

KEY:

Red Highlights: Changes to be made to DB ontology based on differences with ontology in flat files (for Editorial Office Use Only)

Red text: Changes to be made to DB ontology that were unable to be made during last ontology update (for Editorial Office Use Only)

TS28 urinary and reproductive systems (P4 - Adult)

- EMAP:27551 mouse
- EMAP:27553 └ organ system
- EMAP:27555 └ visceral organ
- EMAP:27559 └ urinary system
- EMAP:29477 └ mesentery
- EMAP:29617 └ rest of mesentery
- EMAP:29478 └ urogenital mesentery
- EMAP:29491 └ metanephros (syn: kidney)
- EMAP:29598 └ renal capsule
- EMAP:29561 └ nephrogenic zone
- EMAP:29564 └ nephrogenic interstitium (syn: peripheral blastema)
- EMAP:29562 └ cap mesenchyme (syn: condensed mesenchyme)
- EMAP:29565 └ pretubular aggregate (syn: pretubular condensate)
- EMAP:29563 └ ureteric tip (syn: ureteric ampulla)
- EMAP:31053 └ ureteric tree terminal branch excluding tip itself
- EMAP:29492 └ renal cortex
- EMAP:29525 └ mature renal corpuscle (syn: Malpighian corpuscle)
- EMAP:29529 └ glomerular tuft (syn: glomerulus)
- EMAP:29533 └ glomerular capillary system
- EMAP:29530 └ glomerular mesangium
- EMAP:29532 └ glomerular basement membrane
- EMAP:29531 └ visceral epithelium (syn: podocyte layer)
- EMAP:29526 └ Bowman's capsule (syn: glomerular capsule)
- EMAP:29528 └ parietal epithelium
- EMAP:29527 └ urinary space of renal corpuscle (syn: Bowman's space)
- EMAP:29536 └ afferent arteriole
- EMAP:29537 └ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
- EMAP:29538 └ rest of afferent arteriole
- EMAP:29535 └ efferent arteriole
- EMAP:29534 └ extraglomerular mesangium
- EMAP:29499 └ cortical renal tubule
- EMAP:29500 └ renal proximal tubule
- EMAP:29502 └ renal proximal convoluted tubule (syn: first convoluted tubule)
- EMAP:29658 └ segment 1 of proximal tubule
- EMAP:29660 └ segment 2 of proximal tubule
- EMAP:29662 └ renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
- EMAP:29503 └ renal distal tubule
- EMAP:29508 └ distal convoluted tubule (syn: second convoluted tubule)
- EMAP:29505 └ distal straight tubule (syn: thick ascending limb)
- EMAP:31383 └ premacula segment of distal straight tubule
- EMAP:29507 └ macula densa
- EMAP:29506 └ postmacula segment
- EMAP:29509 └ renal connecting tubule
- EMAP:29520 └ cortical collecting duct
- EMAP:29521 └ renal cortical interstitium (syn: cortical stroma)
- EMAP:31295 └ renal cortical fibroblasts
- EMAP:31427 └ periarterial fibroblasts of cortex
- EMAP:31425 └ peritubular fibroblasts of cortex
- EMAP:31303 └ resident macrophages of the cortex (syn: renal monocytes of the cortex)
- EMAP:31311 └ rest of renal cortical interstitium
- EMAP:29549 └ renal cortical vasculature
- EMAP:29550 └ renal cortical arterial system
- EMAP:29552 └ interlobular artery
- EMAP:29551 └ arcuate artery
- EMAP:29553 └ renal cortical venous system
- EMAP:29554 └ interlobular vein
- EMAP:29555 └ arcuate vein
- EMAP:30042 └ renal cortical capillary
- EMAP:31318 └ renal cortical lymphatics
- EMAP:31325 └ renal cortical nerves
- EMAP:29566 └ renal medulla
- EMAP:31460 └ renal medullary interstitium (syn: medullary stroma)
- EMAP:31332 └ renal medullary fibroblasts
- EMAP:31339 └ resident macrophages of the medulla (syn: renal monocytes of the medulla)

