**Uroplakin II + Uroplakin III**

**Prediluted Monoclonal Antibody**

902-3094-081117

---

**Intended Use:**
For Research Use Only. Not for use in diagnostic procedures.

**Summary and Explanation:**
Uroplakin II (UPII) and Uroplakin III (UPIII) are 15 kDa and 47 kDa proteins, respectively, that are key components of urothelial plaques, which enhance the permeability barrier of the urothelium (1). UPII and UPIII may be found in the urothelial surface membrane of human renal pelvis, ureter, bladder and urethra. UPII and UPIII have also been identified as sensitive and highly specific markers for urothelial carcinoma (2-5).

New mouse monoclonal antibodies to UPII, clone BC21, and UPIII, clone BC17, have been developed and evaluated for sensitivity in urothelial carcinoma and specificity versus normal and neoplastic tissues (6). In a study of 56 cases of urothelial carcinoma, UPII [BC21] and UPIII [BC17] stained 44 (79%) and 31 (55%) cases, respectively (6). With the exception of bladder and ureter, UPII and UPIII have been found to be highly specific when evaluated in various normal and neoplastic tissues, including breast, lung, colon, prostate, kidney, ovarian, liver and pancreatic cancers. As a result, the combination of UPII [BC21] and UPIII [BC17] may be a sensitive marker for urothelial carcinoma and may be valuable in the discrimination of bladder cancer from renal and prostate carcinomas.

U.S. Patent 9,429,577 and patents pending.

**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

**Reagent Provided:**
Uroplakin II + Uroplakin III is provided as a prediluted antibody cocktail of anti-Uroplakin II and anti-Uroplakin III antibodies, in buffer with carrier protein and preservative.

- **Antibody:** anti-Uroplakin II, anti-Uroplakin III
- **Clone:** BC21, BC17
- **Source:** Mouse monoclonal
- **Isotype:** IgG1
- **Epitope/Antigen:** Residues 36-50
- **Cellular Localization:** Cytoplasmic & Membrane
- **Staining:** Brown (DAB)

**Storage and Stability:**
Store at 2°C to 8°C. Do not use reagent after the expiration date printed on the vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user.

**Known Applications:**
- Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
- Species Reactivity: Human; others not tested
- **Positive Tissue Control:** Urothelial carcinoma or normal bladder

**Staining Protocol Recommendations:**
- **Peroxide Block:** Block for 5 minutes with Biocare's Peroxidazed 1.
- **Pretreatment:** Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker product data sheet for specific instructions.
- **Protein Block (Optional):** Incubate for 5-10 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.

**Technical Notes:**
This antibody has been standardized with Biocare's MACH 4 detection system. Use TBS buffer for washing steps.

**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 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) (7)
2. Specimens, before and after fixation, and all materials exposed to reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (8)
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:**
References Cont’d: