Kidney International

SUPPLEMENTARY INFORMATION

Androgen exposure potentiates formation of intratubular communities and renal abscesses by *Escherichia coli*

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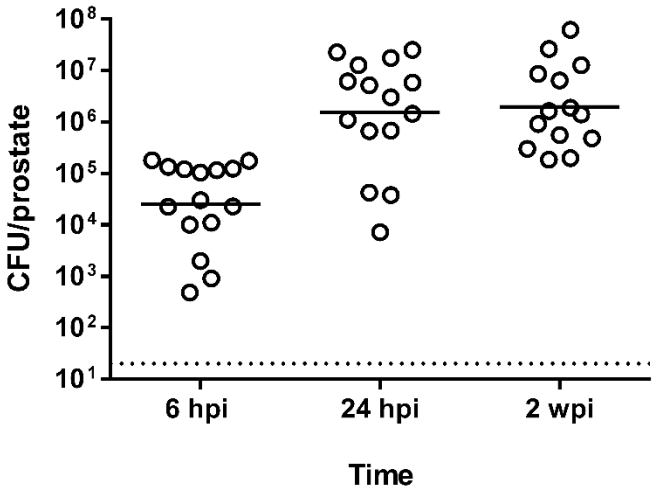
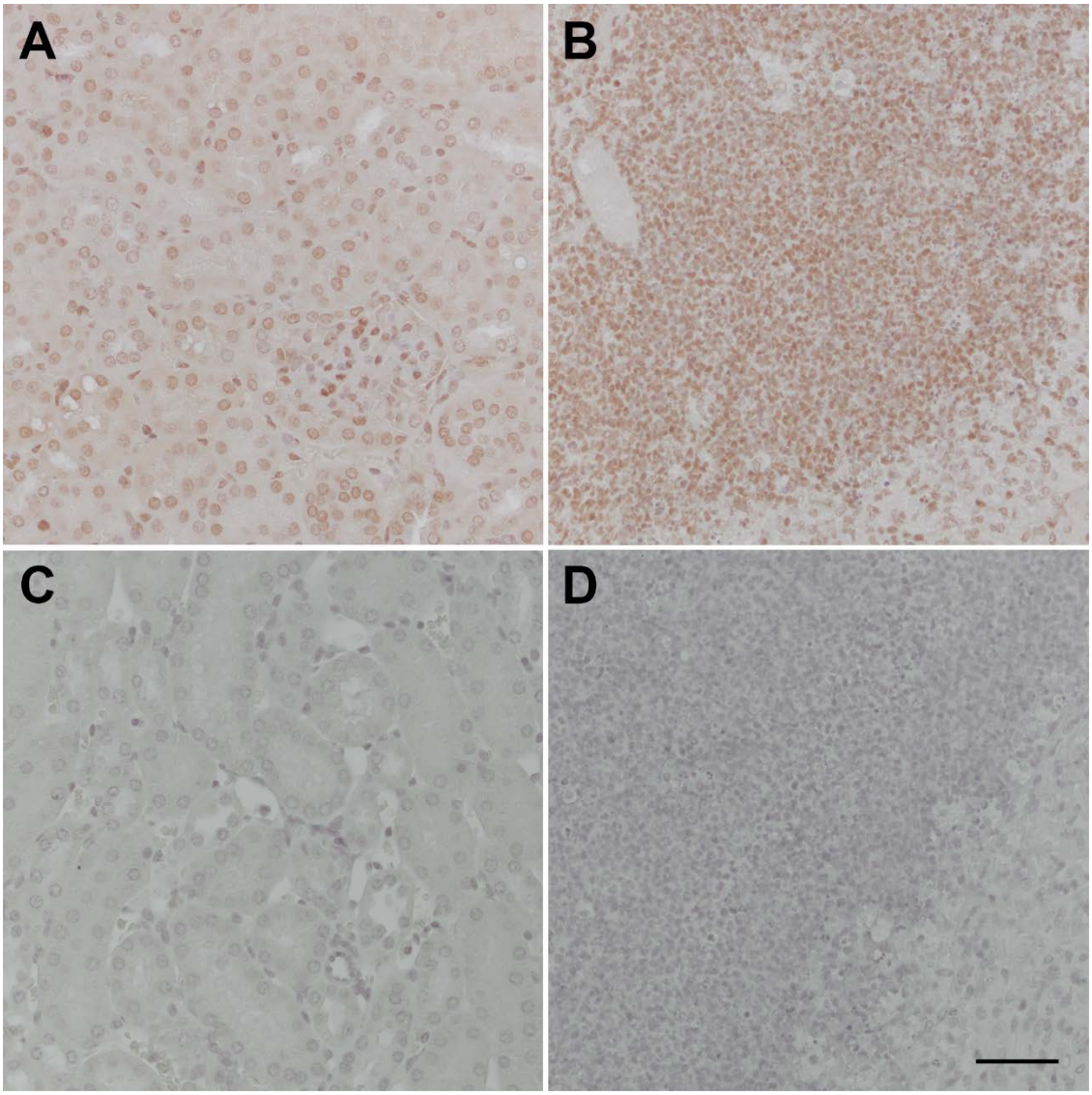
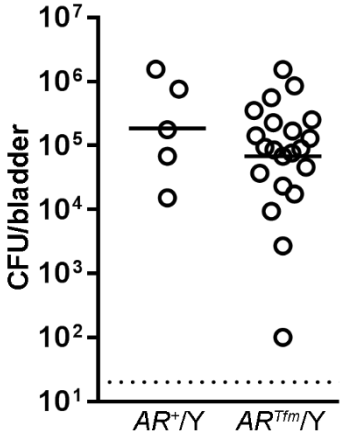