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EMAP: 31346					└─ rest of renal medullary interstitium
EMAP: 29567					└─ outer medulla
EMAP: 31490					└─ loop of Henle, outer medullary portion
EMAP: 31492					└─ thin descending limb
EMAP: 31493					└─ thin ascending limb (syn: ascending thin limb)
EMAP: 31491					└─ proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP: 31494					└─ premacula segment of distal straight tubule (syn: thick ascending limb)
EMAP: 29982					└─ outer medullary interstitium
EMAP: 31388					└─ outer medullary fibroblast
EMAP: 31431					└─ periarterial fibroblasts of outer medulla
EMAP: 31429					└─ peritubular fibroblasts of outer medulla
EMAP: 31393					└─ resident macrophage of the outer medulla (syn: renal monocytes of the outer medulla)
EMAP: 31398					└─ rest of outer medullary interstitium
EMAP: 29664					└─ outer stripe of outer medulla
EMAP: 29666					└─ loop of Henle
EMAP: 29670					└─ proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP: 29672					└─ distal straight tubule (syn: thick ascending limb)
EMAP: 29678					└─ inner stripe of outer medulla
EMAP: 29680					└─ loop of Henle
EMAP: 29682					└─ thin descending limb
EMAP: 29684					└─ premacula segment of distal straight tubule (syn: thick ascending limb)
EMAP: 29983					└─ outer medullary collecting duct
EMAP: 29581					└─ inner medulla (syn: papilla)
EMAP: 29583					└─ loop of Henle, inner medullary portion
EMAP: 29584					└─ thin descending limb
EMAP: 29586					└─ bend (syn: U-turn)
EMAP: 29585					└─ thin ascending limb (syn: ascending thin limb)
EMAP: 29582					└─ inner medullary interstitium (syn: papillary interstitium)
EMAP: 31403					└─ inner medullary fibroblast
EMAP: 31435					└─ periarterial fibroblasts of inner medulla
EMAP: 31433					└─ peritubular fibroblasts of inner medulla
EMAP: 31408					└─ resident macrophage of the inner medulla (syn: renal monocytes of the inner medulla)
EMAP: 29587					└─ inner medullary collecting duct (syn: papillary collecting duct)
EMAP: 29589					└─ renal medullary vasculature
EMAP: 29590					└─ renal medullary arterial system
EMAP: 29591					└─ renal medullary venous system
EMAP: 30048					└─ renal medullary capillary (syn: vasa recta)
EMAP: 31353					└─ renal medullary lymphatics
EMAP: 31360					└─ renal medullary nerves
EMAP: 29595					└─ calyx
EMAP: 29597					└─ major
EMAP: 29596					└─ minor
EMAP: 29557					└─ pelvis
EMAP: 29559					└─ pelvic urothelial lining (syn: pelvic urothelium)
EMAP: 29560					└─ pelvic smooth muscle
EMAP: 29558					└─ perihilar interstitium
EMAP: 31366					└─ perihilar fibroblast
EMAP: 31372					└─ resident macrophage of the perihilar interstitium (syn: renal monocytes of the perihilar interstitium)
EMAP: 31378					└─ rest of perihilar interstitium
EMAP: 29442					└─ renal artery
EMAP: 29981					└─ endothelial layer of renal artery
EMAP: 30002					└─ endothelium of renal artery
EMAP: 30010					└─ smooth muscle layer of renal artery
EMAP: 29441					└─ renal vein
EMAP: 29969					└─ endothelial layer of renal vein
EMAP: 30018					└─ endothelium of renal vein
EMAP: 30026					└─ smooth muscle layer of renal vein
EMAP: 29692					└─ renal nerve
EMAP: 29479					└─ ureter
EMAP: 29482					└─ urothelium (syn: transitional epithelium)
EMAP: 29483					└─ superficial cellular layer (syn: umbrella cell)
EMAP: 29484					└─ deep cellular layer (syn: basal urothelium)
EMAP: 29485					└─ intermediate cell layer
EMAP: 29486					└─ basal cell layer
EMAP: 29481					└─ lamina propria
EMAP: 29488					└─ ureteral smooth muscle layer
EMAP: 29634					└─ inner longitudinal muscle
EMAP: 29636					└─ outer circular muscle
EMAP: 29489					└─ interstitium (syn: Cajal cell)
EMAP: 29480					└─ adventitia of ureter
EMAP: 30859					└─ ureteral vasculature
EMAP: 29638					└─ median umbilical ligament

