

Product Specification Sheet

**Mouse Uroplakin-3a (UPK3A) Antibodies**

<input type="checkbox"/> Cat. # AB-23008-A	Rabbit Anti-mouse UPK3A (UPK3A- phosphor T245) IgG (aff pure)	<b>SIZE:</b> 100 ul
<input type="checkbox"/> Cat. # AB-23008-P	Mouse UPK3A (UPK3A- phosphor T245) peptide	<b>SIZE:</b> 100 ug
<input type="checkbox"/> Cat. # AB-23008-CP	Mouse UPK3A (non-phosphor) control peptide	<b>SIZE:</b> 100 ug

Uroplakins (UPK) are integral membrane proteins that form 2-dimensional crystalline arrays termed urothelial plaques that cover more than 90% of the apical urothelial surface. The asymmetric unit membrane (AUM) forms the apical plaques of urothelium and is believed to strengthen the urothelial apical surface and prevent the cells from rupturing during bladder distention. The 4 major conserved integral membrane proteins of the AUM are UPK1A, UPK1B, UPK2, and UPK3A. Uroplakin (UP) 3a. UPIIIa protein, is a major uroplakin with a potential cytoplasmic signaling domain, in bacterial invasion and apoptosis and is critical for urinary tract development and function. In response to FimH adhesin binding, the UPIIIa cytoplasmic tail undergoes phosphorylation on a specific threonine residue by casein kinase II, followed by an elevation of intracellular calcium. Pharmacological inhibition of these signaling events abrogates bacterial invasion and urothelial apoptosis in vitro and in vivo.<sup>1</sup> Studies show that in *Xenopus laevis*, sperm-egg interaction promotes partial proteolysis and/or tyrosine phosphorylation of uroplakin III (UPIII) and the tyrosine kinase Src, which both localize to the cholesterol-enriched egg membrane microdomains (MDs).<sup>2</sup>

**Protein Function** Component of the asymmetric unit membrane (AUM); a highly specialized biomembrane elaborated by terminally differentiated urothelial cells. May play an important role in AUM-cytoskeleton interaction in terminally differentiated urothelial cells. It also contributes to the formation of urothelial glycocalyx which may play an important role in preventing bacterial adherence

**Subcellular Location** Endoplasmic reticulum membrane; Single-pass type I membrane protein

**Protein name** Uroplakin-3a, Uroplakin III

**Gene name** UPK3A

**Synonyms** Upk3

**Similarity** Belongs to the uroplakin-3 family.

**Source of Antigen and Antibodies**

<b>Antigen</b>	15-aa peptides of Mouse Uroplakin-3a (UPK3A); (protein accession # Q9JKX8) ( <b>designated control Upk3a- phosphor peptide AB-23008-P</b> ) conjugated to KLH; Epitope location, ~C terminal and non-phosphor control peptide designated as AB-23008-CP. Cytoplasmic.
<b>Ab Host/type</b>	Rabbit, polyclonal Aff pure IgG ( <b>cat # AB-23008-A</b> ) purified over the antigen column
<b>2-ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
<b>-ve control</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Affinity pure IgG**

- 100 ug/100ul     solution     lyophilized powder

Supplied in **Buffer:** PBS+0.1% BSA

**Reconstitute powder** in PBS at 1mg/ml

**Control/blocking peptide**

- 100 ug/100 ul     solution     lyophilized powder

Supplied in Buffer: PBS pH 7.5,

**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**

**Short-term:** unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C.

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20°C or below.

**Shipping:** 4°C for solutions and room temp for powder

**Recommended Usage**

**Western Blotting** (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

**ELISA** (1:10K-1:100K; using 50-100 ng of control peptide/well).

**Histochemistry & Immunofluorescence:** not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

**Specificity & Cross-reactivity**

Mouse AB-23008-P peptide sequences are found to be 93% conserved in rat and 79% in human. Antibody reactivity has not been established between species. AB-23008-P is phosphorylated at T245. The control immunogenic phosphor peptide AB-23008-P and non-phospho peptide AB-23008-CP are available to confirm the specificity of antibodies. The control peptides, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

**General References:** Yuasa T., (1998). *Jpn J Cancer Res* 89 (9): 879-82. Garcia-Espana A., (2006). *Mol. Phylogenet. Evol.* 41:355-367.<sup>1</sup> Thumbikat P., (2009). *PLoS Pathog* 5(5): e1000415. <sup>2</sup> Sato K., (2014). *Development.* 141, 1705-1714.

*\*This product is for In vitro research use only.*

**Related materials available from ADI**

**Antibodies:**

ReadyBlot **Kidney Protein Explorer**-Study distribution of protein in various regions of the Mouse/rat kidney using the pre-made protein blots; Western blot recycling kit-Use the same blot for WNK1-4.

AB-23008-A-P

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