Arginase-1
Concentrated and Prediluted Rabbit Monoclonal Antibody
901-3058-042519

Catalog Number: ACI 3058 A, B
API 3058 AA

Description: Dilution: Diluent:
0.1, 0.5 mL, conc. 1:100 Van Gogh Yellow

Dilution: 6.0 mL, RTU

Diluent: N/A

Protocol Recommendations (VALENT Automated Slide Staining Platform):

Primary Antibody: OAI 3058 T60

VLI 3058 G20

T60 tests, RTU

6.0 mL, RTU

20 mL, RTU

Peroxidase Block: Ready-to-use

Polymer: Ready-to-use

Chromogen: Ready-to-use

Platform:

Primary Antibody: N/A

Secondary: N/A

Linker: Incubate for 10 minutes with Val Universal Linker.

Polymer: Incubate for 20 minutes with Val Universal Polymer.

Chromogen: Incubate for 5 minutes with Val DAB.

Counterstain: Countercstain for 5 minutes with Val Hematoxylin.

Protocol Recommendations (intelliPATH FLX® and manual use):

Peroxide Block: Block for 5 minutes with Peroxidased 1.

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

Primary Antibody: Incubate for 5-10 minutes at RT with Background Punisher.

Counterstain:

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

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.

Protocol Recommendations (ONCORE™ Automated Slide Staining System):

OAI3058 is intended for use with the ONCORE. Refer to the User Manual for specific instructions for use. Protocol parameters in the Protocol Editor should be programmed as follows:

Protocol Name: ARG-1 Rb

Protocol Template (Description): Rb HRP Template 1

Dewaxing (DS Option): DS2

Antigen Retrieval (AR Option): AR2, low pH; 101°C

Reagent Name, Temp.: ARG-1 Rb, 30 min., 25°C

Protocol Recommendations (Ventana BenchMark XT / ULTRA):

AVI3058 is intended for use with the BenchMark XT / ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

- Using ultraView on XT / ULTRA:

  Template/Detection: ultraView DAB

  Pretreatment Protocol: CC1 Mild

  Primary Antibody: 32 minutes, 37°C

- Using OptiView on ULTRA:

  Template/Detection: OptiView DAB IHC

  Pretreatment Protocol: CC1 64 minutes

  Peroxidase: Pre Primary Peroxidase Inhibitor

  Primary Antibody: 8 minutes, 36°C

Performance Characteristics:

Sensitivity, specificity and cross-reactivity were determined by staining with MACH 4 Universal HRP-Polymer Detection. See Tables 1 and 2 for expected results.

Intended Use:

For In Vitro Diagnostic Use

Arginase-1 [EP261] is a rabbit monoclonal antibody that is intended for laboratory use in the qualitative identification of arginase-1 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:

Arginase-1 (ARG-1) is a key enzyme of the urea cycle found in liver that catalyzes the conversion of L-arginine into L-ornithine and urea. ARG-1 is very specific and has been shown to be more sensitive than Hep Par 1 and Glypican 3 in hepatoellular carcinomas (1-2).

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 to the primary antibody. A two-step procedure will feature a linker antibody added to the primary antibody. An enzyme-labeled polymer is then added to the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

Source:

Rabbit monoclonal

Species Reactivity:

Human

Clone: EP261 (previously known as EPR6672(B))

Isotype: IgG

Protein Concentration: Call for lot specific Ig concentration.

Epitope/Antigen: Arginase-1

Cellular Localization: Cytoplasmic and nuclear

Positive Tissue Control: Normal human liver

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.

Protocol Recommendations (VALENT® Automated Slide Staining Platform):

VLTR3058 is intended for use with the VALENT. Refer to the User Manual for specific instructions for use. Protocol parameters in the Protocol Manager should be programmed as follows:

Deparaffinization: Deparaffinize for 8 minutes with Val DePar.

Pretreatment: Perform heat retrieval at 98°C for 60 minutes using Val AR-Hi pH, 5X (use at 1X).

Peroxidase Block: Block for 5 minutes with Val Peroxidase Block.

Primary Antibody: Incubate for 30 minutes.

Protocol Recommendations (Ventana BenchMark XT / ULTRA):

AVI3058 is intended for use with the BenchMark XT / ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

- Using ultraView on XT / ULTRA:

  Template/Detection: ultraView DAB

  Pretreatment Protocol: CC1 Mild

  Primary Antibody: 32 minutes, 37°C

- Using OptiView on ULTRA:

  Template/Detection: OptiView DAB IHC

  Pretreatment Protocol: CC1 64 minutes

  Peroxidase: Pre Primary Peroxidase Inhibitor

  Primary Antibody: 8 minutes, 36°C

Performance Characteristics:

Sensitivity, specificity and cross-reactivity were determined by staining with MACH 4 Universal HRP-Polymer Detection. See Tables 1 and 2 for expected results.