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EMAP:29457	} bladder
EMAP:29462	} epithelium of bladder (syn: urothelium)
EMAP:29463	} epithelium of fundus
EMAP:29464	} epithelium of trigone
EMAP:30087	} epithelium of neck
EMAP:30094	} lamina propria of the bladder
EMAP:30108	} lamina propria of fundus
EMAP:30115	} lamina propria of trigone
EMAP:30122	} lamina propria of neck
EMAP:29459	} muscularis mucosa of bladder
EMAP:29460	} muscularis mucosa of fundus
EMAP:29461	} muscularis mucosa of trigone
EMAP:30143	} muscularis mucosa of neck
EMAP:29468	} detrusor muscle of bladder
EMAP:29470	} detrusor muscle of fundus
EMAP:29469	} detrusor muscle of trigone
EMAP:30129	} detrusor muscle of neck
EMAP:29471	} serosa of bladder
EMAP:29473	} serosa of fundus
EMAP:29472	} serosa of trigone
EMAP:30136	} serosa of neck
EMAP:29465	} adventitia of bladder
EMAP:29467	} adventitia of fundus
EMAP:29466	} adventitia of trigone
EMAP:30149	} adventitia of neck
EMAP:29474	} blood vessels of bladder
EMAP:31660	} nerve of bladder
EMAP:29600	} urachus
EMAP:29443	} urethra of female
EMAP:30961	} pelvic urethra of female
EMAP:30963	} epithelial layer of pelvic urethra of female
EMAP:30964	} mesenchymal layer of pelvic urethra of female
EMAP:30962	} muscle layer of pelvic urethra of female
EMAP:31800	} nerve of pelvic urethra of female
EMAP:30923	} phallic urethra of female (syn: external urethra of female)
EMAP:30958	} epithelial layer of phallic urethra of female
EMAP:30959	} mesenchymal layer of phallic urethra of female
EMAP:30960	} muscle layer of phallic urethra of female
EMAP:31741	} nerve of phallic urethra of female
EMAP:29654	} female urethral gland
EMAP:29448	} urethra of male
EMAP:29449	} pelvic urethra of male
EMAP:29450	} epithelial layer of pelvic urethra of male
EMAP:29451	} mesenchymal layer of pelvic urethra of male
EMAP:29452	} muscle layer of pelvic urethra of male
EMAP:31790	} nerve of pelvic urethra of male
EMAP:30943	} prostatic urethra
EMAP:30953	} epithelial layer of prostatic urethra
EMAP:30955	} mesenchymal layer of prostatic urethra
EMAP:30957	} muscle layer of prostatic urethra
EMAP:30945	} penile urethra
EMAP:30947	} epithelial layer of penile urethra
EMAP:30949	} mesenchymal layer of penile urethra
EMAP:30951	} muscle layer of penile urethra
EMAP:29640	} bulbar part of urethra of male
EMAP:29642	} distal region of urethra of male
EMAP:29646	} male urethral gland
EMAP:29475	} urorectal septum
EMAP:31649	} pelvic ganglion
EMAP:29601	} reproductive system
EMAP:29348	} male reproductive system
EMAP:29352	} testis
EMAP:29358	} rete testis
EMAP:29359	} interstitium of the testis (syn: interstitial tissue)
EMAP:29656	} Leydig cell
EMAP:29361	} rest of interstitium of the testis (syn: non-specific mesenchyme)
EMAP:29364	} tunica vaginalis testis
EMAP:31477	} Seminiferous tubule
EMAP:31479	} Sertoli cell
EMAP:31483	} spermatogonium
EMAP:31485	} spermatocyte
EMAP:31487	} spermatid

