

Product datasheet

anti-Uroplakin III mouse monoclonal, AU1, liquid, purified

Short overview

Cat. No.	690108
Quantity	1 ml
Concentration	100 µg/ml

Product description

Host	Mouse
Antibody Type	Monoclonal
Isotype	IgG1
Clone	AU1
Immunogen	Asymmetric unit membrane (AUM) preparation from bovine urinary bladder
Formulation	0.09% sodium azide, 0.5% BSA in PBS buffer, pH 7.4
UniprotID	P38574 (Bovine), O75631 (Human), A0A4X1W3H8 (Pig), D3ZZ76 (Rat)
Synonym	Uroplakin-3a, UP3a, Uroplakin III, UPIII, UPK3A, UPK3
Conjugate	Unconjugated
Purification	Affinity chromatography
Storage	Short term at 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
Intended use	Research use only
Application	IHC, WB
Reactivity	Bovine, Human, Pig, Rat

Applications

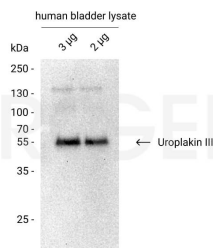
Immunohistochemistry (IHC) - paraffin	1:20-1:60 (1.6-5 µg/ml; microwave treatment recommended)
Western Blot (WB)	1:4,000-1:20,000 (0.005-0.025 µg/ml)

Background

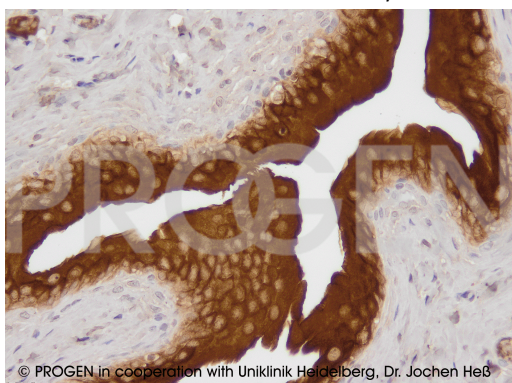
Mab AU1 reacts specifically with uroplakin IIIA present in the superficial cell layer of the urothelium. The binding region has been localized on the extracellular part of the antigen. Together with the uroplakins UP Ia, UP Ib and UP II, uroplakin III contributes in constituting the asymmetrical unit membrane of the plaques of urothelial superficial (umbrella) cells. Uroplakin is a membrane glycoprotein (47 kDa) and has been shown to be a specific marker of terminal urothelial differentiation (Wu et al. 1993 & 1194). Antibody AU1 strongly stains the urothelial surface membrane in paraffin sections of human renal pelvis, ureter, bladder, and urethra. About 60% of human transitional cell carcinomas (including metastases) maintain focal (sometimes very limited) expression of uroplakin III. Until now, no uroplakin staining was found in any non-urothelial carcinoma (Moll et al. 1995). Uroplakin III may thus serve as a specific urothelial differentiation marker in cases of metastatic carcinomas with unclear primary tumor.

Moll, R., Wu, X.-R., Lin, J.-H. & Sunt, T.-T. Uroplakins, Specific Membrane Proteins of Urothelial Umbrella Cells, as Histological Markers of Metastatic Transitional Cell Carcinomas. *Am. J. Pathol.* 147, 1383-1397 (1995). Wu, X.-R. et al. Mammalian Uroplakins: A group of highly conserved urothelial differentiation-related membrane proteins. *J. Biol. Chem.* 269, 13716-13724 (1994). Wu, X. R. & Sun, T. T. Molecular cloning of a 47 kDa tissue-specific and differentiation-dependent urothelial cell surface glycoprotein. *J. Cell Sci.* 106, 31-43 (1993).

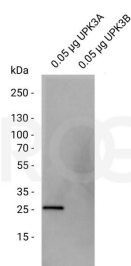
Product images



Western blot analysis of human bladder whole tissue lysate with anti-Uroplakin III antibody. Western blot analysis was performed on 3 µg and 2 µg bladder lysate. The PVDF membrane was blocked with 5% dry milk in PBST (PBS + 0.1% Tween 20) for 1 h at RT. The primary antibody anti-Uroplakin III mouse monoclonal, AU1 (Cat. No. 690108) was diluted in blocking buffer (antibody concentration 0.005 µg/ml) and incubated at RT for 1 h. The secondary antibody goat anti-mouse HRP was also diluted in blocking buffer (antibody concentration 0.2 µg/ml) and incubated for 1 h at RT. The bands were visualized by chemiluminescent detection using Pierce™ ECL Western Blotting Substrate.



IHC of rat bladder (courtesy of J.Heß, University Hospital Heidelberg)



Western blot analysis of recombinant human Uroplakin 3A (UPK3A) lysate and recombinant human Uroplakin 3B (UPK3B) lysate with anti-Uroplakin III antibody. Western blot analysis was performed on 0.05 µg UPK3A and 0.05 µg UPK3B. The PVDF membrane was blocked with 5% dry milk in PBST for 1 h at RT. The primary antibody anti-Uroplakin III mouse monoclonal, AU1 (Cat. No. 610108) was diluted in blocking buffer (antibody concentration 0.05 µg/ml) and incubated at RT for 1 h. The secondary antibody goat anti-mouse HRP was also diluted in blocking buffer (antibody concentration 0.2 µg/ml) and incubated for 1 h at RT. The bands were visualized by chemiluminescent detection using Pierce™ ECL Western Blotting Substrate. The antibody recognizes UPK3A but not UPK3B.

References

Publication	Species	Application
Riedel, I. et al. Brenner tumors but not transitional cell carcinomas of the ovary show urothelial differentiation: immunohistochemical staining of urothelial markers, including cytokeratins and uroplakins. Virchows Arch. 438, 181-91 (2001).	human	IHC (paraffin)
Kaufmann, O., Volmerig, J. & Dietel, M. Uroplakin III Is a Highly Specific and Moderately Sensitive Immunohistochemical Marker for Primary and Metastatic Urothelial Carcinomas. Am. Soc. Clin. Pathol. 113, 683-687 (2000).	human	IHC (paraffin)
Liang, F.-X. et al. Organization of uroplakin subunits: transmembrane topology, pair formation and plaque composition. Biochem. J. 355, 13-18 (2001).	mouse, rat, bovine	WB, IHC (paraffin), IEM
Moroki, T. et al. Databases for technical aspects of immunohistochemistry: 2021 update. J Toxicol Pathol. 34, 161-180(2021).	rat	IHC