Uroplakin II (BC21)

Mouse Anti-Human Uroplakin II Monoclonal Antibody (Clone BC21)

References and presentations[1]

- **ready-to-use (manual or LabVision AutoStainer)**
  MAD-000773QD-3
  MAD-000773QD-7
  MAD-000773QD-12
- **Ready-to-use (MD-Stainer)**[2]
  MAD-000773QD-3/V
  MAD-000773QD/V
- **concentrated**
  MAD-000773Q - 1:50 recommended dilution

Composition: anti-Uroplakin 3 mouse monoclonal antibody obtained from supernatant culture and prediluted in a tris buffered solution pH 7.4 containing 0.375mM sodium azide solution as bacteriostatic and bactericidal.
Intended use IVD: Immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting
Clone: BC21
Immunogen: Residues corresponding to amino acids 36-50 of the human Uroplakin II
Ig isotype: Mouse IgG1/kappa
Species reactivity: In vitro diagnostics in humans. Not tested in other species
Description and aplications: Uroplakin II (UP2) is a membrane-specialized protein of 15kDa that, along with the Uroplakins 1A, 1B and 3, compose the asymmetric membrane unit located in the apical cell plates of the human urothelium. UP2 is synthesized by urothelial cells in the final stage of differentiation. The synthesis of the protein is coded by the UPK2 gene located in the chromosome region 11q23.3.
In normal tissues, the antibody specifically recognizes the UP2 in the surface layers of the normal urothelium, being negative in the rest of the human epithelia.
The presence of mRNA of the UP2 has been demonstrated in biopsies of urothelial carcinomas as well as in the blood from patients with localized tumors or metastatic lesions. Compared to Uroplakin 3, the antibody against UP2 shows greater sensitivity, marking up to 80% of urothelial tumors in comparison with approximately 35% of UP3. The greater sensitivity of the antibody has been demonstrated both in primary tumors and in their metastasis, where comparatively it stains a greater number of tumor cells with a higher intensity.
UP2 expression is apparently higher in urothelial carcinomas of the upper urinary tract and urothelial carcinomas while micropapillary carcinomas have the highest staining. In cases of sarcomatoid urothelial carcinoma, UP2 showed similar focal staining as UP3. The mononuclear and multinucleated cells of the poorly differentiated urothelial carcinoma rich in octeoclast-like cells are negative against UP2.
Due to the above and together with GATA3, the antibody against UP2 is very useful in the diagnosis of urothelial carcinomas, where also, the diffuse expression of p40 offers information on a worse prognosis of the disease.
Isolated cases of serous carcinomas of the ovary may present focal staining against UP2.

IHC positive control: Normal urothelium
Visualization: Membrane and cytoplasm

IHC recommended procedure:

- 4µm thick section should be taken on charged slides; dry overnight at 60º
- Deparaffinise, rehydrate and HIER (heat induced epitope retrieval) – boil tissue in the Pt Module using Vitro S.A EDTA buffer pH8[3] for 20 min at 95ºC. Upon completion rinse with 3-5 changes of distilled or deionised water followed by cooling at RT for 20 min
- Endogenous peroxidase block - Blocking for 10 minutes at room temperature using peroxidase solution (ref. MAD-021540Q-125)
- Primary antibody: incubate for 20 minutes [The antibody dilution (when concentrated) and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory]
- For detection use Master Polymer Plus Detection System (HRP) (DAB included; ref. MAD-000237QK)
- Counterstaining with haematoxylin and final mounting of the slide

[1] These references are for presentation in vials of Low Density Polyethylene (LDPE) dropper. In case the products are used in automated stainers, a special reference is assigned as follows:
- / L: Cylindrical screw-cap vials (QD-3 / L, QD-7 / L, QD-12 / L).
- / N: Polygonal screw-cap vials (QD-3 / N, QD-7 / N, QD-12 / N).
For different presentations (references / volumes) please contact the supplier.

[2] For Technical specifications for MD-Stainer, please contact your distributor.

[3] Ref: MAD-004072R/D

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CE IVD

Storage and stability: Stored at 2-8ºC. Do not freeze. Once the packaging has been opened it can be stored until the expiration date of the reagent indicated on the label. If the reagent has been stored under other conditions to those indicated in this document, the user must first check its correct performance taking into account the product warranty is no longer valid.

Warnings and precautions:

1. Avoid contact of reagents with eyes and mucous membranes. If reagents come into contact with sensitive areas, wash with copious amounts of water.
2. This product is harmful if swallowed.
3. Consult local or state authorities with regard to recommended method of disposal.
4. Avoid microbial contamination of reagents.

SAFETY RECOMMENDATIONS

This product is intended for laboratory professional use only. The product is NOT intended to be used as a drug or for domestic purposes. The current version of the Safety Data Sheet for this product can be downloaded by searching the reference number at www.vitro.bio or can be requested at regulatory@vitro.bio.

BIBLIOGRAPHY

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3. Li W, Liang Y, Deavers MT, Kamat AM, Matin SF, Dinney CP, Czerniak B, Guo CC. Uroplakin II is a more sensitive immunohistochemical marker than uroplakin III in urothelial carcinoma and its variants. Am J Clin Pathol. 2014 Dec;142(6):864-71
4. Leivo MZ, Elson PJ, Tacha DE, Delahunt B, Hansel DE. A combination of p40, GATA-3 and uroplakin II shows utility in the diagnosis and prognosis of muscle-invasive urothelial carcinoma. Pathology. 2016 Oct;48(6):543-9
5. Priore SF, Schwartz LE, Epstein JI. An expanded immunohistochemical profile of osteoclast-rich undifferentiated carcinoma of the urinary tract. Mod Pathol. 2018 Feb 6. doi: 10.1038/s41379-018-0012-z. [Epub ahead of print]
6. Mirsadraei L, Hodkoff A, Jones K, Shabaik A, Kader AK, Saenz CC, Montironi R, Tacha DE, Fadare O, Hansel DE. Serous Carcinoma Mimicking Primary Urothelial Carcinoma on Clinical Evaluation and Pathology: A Potential Diagnostic Pitfall. Arch Pathol Lab Med. 2018 Feb;142(2):168-177

LABEL AND BOX SYMBOLS

Explanation of the symbols of the product label and box:

	Expiration date
	Temperature limit
	Manufacturer
	Sufficient content for <n> assays
REF	Catalog number
LOT	Lot code
	Refer to the instructions of use
IVD	Medical product for *in vitro* diagnosis.
e-SDS	Material safety data sheet

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