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EMAP: 31489						└ spermatozoan
EMAP: 31481						└ peritubular myoid cell
EMAP: 29362						└ mediastinum testis
EMAP: 29363						└ tunica albuginea of testis
EMAP: 31244						└ surface epithelium of testis
EMAP: 29604						└ vasculature of testis
EMAP: 29606						└ └ coelomic vessel
EMAP: 29608						└ └ interstitial vessel
EMAP: 29732						└ └ testicular branch of genital nerve
EMAP: 31259						└ cremaster muscle
EMAP: 29386						└ cystic vesicular appendage
EMAP: 29374						└ inguinal canal
EMAP: 29392						└ inguinal ring
EMAP: 29393						└ └ external inguinal ring
EMAP: 29394						└ └ internal inguinal ring
EMAP: 29349						└ seminal vesicle (syn: vesicular seminalis)
EMAP: 29772						└ └ epithelium of seminal vesicle
EMAP: 29774						└ └ muscle layer of seminal vesicle
EMAP: 29776						└ └ adventitia of seminal vesicle
EMAP: 30798						└ └ vasculature of seminal vesicle
EMAP: 29385						└ efferent duct of seminal vesicle (syn: vasa efferentia)
EMAP: 29748						└ └ epithelial layer of efferent duct
EMAP: 29750						└ └ rest of efferent duct
EMAP: 29370						└ epididymis
EMAP: 29373						└ └ caput epididymis
EMAP: 29762						└ └ └ epithelium of caput of epididymis
EMAP: 29764						└ └ └ muscle layer of caput of epididymis
EMAP: 29766						└ └ └ adventitia of caput of epididymis
EMAP: 29371						└ └ cauda epididymis
EMAP: 29694						└ └ └ epithelium of cauda of epididymis
EMAP: 29752						└ └ └ muscle layer of cauda of epididymis
EMAP: 29754						└ └ └ adventitia of cauda of epididymis
EMAP: 29372						└ └ corpus epididymis
EMAP: 29756						└ └ └ epithelium of corpus epididymis
EMAP: 29758						└ └ └ muscle layer of corpus of epididymis
EMAP: 29760						└ └ └ adventitia of corpus of epididymis
EMAP: 30796						└ └ └ vasculature of epididymis
EMAP: 29377						└ ductus deferens (syn: vas deferens)
EMAP: 29378						└ └ epithelium of ductus deferens
EMAP: 29379						└ └ muscle layer of ductus deferens
EMAP: 30056						└ └ └ circular muscle layer of ductus deferens
EMAP: 30058						└ └ └ longitudinal muscle layer of ductus deferens
EMAP: 29768						└ └ adventitia of ductus deferens
EMAP: 30794						└ └ vasculature of ductus deferens
EMAP: 29391						└ appendix epididymis
EMAP: 29395						└ appendix testis
EMAP: 29387						└ ejaculatory duct
EMAP: 29787						└ └ epithelial layer of ejaculatory duct
EMAP: 29789						└ └ rest of ejaculatory duct
EMAP: 30800						└ └ vasculature of ejaculatory duct
EMAP: 29779						└ male accessory gland
EMAP: 29782						└ └ bulbourethral gland (syn: Cowper's gland)
EMAP: 29791						└ └ └ epithelial component of bulbourethral gland
EMAP: 29793						└ └ └ interstitium of bulbourethral gland
EMAP: 30804						└ └ └ vasculature of bulbourethral gland
EMAP: 29785						└ └ prostate gland
EMAP: 29795						└ └ └ anterior prostate gland (syn: coagulating gland)
EMAP: 29797						└ └ └ └ anterior prostatic epithelium
EMAP: 29799						└ └ └ └ glandular epithelium of anterior prostate (syn: secretory epithelium)
EMAP: 29801						└ └ └ └ ductal epithelium of anterior prostate
EMAP: 29803						└ └ └ anterior prostatic interstitium
EMAP: 29805						└ └ └ └ smooth muscle of anterior prostate
EMAP: 29807						└ └ └ └ rest of interstitium of anterior prostate
EMAP: 29809						└ └ dorsal prostate gland
EMAP: 29811						└ └ └ dorsal prostatic epithelium
EMAP: 29813						└ └ └ └ glandular epithelium of dorsal prostate (syn: secretory epithelium)
EMAP: 29815						└ └ └ └ ductal epithelium of dorsal prostate
EMAP: 29817						└ └ └ dorsal prostatic interstitium
EMAP: 29819						└ └ └ └ smooth muscle of dorsal prostate
EMAP: 29821						└ └ └ └ rest of interstitium of dorsal prostate
EMAP: 29823						└ lateral prostate gland
EMAP: 29825						└ └ lateral prostatic epithelium

