p120 Catenin

Concentrated and Prediluted Monoclonal Antibody
901-3008-021218

BIOCARE MEDICAL

Catalog Number:	**ACI 3008 A, B**	**API 3008 AA**
Description:	0.1, 0.5 ml, concentrated	6.0 ml, prediluted
Dilution:	1:100	Ready-to-use
Diluent:	Renoir Red	N/A

Intended Use:
For In Vitro Diagnostic Use
p120 Catenin [98/pp120] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of p120 catenin protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

Summary and Explanation:
p120 is a proliferation-associated nucleolar protein found in most human malignant tumors, but not in resting normal cells. The expression of p120 has been statistically correlated with the proliferation capacity in human lung cancer cells and could be a prognostic marker for resected Stage I lung adenocarcinoma. In colorectal cancer the altered localization of p120 catenin has been found to correspond with loss of cytoplasmic localization of E-cadherin and has been associated with a significant reduction in patient survival time and an increase in tumor stage and lymph node metastasis. This data highlights the importance of both p120 catenin and E-cadherin in the progression of colorectal carcinoma. The distinction between lobular and ductal lesions of the breast is important in several circumstances. Diagnostic reproducibility of lobular vs. ductal lesions, based on histology alone, is less than optimal. The proper distinction between atypical lobular hyperplasia, lobular carcinoma *in situ* and low-grade ductal carcinoma *in situ* is critical for patient management. E-cadherin, a negative membrane marker for lobular neoplasia, is useful in the distinction of ductal neoplasia vs. lobular; however as a negative marker for lobular carcinoma, it can be difficult to interpret, particularly in challenging cases. Studies have shown accurate categorization of ductal vs. lobular neoplasia in the breast was achieved with p120 staining and helped give further clarification in the separation of low-grade ductal carcinoma *in situ* from lobular neoplasia. Diagnostically, p120 can be particularly useful in identifying early lesions of lobular neoplasia. Studies have also shown that altered expression of p120 catenin predicts poor outcome 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. A secondary antibody may be applied to bind the primary antibody, followed by an enzyme labeled polymer; or an enzyme labeled polymer may be applied directly to bind the primary antibody. The detection of the bound primary antibody is evidenced by an enzyme-mediated colorimetric reaction.

Source: Mouse monoclonal
Species Reactivity: Human; others not tested
Clone: 98/pp120
Isotype: IgG1
Total Protein Concentration: ~10 mg/ml. Call for lot specific IgG concentration.
Epitope/Antigen: p120 catenin
Cellular Localization: Cytoplasm & cell membrane
Positive Tissue Control: Breast cancer

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
Supplied As: Buffer with protein carrier and preservative
Storage and Stability:
Store at 2ºC to 8ºC. 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 2ºC to 8ºC.

Protocol Recommendations (intelliPATH and manual use):
Peroxide Block: Block for 5 minutes with Biocare's Peroxidazed 1.
Pretreatment Solution (recommended): Diva
Pretreatment Protocol:
Heat Retrieval Method:
Preheat the retrieval solution to 95°C for 30 minutes and then place slides in the preheated solution if using Biocare's Decloaking Chamber Pro or Decloaking Chamber Plus. If using Biocare's Decloaking Chamber NxGen, place slides into the retrieval solution without preheating. Retrieve at 95°C for 40 minutes. Allow solution to cool for 20 minutes and then wash in distilled water.
Protein Block (Optional): Incubate for 10 minutes at RT with Biocare's Background Punisher.
Primary Antibody: Incubate for 30 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.
Counterstain:
Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Protocol Recommendations (Ventana BenchMark ULTRA Slide Staining System):
API3008 is compatible for use with the Ventana BenchMark ULTRA Slide Staining System. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:
Template/Detection: OptiView DAB IHC
Pretreatment Protocol: CC1 32 minutes
Peroxidase: Pre Primary Peroxidase Inhibitor
Primary Antibody: 16 minutes, 36°C

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

Limitations:
The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

IVD CE

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EC REP EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

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

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Limitations Cont'd:
determine optimal conditions. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist. The clinical interpretation of any positive or negative staining should be complemented by morphological studies using proper positive and negative internal and external controls as well as other diagnostic tests.

Quality Control:
Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2). CLSI Wayne, PA, USA (www.clsi.org). 2011

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) (8)
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. (9)
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.

Troubleshooting:
Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

References:

1. Talvinen K, *et al.* Altered expression of p120catenin predicts poor outcome in invasive breast cancer. J Cancer Res Clin Oncol. 2010 Sep; 136(9):1377-87.
2. Yu J, Bhargava R, Dabbs DJ. Invasive lobular carcinoma with extracellular mucin production and HER-2 over expression: a case report and further case studies. Diagn Pathol. 2010 Jun 15; 5:36.
3. Chivuku la M, *et al*. Pleomorphic lobular carcinoma in situ (PLCIS) on breast core needle biopsies: clinical significance and immunoprofile. Am J Surg Pathol. 2008 Nov; 32(11):1721-6.
4. Esposito NN, Chivukula M, Dabbs DJ. The ductal phenotypic expression of the E-cadherin/catenin complex in tubulolobular carcinoma of the breast: an immunohistochemical and clinicopathologic study. Mod Pathol. 2007 Jan; 20(1):130-8.
5. Dabbs DJ, Bhargava R, Chivukula M. Lobular versus ductal breast neoplasms: the diagnostic utility of p120 catenin. Am J Surg Pathol. 2007 Mar; 31(3):427-37.
6. Bellovin DI, *et al.* Altered localization of p120 catenin during epithelial to mesenchymal transition of colon carcinoma is prognostic for aggressive disease. Cancer Res. 2005 Dec 1; 65(23):10938-45.
7. Anastasiadis PZ, Reynolds AB. The p120 catenin family: complex roles in adhesion, signaling and cancer. J Cell Sci. 2000 Apr; 113 (Pt 8):1319-34.

References Cont'd:

8. 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."
9. 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.

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

EC REP EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

IVD CE

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