47(7):421-9.
6. van Diest PJ, *et al.* Cyclin D1 expression in invasive breast cancer. Correlations and prognostic value. Am J Pathol. 1997 Feb;150(2):705-11.

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7. de Boer CJ, *et al.* Cyclin D1 protein analysis in the diagnosis of mantle cell lymphoma. Blood. 1995 Oct 1;86(7):2715-23.
8. Bartkova J, *et al.* Cell cycle-related variation and tissue-restricted expression of human cyclin D1 protein. J Pathol. 1994 Mar;172(3):237-45.
9. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
10. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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