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EMAP:29827					glandular epithelium of lateral prostate (syn: secretory epithelium)
EMAP:29829					ductal epithelium of lateral prostate
EMAP:29831					lateral prostatic interstitium
EMAP:29833					smooth muscle of lateral prostate
EMAP:29835					rest of interstitium of lateral prostate
EMAP:30806					vasculature of prostate gland
EMAP:29837					ventral prostate gland
EMAP:29839					ventral prostatic epithelium
EMAP:29841					glandular epithelium of ventral prostate (syn: secretory epithelium)
EMAP:29843					ductal epithelium of ventral prostate
EMAP:29845					ventral prostatic interstitium
EMAP:29847					smooth muscle of ventral prostate
EMAP:29849					rest of interstitium of ventral prostate
EMAP:29369					gubernaculum (syn: caudal suspensory ligament)
EMAP:30063					mesorchium
EMAP:29380					penis (syn: genital tubercle of male)
EMAP:29383					glans penis
EMAP:29859					epithelial layer of glans penis
EMAP:29857					corpus spongiosum
EMAP:29861					rest of glans penis
EMAP:29381					crus penis
EMAP:29770					os penis
EMAP:29851					corpus spongiosum
EMAP:29853					epithelial layer of crus penis
EMAP:29855					rest of crus penis
EMAP:29382					prepuce of male
EMAP:30808					vasculature of penis
EMAP:29384					scrotum
EMAP:29734					epidermal layer of scrotum
EMAP:29736					basal layer
EMAP:29738					stratified layer
EMAP:29740					dermal layer of scrotum
EMAP:29742					hair follicle
EMAP:29744					sweat gland
EMAP:29746					septum of scrotum
EMAP:30792					vasculature of scrotum
EMAP:29396					female reproductive system
EMAP:29419					ovary
EMAP:30527					surface epithelium of ovary (syn: coelomic epithelium)
EMAP:30526					tunica albuginea of ovary (syn: ovarian capsule)
EMAP:29423					mesenchymal stroma of ovary
EMAP:29424					cortical component of mesenchymal stroma
EMAP:29425					medullary component of mesenchymal stroma
EMAP:31034					meiotic oocytes
EMAP:30756					primordial follicle
EMAP:30758					oocyte of primordial follicle
EMAP:31249					follicle cell of primordial follicle (syn: granulosa cell)
EMAP:29427					primary follicle
EMAP:29429					primary oocyte of primary follicle
EMAP:29428					follicle cell of primary follicle (syn: granulosa cell of primary follicle)
EMAP:29863					secondary follicle (syn: antral follicle)
EMAP:29865					oocyte of secondary follicle
EMAP:29867					follicle cell of secondary follicle (syn: granulosa cell of secondary follicle)
EMAP:29869					cumulus of secondary follicle
EMAP:29871					mural of secondary follicle
EMAP:29873					theca of secondary follicle
EMAP:30764					tertiary follicle (syn: antral follicle)
EMAP:30766					oocyte of tertiary follicle
EMAP:30768					follicle cell of tertiary follicle (syn: granulosa cell of tertiary follicle)
EMAP:30774					cumulus of tertiary follicle
EMAP:30776					mural of tertiary follicle
EMAP:30772					antrum of tertiary follicle
EMAP:30770					theca of tertiary follicle
EMAP:30778					Graafian follicle (syn: pre-ovulatory follicle)
EMAP:30780					primary oocyte of mature follicle
EMAP:30782					germinal cell of mature follicle (syn: granulosa)
EMAP:30784					cumulus of mature follicle
EMAP:30786					mural of mature follicle
EMAP:30790					antrum of mature follicle
EMAP:30788					theca of mature follicle
EMAP:29881					ruptured follicle (syn: ovulated follicle)
EMAP:29885					germinal cell of ruptured follicle (syn: granulosa)

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EMAP:31263				granulosa of ruptured follicle
EMAP:29883				theca of ruptured follicle
EMAP:29887				corpus luteum
EMAP:29875				atretic follicle
EMAP:29877				oocyte of atretic follicle
EMAP:29879				apoptotic germinal cell (syn: apoptotic granulosa)
EMAP:31261				theca of atretic follicle
EMAP:29896				corpus albicans
EMAP:29422				rete ovarii of ovary
EMAP:29632				vasculature of the ovary
EMAP:29400				mesovarium
EMAP:29404				cystic vesicular appendage
EMAP:29418				suspensory ligament of ovary
EMAP:29399				Müllerian tubercle
EMAP:29430				oviduct
EMAP:29898				infundibulum
EMAP:29900				epithelial layer of infundibulum
EMAP:31265				muscle layer of infundibulum
EMAP:31269				
EMAP:31267				
EMAP:29904				
EMAP:30810				
EMAP:29906				
EMAP:29908				
EMAP:30050				
EMAP:30054				
EMAP:30052				
EMAP:29914				
EMAP:29916				
EMAP:29918				
EMAP:29920				
EMAP:29922				
EMAP:29924				
EMAP:29926				
EMAP:29928				
EMAP:29930				
EMAP:29932				
EMAP:29934				
EMAP:30812				
EMAP:29408				
EMAP:29409				
EMAP:29410				
EMAP:29936				
EMAP:29938				
EMAP:29411				
EMAP:29940				
EMAP:29412				
EMAP:29413				
EMAP:29942				
EMAP:29944				
EMAP:29414				
EMAP:29946				
EMAP:30814				
EMAP:30820				
EMAP:30822				
EMAP:30826				
EMAP:30828				
EMAP:30824				
EMAP:30830				
EMAP:30832				
EMAP:30834				
EMAP:30836				
EMAP:29434				
EMAP:30838				
EMAP:30840				
EMAP:30844				
EMAP:30842				
EMAP:30846				
EMAP:29415				
EMAP:29417				
EMAP:29416				

TS28 Groups

'G' : Term is a group.

