

p40 (P)

Concentrated and Prediluted Polyclonal Antibody
902-3030-082021

BIOCARE
M E D I C A L

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
Concentrate	ACR 3030 A, B	0.1, 0.5 mL	1:100	Renaissance Background Reducing
Predilute	APR 3030 AA	6.0 mL	Ready-to-use	N/A
UltraLine – For BenchMark	AVR 3030 G	6.0 mL	Ready-to-use	N/A
Q Series– For Leica BOND-III	ALR 3030 G7	7.0 mL	Ready-to-use	N/A

Intended Use:

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

Summary and Explanation:

p40 recognizes the shortest variant of human p53, and may be a valuable marker in cases where p63 has traditionally been used. At present, p63 is the most frequently used marker for lung squamous cell carcinoma (SqCC). Studies have shown that p63 is extremely sensitive for SqCC; however, it suffers from specificity limitations due to its reactivity in a subset of lung adenocarcinomas. Diagnosing non-small cell lung cancer (NSCLC) by morphology in small samples (e.g. biopsy, cellblock, FNA) can be difficult. Given that conserving tissue for molecular testing is a priority, a minimalist immunohistochemistry (IHC)-based diagnostic approach is warranted (2).

In a study, p40 staining was equivalent to p63 in sensitivity for SqCC, but exhibited markedly superior specificity vs. p63, which eliminated a potential pitfall of misinterpreting a p63-positive adenocarcinoma as squamous cell carcinoma (1). This report strongly supports the routine use of p40 as an alternative for p63 for the diagnosis of pulmonary squamous cell carcinoma. p40 may prove to be an important antibody in the differential diagnosis of lung adenocarcinoma vs. lung SqCC.

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 polyclonal

Species Reactivity: Human; others not tested

Immunogen: a synthetic peptide corresponding to amino acids 5-17 of human p40

Clone: N/A

Isotype: IgG

Protein Concentration: Call for lot specific Ig concentration

Epitope/Antigen: amino acids 5-17 of p40 ($\Delta Np63$)

Cellular Localization: Nuclear

Positive Control: Lung SqCC

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. 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 2°C to 8°C.

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

Peroxide Block: Block for 5 minutes with Peroxidized 1.

Pretreatment: Perform heat retrieval using Diva Decloaker. Refer to the Diva Decloaker product data sheet for specific instructions.

Protein Block: Incubate for 10 minutes at RT with Background Punisher.

Primary Antibody: Incubate for 30 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:

1. This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.
2. Lot-to-lot staining variability may occur with polyclonal antibodies.
3. Light cytoplasmic staining of smooth muscle and blood vessels may be observed, which should be considered negative for p40 expression.

Staining Protocol Recommendations (Ventana BenchMark ULTRA):

AVR3030 is intended for use with the BenchMark ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

Template/Detection: OptiView DAB IHC

Pretreatment Protocol: CC1 64 minutes

Peroxidase: Pre Primary Peroxidase Inhibitor

Primary Antibody: 32 minutes, 36°C

Staining Protocol Recommendations (Q Series – For Leica BOND-III):

ALR3030 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: 30 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



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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) (3)
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. (4)
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. Bishop JA, *et al.* p40 (Δ Np63) is superior to p63 for the diagnosis of pulmonary squamous carcinoma. *Mod Pathol.* 2012 Mar; 25(3):405-15.
2. Pelosi G, *et al.* Δ Np63 (p40) and thyroid transcription factor-1 immunoreactivity on small biopsies or cell blocks for typing non-small cell lung cancers: a novel two-hit, sparing-material approach. *J Thorac Oncol.* 2012 Feb; 7(2):281-90.
3. 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."
4. 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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