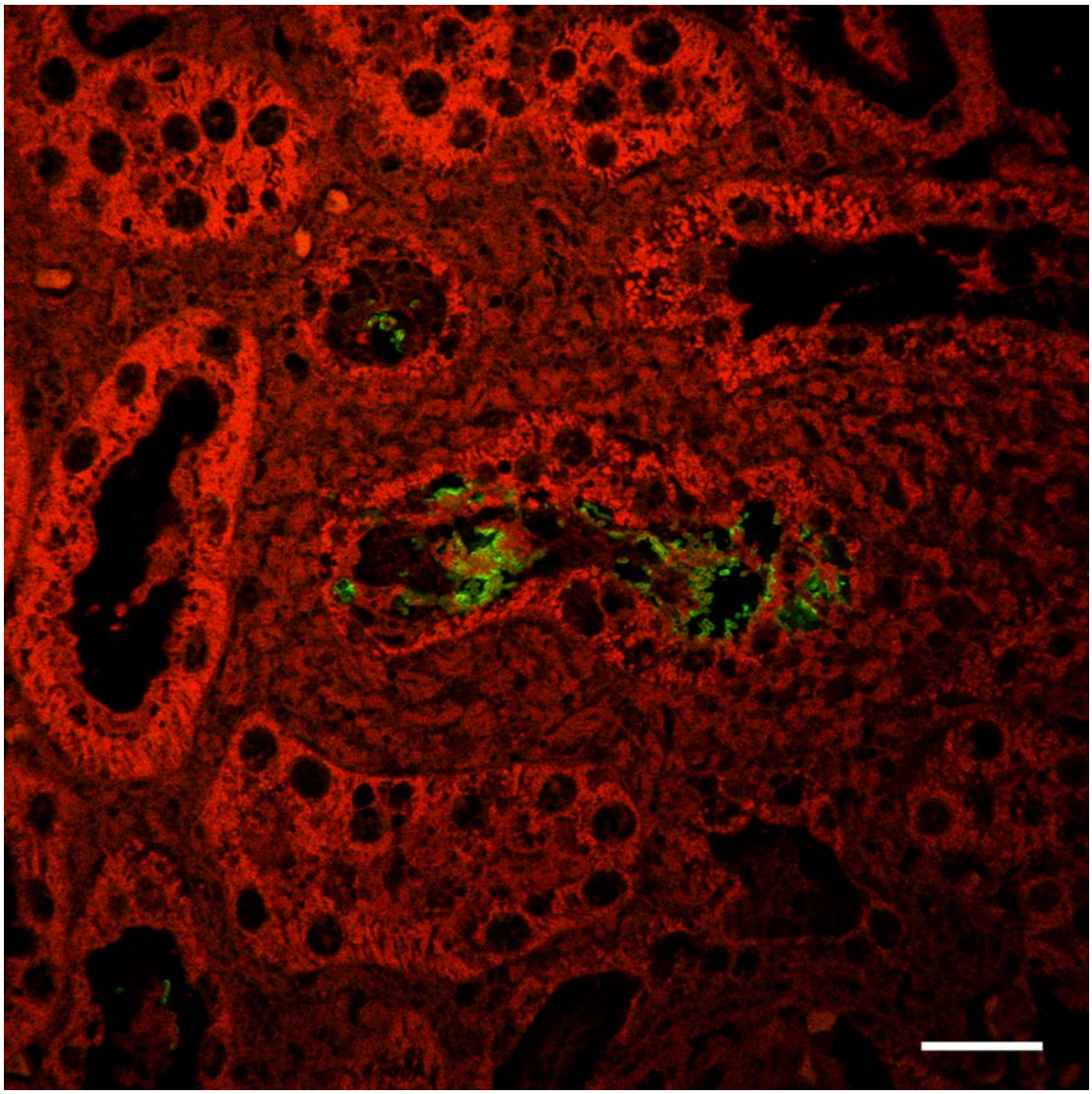
Supplementary Figure 1. Mini-surgical inoculation of the bladder with UPEC strain UTI89 in C3H/HeN males results in durable prostate infection. Shown are bacterial loads in homogenates of whole prostate harvested at the indicated time points (aggregate of 3 experiments with total n = 14-15 per condition). Bars indicate geometric mean, and dotted line indicates limit of detection.