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EMAP:27551 mouse
EMAP:27553   L organ system
EMAP:27555     | visceral organ
EMAP:27559     |   | urinary system
EMAP:29491     |   |   | metanephros (syn: kidney)
EMAP:29492     |   |   |   | renal cortex
EMAP:29499     |   |   |   |   | cortical renal tubule
EMAP:31794 G   |   |   |   |   | L cortical renal tubule of mature nephron GROUP
EMAP:29508     |   |   |   |   |   | distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505     |   |   |   |   |   | distal straight tubule (syn: thick ascending limb)
EMAP:31383     |   |   |   |   |   |   | premacula segment of distal straight tubule
EMAP:29507     |   |   |   |   |   |   | macula densa
EMAP:29506     |   |   |   |   |   |   | L postmacula segment
EMAP:29502     |   |   |   |   |   | L renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   | L segment 2 of proximal tubule
EMAP:29493 G   |   |   |   |   |   | developing capillary loop stage nephron GROUP (syn: stage III nephron)
EMAP:29499     |   |   |   |   |   | L cortical renal tubule
EMAP:29500     |   |   |   |   |   |   | renal proximal tubule
EMAP:29502     |   |   |   |   |   |   |   | renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   |   |   | L segment 2 of proximal tubule
EMAP:29662     |   |   |   |   |   |   |   |   | L renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:29503     |   |   |   |   |   |   | renal distal tubule
EMAP:29508     |   |   |   |   |   |   |   | distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505     |   |   |   |   |   |   |   | L distal straight tubule (syn: thick ascending limb)
EMAP:31383     |   |   |   |   |   |   |   |   | premacula segment of distal straight tubule
EMAP:29507     |   |   |   |   |   |   |   |   | macula densa
EMAP:29506     |   |   |   |   |   |   |   |   | L postmacula segment
EMAP:29509     |   |   |   |   |   |   | renal connecting tubule
EMAP:31794     |   |   |   |   |   | L cortical renal tubule of mature nephron GROUP
EMAP:29508     |   |   |   |   |   |   | distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505     |   |   |   |   |   |   | distal straight tubule (syn: thick ascending limb)
EMAP:31383     |   |   |   |   |   |   |   | premacula segment of distal straight tubule
EMAP:29507     |   |   |   |   |   |   |   | macula densa
EMAP:29506     |   |   |   |   |   |   |   | L postmacula segment
EMAP:29502     |   |   |   |   |   |   | L renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   |   | L segment 2 of proximal tubule
EMAP:29541 G   |   |   |   |   |   | maturing nephron (syn: stage IV nephron)
EMAP:29499     |   |   |   |   |   | L cortical renal tubule
EMAP:29500     |   |   |   |   |   |   | renal proximal tubule
EMAP:29502     |   |   |   |   |   |   |   | renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   |   |   | L segment 2 of proximal tubule
EMAP:29662     |   |   |   |   |   |   |   |   | L renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:29503     |   |   |   |   |   |   | renal distal tubule
EMAP:29508     |   |   |   |   |   |   |   | distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505     |   |   |   |   |   |   |   | L distal straight tubule (syn: thick ascending limb)
EMAP:31383     |   |   |   |   |   |   |   |   | premacula segment of distal straight tubule
EMAP:29507     |   |   |   |   |   |   |   |   | macula densa
EMAP:29506     |   |   |   |   |   |   |   |   | L postmacula segment
EMAP:29509     |   |   |   |   |   |   | renal connecting tubule
EMAP:31794     |   |   |   |   |   | L cortical renal tubule of mature nephron GROUP
EMAP:29508     |   |   |   |   |   |   | distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505     |   |   |   |   |   |   | distal straight tubule (syn: thick ascending limb)
EMAP:31383     |   |   |   |   |   |   |   | premacula segment of distal straight tubule
EMAP:29507     |   |   |   |   |   |   |   | macula densa
EMAP:29506     |   |   |   |   |   |   |   | L postmacula segment
EMAP:29502     |   |   |   |   |   |   | L renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   |   | L segment 2 of proximal tubule
EMAP:29556 G   |   |   |   |   |   | late tubule
EMAP:29499     |   |   |   |   |   | L cortical renal tubule
EMAP:29500     |   |   |   |   |   |   | renal proximal tubule
EMAP:29502     |   |   |   |   |   |   |   | renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658     |   |   |   |   |   |   |   |   | segment 1 of proximal tubule
EMAP:29660     |   |   |   |   |   |   |   |   | L segment 2 of proximal tubule
    
