

p16^{INK4a}

Concentrated and Prediluted Monoclonal Antibody
902-3007-090517

BIOCARE
M E D I C A L

Catalog Number:	ACR 3007 A, C	APR 3007 AA
Description:	0.1, 1.0 ml, concentrated	6.0 ml, prediluted
Dilution:	1:100	Ready-to-use
Diluent:	Van Gogh Yellow	N/A

Intended Use:

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

Summary and Explanation:

p16^{INK4a} is a tumor suppressor protein involved in the pathogenesis of a variety of malignancies. It is a specific inhibitor of cdk4/cdk6. Recent analyses of the p16^{INK4a} gene revealed homozygous deletions, nonsense, missense, or frameshift mutations in several human cancers. Although the frequency of p16^{INK4a} abnormalities is higher in tumor-derived cell lines than in unselected primary tumors, significant subsets of clinical cases with aberrant p16^{INK4a} gene have been reported among melanomas, gliomas, esophageal, pancreatic, lung, and urinary bladder carcinomas. p16 immunoreactivity in paraffin-embedded tissues has also been shown to be an independent predictor in minimally invasive urothelial bladder cancer; a prognostic factor in non-small cell lung carcinoma; and has been shown to predict a positive response to chemoradiotherapy in Stage IV head and neck squamous cell carcinoma.

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 secondary antibody is added to bind to the primary antibody. An enzyme label is then added to bind to the secondary antibody; this detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human; others not tested

Clone: G175-405

Isotype: Mouse IgG1

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration.

Epitope/Antigen: Human p16 recombinant protein.

Cellular Localization: Nuclear and some cytoplasmic

Positive Control: Normal testis (cytoplasmic and some nuclear)

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative

Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Staining Protocol Recommendations:

Peroxide Block: Block for 5 minutes with Biocare's Peroxidized 1.

Pretreatment: Perform heat retrieval using Biocare's Reveal Decloaker. Refer to the Reveal Decloaker product data sheet for specific instructions.

Protein Block (Optional): Incubate for 5-10 minutes at room temperature with Biocare's Background Punisher.

Primary Antibody: Incubate for 60 minutes at RT.

Probe: Incubate for 10 minutes at RT with a secondary probe.

Polymer: Incubate for 10-20 minutes at RT with a tertiary polymer.

Chromogen: Incubate for 5 minutes at RT with Biocare's DAB –OR– Incubate for 5-7 minutes at RT with Biocare's Warp Red.

Staining Protocol Recommendations Cont'd:

Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody has been standardized with Biocare's MACH 4 detection system. Use of TBS buffer for washing steps is recommended.

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 (NaN₃) 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) (5)

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 in contact with sensitive areas, wash with copious amounts of water. (6)

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. Tong J, *et al.* Expression of p16 in non-small cell lung cancer and its prognostic significance: A meta-analysis of published literatures. Lung Cancer. 2011 Nov;74(2):155-63.

2. Chen YJ, *et al.* High p16 expression predicts a positive response to chemoradiotherapy in stage IVa/b head and neck squamous cell carcinoma. Asian Pac J Cancer Prev. 2011; 12(3):649-55.

3. Snow AN, Laudadio J. Human papillomavirus detection in head and neck squamous cell carcinomas. Adv Anat Pathol 2010 Nov; 17(6):394-403.

4. Buza N, *et al.* Inverse p16 and p63 expression in small cell carcinoma and highgrade urothelial cell carcinoma of the urinary bladder. Int J Surg Pathol. 2010 Apr; 18 (2):94-102.

5. 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."



60 Berry Drive

Pacheco, CA 94553

USA

Rev: 062117

Tel: 800-799-9499 | www.biocare.net | Fax: 925-603-8080

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References Cont'd:

6. 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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