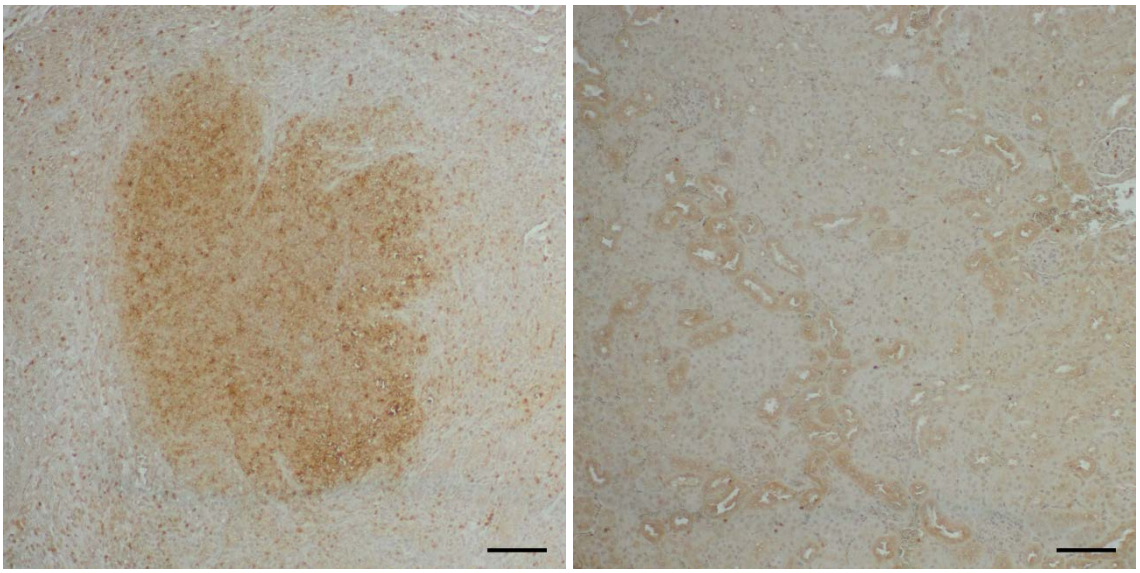
Supplementary Figure 2. Immunohistochemistry demonstrates androgen receptor (AR) expression by both epithelial and hematopoietic cells in the infected kidney. AR staining of (A) an uninflamed area and (B) a heavily inflamed area of UPEC-infected kidney in a C3H/HeN male 2 wpi shows expression in most epithelial cells, particularly in the nuclei, and in most of the infiltrating leukocytes. Panels (C) and (D) represent control images of similar areas of kidney, with hematoxylin counterstain but with no primary antibody. Scale bar in lower right, 50 μm, applies to all images.