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EMAP:29662						└─┬ renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:29503						└─┬ renal distal tubule
EMAP:29508						└─┬ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505						└─┬ distal straight tubule (syn: thick ascending limb)
EMAP:31383						└─┬ premacula segment of distal straight tubule
EMAP:29507						└─┬ macula densa
EMAP:29506						└─┬ postmacula segment
EMAP:29509						└─┬ renal connecting tubule
EMAP:31794						└─┬ cortical renal tubule of mature nephron GROUP
EMAP:29508						└─┬ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505						└─┬ distal straight tubule (syn: thick ascending limb)
EMAP:31383						└─┬ premacula segment of distal straight tubule
EMAP:29507						└─┬ macula densa
EMAP:29506						└─┬ postmacula segment
EMAP:29502						└─┬ renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658						└─┬ segment 1 of proximal tubule
EMAP:29660						└─┬ segment 2 of proximal tubule
EMAP:30453	G					└─┬ juxtaglomerular complex
EMAP:29534						└─┬ extraglomerular mesangium
EMAP:29507						└─┬ macula densa
EMAP:29537						└─┬ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29566						└─┬ renal medulla
EMAP:31499	G					└─┬ Loop of Henle group
EMAP:31490						└─┬ loop of Henle, outer medullary portion
EMAP:31492						└─┬ thin descending limb
EMAP:31493						└─┬ thin ascending limb (syn: ascending thin limb)
EMAP:31491						└─┬ proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:31494						└─┬ premacula segment of distal straight tubule (syn: thick ascending limb)
EMAP:29583						└─┬ loop of Henle, inner medullary portion
EMAP:29584						└─┬ thin descending limb
EMAP:29586						└─┬ bend (syn: U-turn)
EMAP:29585						└─┬ thin ascending limb (syn: ascending thin limb)
EMAP:29594	G					└─┬ early nephron GROUP (syn: early tubule)
EMAP:29499						└─┬ cortical renal tubule
EMAP:29500						└─┬ renal proximal tubule
EMAP:29502						└─┬ renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658						└─┬ segment 1 of proximal tubule
EMAP:29660						└─┬ segment 2 of proximal tubule
EMAP:29662						└─┬ renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:29503						└─┬ renal distal tubule
EMAP:29508						└─┬ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505						└─┬ distal straight tubule (syn: thick ascending limb)
EMAP:31383						└─┬ premacula segment of distal straight tubule
EMAP:29507						└─┬ macula densa
EMAP:29506						└─┬ postmacula segment
EMAP:29509						└─┬ renal connecting tubule
EMAP:31794						└─┬ cortical renal tubule of mature nephron GROUP
EMAP:29508						└─┬ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505						└─┬ distal straight tubule (syn: thick ascending limb)
EMAP:31383						└─┬ premacula segment of distal straight tubule
EMAP:29507						└─┬ macula densa
EMAP:29506						└─┬ postmacula segment
EMAP:29502						└─┬ renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658						└─┬ segment 1 of proximal tubule
EMAP:29660						└─┬ segment 2 of proximal tubule
EMAP:29525						└─┬ mature renal corpuscle (syn: Malpighian corpuscle)
EMAP:29529						└─┬ glomerular tuft (syn: glomerulus)
EMAP:29533						└─┬ glomerular capillary system
EMAP:29530						└─┬ glomerular mesangium
EMAP:29532						└─┬ glomerular basement membrane
EMAP:29531						└─┬ visceral epithelium (syn: podocyte layer)
EMAP:29526						└─┬ Bowman's capsule (syn: glomerular capsule)
EMAP:29528						└─┬ parietal epithelium
EMAP:29527						└─┬ urinary space of renal corpuscle (syn: Bowman's space)
EMAP:29536						└─┬ afferent arteriole
EMAP:29537						└─┬ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538						└─┬ rest of afferent arteriole
EMAP:29535						└─┬ efferent arteriole
EMAP:29534						└─┬ extraglomerular mesangium
EMAP:29540	G					└─┬ mature nephron
EMAP:29499						└─┬ cortical renal tubule
EMAP:29500						└─┬ renal proximal tubule

