

# PAX8

Concentrated and Prediluted Polyclonal Antibody  
901-379-070919

**BIOCARE**  
M E D I C A L

<b>Catalog Number:</b>	<b>CP 379 AK, CK</b>	<b>PP 379 AA</b>	<b>VLTR 379 G20</b>
<b>Description:</b>	0.1, 1.0 mL, conc.	6.0 mL, RTU	20 mL, RTU
<b>Dilution:</b>	1:200	Ready-to-use	Ready-to-use
<b>Diluent:</b>	Van Gogh Yellow	N/A	N/A

## Intended Use:

For In Vitro Diagnostic Use

PAX8 is a rabbit polyclonal antibody that is intended for laboratory use in the qualitative identification of PAX8 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:

PAX8 is a member of the paired box (PAX) family of transcription factors. Members of this gene family typically encode proteins which contain a paired box domain, an octapeptide, and a paired-type homeodomain. This family plays critical roles during fetal development and cancer growth. PAX8 is involved in kidney cell differentiation, thyroid development, or thyroid dysgenesis. Studies show that expression of the PAX8 gene was found in 89% of analyzed tumor samples. The expression of the PAX8 target genes were found in all normal renal samples. PAX8 has been shown to be expressed in three of the most common types of renal cell carcinoma including clear cell, chromophobe and papillary carcinoma but negative for uroepithelial carcinoma of renal pelvis. PAX8 stains nuclei exclusively and performs well in formalin-fixed paraffin-embedded tissues. PAX8 has been shown to be a superior marker compared to the Renal Cell Carcinoma Marker (RCC).

## 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, mouse and dog

**Clone:** N/A

**Isotype:** N/A

**Protein Concentration:** Lot specific Ig concentration is not available.

**Epitope/Antigen:** PAX8

**Cellular Localization:** Nuclear

**Positive Tissue Control:** Renal tissue

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative  
Van Gogh Yellow (PD902)

## 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):

VLTR379 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.

**Protein Block:** Incubate for 10 minutes with Val Background Block.

**Primary Antibody:** Incubate for 30 minutes.

**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:** Counterstain for 5 minutes with Val Hematoxylin.

## 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 data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 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:

This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 2 detection system. Use TBS 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 protocol are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

## 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

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### Precautions Cont'd:

91/155/EC. Sodium azide ( $\text{NaN}_3$ ) 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) (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 in 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:

1. Lotan TL, *et al.* Immunohistochemical panel to identify the primary site of invasive micropapillary carcinoma. *Am J Surg Pathol.* 2009 Jul;33(7):1037-41.

2. Viktorová T, *et al.* Expression of PAX2 and PAX8 genes in conventional type of renal carcinoma and their role in the tumor prognosis. *Diagn Cytopathol.* 2008 Aug; 36 (8):568-73.

3. Narlis M, *et al.* Pax2 and Pax8 regulate branching morphogenesis and nephron differentiation in the developing kidney. *J Am Soc Nephrol.* 2007 Apr; 18(4):1121-9.

4. 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."

5. 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.