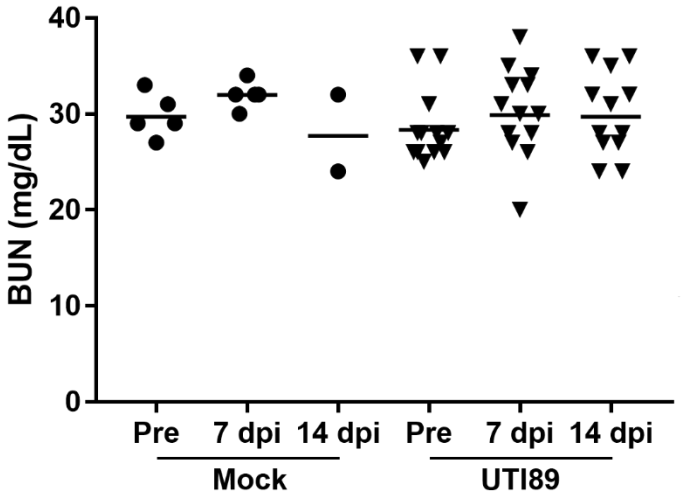
Supplementary Figure 3. Bladder bacterial loads in C57BL/6 mice with the indicated genotypes. In contrast to the kidney, the *Tfm* mutation had a less evident effect on bladder titers at this early time point.



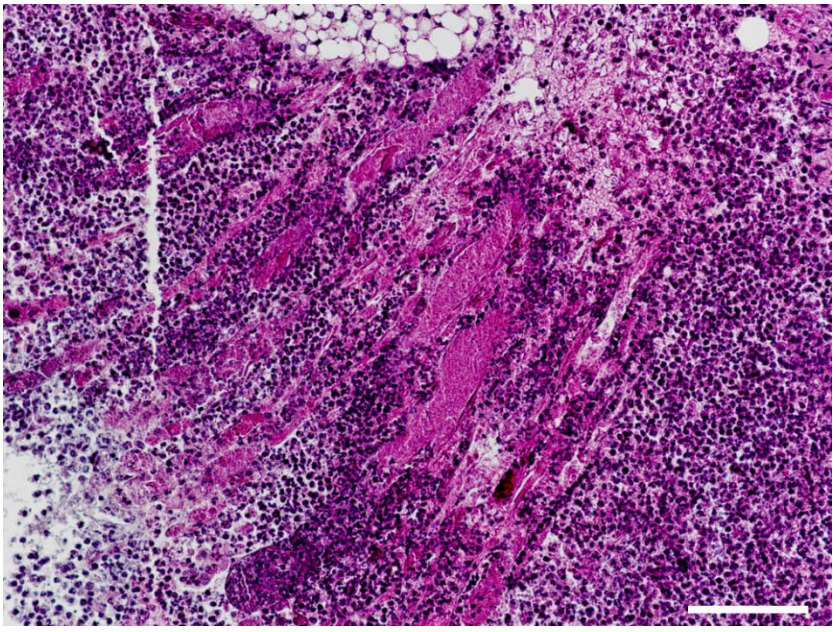
Supplementary Figure 4. At 5 dpi in infected C3H/HeN males, immunofluorescence microscopy demonstrates bacillary UPEC (green) colonizing renal tubules. Scale bar, 20 μm.



Supplementary Figure 5. The cellular infiltrate surrounding kidney bacterial communities within renal abscesses observed 2 wpi in UPEC-infected C3H/HeN males is comprised predominantly of neutrophils (**left panel**), as revealed by immunohistochemistry with anti-Ly6G antibody. An uninvolved area of the same kidney is shown for comparison (**right panel**). Scale bars, 100 μm.



Supplementary Figure 6. Serum BUN measurements pre-inoculation (Pre), 7 dpi, and 14 dpi in C3H/HeN males infected via mini-surgical bladder inoculation with UPEC strain UTI89 or mock infected with PBS (Mock). No significant differences were observed. All males shown here had high-titer pyelonephritis with abscess at 14 dpi (data not shown). In prior published work (Olson et al., 2017), infected C3H/HeN males exhibited elevated BUN not until 30 dpi.



Supplementary Figure 7. Abscess identified 2 wpi in a single non-androgenized female C3H/HeN mouse, demonstrating an H&E appearance analogous to abscesses seen in a majority of male C3H/HeN mice. Features include intratubular UPEC communities separated by tubular epithelia from intense neutrophilic infiltrate, which has replaced much of the nearby cortical architecture. Scale bar, 100 µm.