Protocol Recommendations (VALENT Automated Slide Staining Platform):

Secondary: N/A

Linker: Incubate for 10 minutes with Val Universal Linker.

Polymer: Incubate for 20 minutes with Val Universal Polymer.

Chromogen: Incubate for 5 minutes with Val DAB.

Counterstain: Countercstain for 5 minutes with Val Hematoxylin.
Arginase-1
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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 determine optimal conditions.

Quality Control:

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 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) (4)
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. (5)
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:

Produced using Abcam’s RabMAb® technology. RabMAb® technology is covered by the following U.S. Patents, No. 5,675,063 and/or 7,429,487.

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Table 1: Sensitivity and specificity were determined by testing formalin-fixed, paraffin-embedded normal tissues.

<table>
<thead>
<tr>
<th>Pathology</th>
<th># Positive / Total Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver (Hepatocellular carcinoma)</td>
<td>52/56 (92.9%)</td>
</tr>
<tr>
<td>Breast (Infiltrating duct carcinoma)</td>
<td>0/40</td>
</tr>
<tr>
<td>Melanoma (Epithelioid, Plasmacyte, Rhabdoid)</td>
<td>0/12</td>
</tr>
<tr>
<td>Kidney (Clear cell carcinoma, Nephroblast, Transitional)</td>
<td>1/71 (1.4%)</td>
</tr>
<tr>
<td>Pancreas (Ductal adenocarcinoma)</td>
<td>9/89 (10.1%)</td>
</tr>
<tr>
<td>Prostate (Adenocarcinoma)</td>
<td>3/64 (4.6%)</td>
</tr>
<tr>
<td>Testis (Seminoma)</td>
<td>0/12</td>
</tr>
<tr>
<td>Ovary (Serous papillary)</td>
<td>1/80 (1.25%)</td>
</tr>
<tr>
<td>Lung (Squamous carcinoma, Adenocarcinoma)</td>
<td>1/77 (1.29%)</td>
</tr>
<tr>
<td>Colon (Adenocarcinoma, Mucinous and Papillary)</td>
<td>0/184</td>
</tr>
<tr>
<td>Endocrine Tumors (Thyroid-Adrenal gland, Papillary carcinoma)</td>
<td>0/46</td>
</tr>
</tbody>
</table>

Table 2: Tissue cross-reactivity was determined by testing formalin-fixed, paraffin-embedded normal tissues.

<table>
<thead>
<tr>
<th>Tissue</th>
<th># Positive / Total Cases</th>
<th>Tissue</th>
<th># Positive / Total Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adrenal gland</td>
<td>0/3</td>
<td>Ovary</td>
<td>0/3</td>
</tr>
<tr>
<td>Bladder, urinary</td>
<td>0/3</td>
<td>Pancreas</td>
<td>2/3</td>
</tr>
<tr>
<td>Bone marrow</td>
<td>1/1</td>
<td>Parathyroid</td>
<td>0/3</td>
</tr>
<tr>
<td>Eye</td>
<td>0/2</td>
<td>Pituitary gland</td>
<td>0/2</td>
</tr>
<tr>
<td>Breast</td>
<td>0/3</td>
<td>Placenta</td>
<td>0/3</td>
</tr>
<tr>
<td>Brain, cerebellum</td>
<td>0/3</td>
<td>Prostate</td>
<td>0/3</td>
</tr>
<tr>
<td>Brain, cerebral cortex</td>
<td>0/3</td>
<td>Skin</td>
<td>2/2</td>
</tr>
<tr>
<td>Fallopian tube</td>
<td>0/3</td>
<td>Spinal cord</td>
<td>0/2</td>
</tr>
<tr>
<td>Esophagus</td>
<td>0/3</td>
<td>Spleen</td>
<td>2/2</td>
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<tr>
<td>Stomach</td>
<td>0/3</td>
<td>Skeletal muscle</td>
<td>0/3</td>
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<td>Intestine, small</td>
<td>0/3</td>
<td>Testis</td>
<td>0/3</td>
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<td>Intestine, colon</td>
<td>0/3</td>
<td>Thymus</td>
<td>0/3</td>
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<tr>
<td>Intestine, rectum</td>
<td>0/3</td>
<td>Thyroid</td>
<td>0/3</td>
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<tr>
<td>Heart</td>
<td>0/3</td>
<td>Tonsil</td>
<td>0/3</td>
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<tr>
<td>Kidney</td>
<td>3/5</td>
<td>Ureter</td>
<td>0/3</td>
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<tr>
<td>Liver</td>
<td>3/3</td>
<td>Uterus, cervix</td>
<td>0/3</td>
</tr>
<tr>
<td>Lung</td>
<td>0/3</td>
<td>Uterus, endometrium</td>
<td>0/3</td>
</tr>
</tbody>
</table>