LABORATORY EXERCISES FOR THE URINARY SYSTEM

the inner medulla

medullary rays, uriniferous tubule

corticomedullary junction

outer cortex

arcuate vessels
uriniferous tubule

Proximal tubule
Bowman's capsule
Distal tubule
Collecting duct
Loop of Henle

podocytes
parietal layer of the glomerular capsule ("Bowman’s capsule"),
renal corpuscle
proximal tubules
JG complex
"brush" border
macula densa
Distal tubules

- the inner medulla
- distal tubule
- capillary
- arcuate vessels
- outer cortex
- attenuated ("thin" or "intermediate") tubule (thin loop of Henle)
- Collecting duct
- JG complex
- Distal tubule
- uriniferous tubule

Bowman's space

blood vessels

Proximal tubule
distal tubule

- Distal tubule
- Collecting tubule
- Blood vessel
- Collecting duct
- Bowman's space
- Attenuated ("thin" or "intermediate") tubule
- Transitional epithelium
- Papillary duct
DEMO SLIDE BOX 174 (593 or 593A)—Kidney, horse.

- Bowman's space
- Proximal tubule
- Distal tubule
- Renal corpuscle
- Uriniferous tubule
- Collecting duct

Diagram showing the kidney structure with labeled parts.
DEMO SLIDE BOX 182 (BV-1-72) – Kidney, cow.
Proximal tubule

Distal tubule

Macula densa

Renal corpuscle
Slide #102 (SP-1-72). Kidney, sheep.

- cortical labyrinth
- outer cortex
- medullary rays
- medulla
- inner and outer zones
- arcuate vessels
- corticomedullary junction

- Papillary ducts
- medullary rays with proximal and distal straight tubules
Slide #104 (20kK G). Kidney, goat.

- Proximal and distal convoluted tubules
- Vascular pole
- Proximal convoluted tubules
- Renal corpuscles
- Urinary pole
- Macula densa
- JG complex
- Distal convoluted tubules

Renal corpuscles; proximal and distal convoluted tubules; macula densa and JG complex.
Slide #104 (20kK G). Kidney, goat.

renal corpuscles; proximal and distal convoluted tubules; macula densa and complex

renal corpuscles

proximal convoluted tubules

Urinary pole

Vascular pole of renal corpuscles

macula densa

proximal and distal straight tubules

distal convoluted tubules

Interlobar artery

Arcuate artery

Renal capsule

Interlobular artery
Slide #104 (20kK G). Kidney, goat.

- Proximal and distal straight tubules
- Attenuated ("thin" or "intermediate") tubule (thin portion of loop of Henle)
- Blood capillaries
- Proximal and distal straight tubules
Slide # 140 (Pf5-207a). Kidney, pig (PAS stain).

- basement membrane.
- brush border of the proximal renal tubules

stain (PAS) for glycoproteins and some other carbohydrates. The basement membrane contains considerable glycoproteins.
Renin granules in Kidney (PAS)

- Distal tubule
- Proximal tubule
- Juxamadullary nephrons
- Renin granules
Renin granules in JG cells of Kidney (PAS)
transitional epithelium, lamina propria/submucosa, tunica muscularis, and serosa.

tunica muscularis has 2 OR 3 LAYERS of smooth muscle and occupies less than 50% of the wall.

transitional epithelium
DEMO SLIDE BOX 222 – (C-H-168,169). Ureter and urethra, dog.

Erectile tissue of penis

Mesothelium of serosa

Serosa.

CCT

Transitional epithelium

d
Slide #55 (M 3-210j). Ureter, monkey.

VENULE

capillary

COMPANION VEIN

arteriole

nerve

MUSCULAR ARTERY

transitional epithelium

MUSCULAR ARTERY AND COMPANION VEIN. SHOULD ALSO FIND ARTERIOLES, VENULES, AND CAPILLARIES.
DEMO SLIDE BOX 69 – Ureter, dog.

- tunica muscularis
- transitional epithelium
Slide #52 (M4-13K). Ureter, monkey.

- transitional epithelium
- tunica muscularis
Slide #54 (Dog1-214C). Urinary bladder, dog.

- **lamina propria/submucosa**
- **tunica muscularis greater than 50% of wall**
- Three layers arrangement is variable; and intermixed
DEMO SLIDE BOX 188 (SP-1-161). Urinary bladder, sheep.

transitional epithelium

4mm

tunica muscularis
DEMO SLIDE BOX 70 – Urinary bladder, dog.

transitional epithelium

tunica muscularis.

tunica muscularis.
Slide #49 (Rbt 100-211A). Urinary bladder, rabbit.

- Transitional epithelium
- Large intestine