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EMAP:29502					├	renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658					├	├ segment 1 of proximal tubule
EMAP:29660					├	├┌ segment 2 of proximal tubule
EMAP:29662					├	├┌ renal proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:29503					├	renal distal tubule
EMAP:29508					├	├ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505					├	├┌ distal straight tubule (syn: thick ascending limb)
EMAP:31383					├	├├ premacula segment of distal straight tubule
EMAP:29507					├	├├ macula densa
EMAP:29506					├	├├┌ postmacula segment
EMAP:29509					├	renal connecting tubule
EMAP:31794					├	├ cortical renal tubule of mature nephron GROUP
EMAP:29508					├	├┌ distal convoluted tubule (syn: second convoluted tubule)
EMAP:29505					├	├┌ distal straight tubule (syn: thick ascending limb)
EMAP:31383					├	├├ premacula segment of distal straight tubule
EMAP:29507					├	├├ macula densa
EMAP:29506					├	├├┌ postmacula segment
EMAP:29502					├	├ renal proximal convoluted tubule (syn: first convoluted tubule)
EMAP:29658					├	├ segment 1 of proximal tubule
EMAP:29660					├	├┌ segment 2 of proximal tubule
EMAP:31499					├	Loop of Henle group
EMAP:31490					├	├ loop of Henle, outer medullary portion
EMAP:31492					├	├┌ thin descending limb
EMAP:31493					├	├┌ thin ascending limb (syn: ascending thin limb)
EMAP:31491					├	├┌ proximal straight tubule (syn: pars recta; segment 3 of proximal tubule)
EMAP:31494					├	├┌ premacula segment of distal straight tubule (syn: thick ascending limb)
EMAP:29583					├	├ loop of Henle, inner medullary portion
EMAP:29584					├	├┌ thin descending limb
EMAP:29586					├	├┌ bend (syn: U-turn)
EMAP:29585					├	├┌ thin ascending limb (syn: ascending thin limb)
EMAP:29525					├	mature renal corpuscle (syn: Malpighian corpuscle)
EMAP:29529					├	├ glomerular tuft (syn: glomerulus)
EMAP:29533					├	├┌ glomerular capillary system
EMAP:29530					├	├┌ glomerular mesangium
EMAP:29532					├	├┌ glomerular basement membrane
EMAP:29531					├	├┌ visceral epithelium (syn: podocyte layer)
EMAP:29526					├	├ Bowman's capsule (syn: glomerular capsule)
EMAP:29528					├	├┌ parietal epithelium
EMAP:29527					├	├┌ urinary space of renal corpuscle (syn: Bowman's space)
EMAP:29536					├	├ afferent arteriole
EMAP:29537					├	├┌ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538					├	├┌ rest of afferent arteriole
EMAP:29535					├	├ efferent arteriole
EMAP:29534					├	├┌ extraglomerular mesangium
EMAP:29592 G					├	collecting duct (syn: ureteric tree)
EMAP:29563					├	├ ureteric tip (syn: ureteric ampulla)
EMAP:31053					├	├ ureteric tree terminal branch excluding tip itself
EMAP:29599					├	├┌ ureteric trunk
EMAP:29520					├	├├ cortical collecting duct
EMAP:29983					├	├├ outer medullary collecting duct
EMAP:29587					├	├├┌ inner medullary collecting duct (syn: papillary collecting duct)
EMAP:29599 G					├	ureteric trunk
EMAP:29520					├	├ cortical collecting duct
EMAP:29983					├	├ outer medullary collecting duct
EMAP:29587					├	├┌ inner medullary collecting duct (syn: papillary collecting duct)
EMAP:29593 G					├	renal interstitium group
EMAP:29564					├	├ nephrogenic interstitium (syn: peripheral blastema)
EMAP:29530					├	├ glomerular mesangium
EMAP:29534					├	├ extraglomerular mesangium
EMAP:29521					├	├ renal cortical interstitium (syn: cortical stroma)
EMAP:31295					├	├┌ renal cortical fibroblasts
EMAP:31427					├	├┌┌ periarterial fibroblasts of cortex
EMAP:31425					├	├┌┌┌ peritubular fibroblasts of cortex
EMAP:31303					├	├┌ resident macrophages of the cortex (syn: renal monocytes of the cortex)
EMAP:31311					├	├┌ rest of renal cortical interstitium
EMAP:31460					├	renal medullary interstitium (syn: medullary stroma)
EMAP:31332					├	├ renal medullary fibroblasts
EMAP:31339					├	├ resident macrophages of the medulla (syn: renal monocytes of the medulla)
EMAP:31346					├	├┌ rest of renal medullary interstitium
EMAP:29982					├	outer medullary interstitium
EMAP:31388					├	├ outer medullary fibroblast
EMAP:31431					├	├┌ periarterial fibroblasts of outer medulla

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EMAP:31429				└┬ peritubular fibroblasts of outer medulla
EMAP:31393				└┬ resident macrophage of the outer medulla (syn: renal monocytes of the outer medulla)
EMAP:31398				└┬ rest of outer medullary interstitium
EMAP:29582				└ inner medullary interstitium (syn: papillary interstitium)
EMAP:31403				└ inner medullary fibroblast
EMAP:31435				└┬ periarterial fibroblasts of inner medulla
EMAP:31433				└┬ peritubular fibroblasts of inner medulla
EMAP:31408				└┬ resident macrophage of the inner medulla (syn: renal monocytes of the inner medulla)
EMAP:29558				└ perihilar interstitium
EMAP:31366				└ perihilar fibroblast
EMAP:31372				└ resident macrophage of the perihilar interstitium (syn: renal monocytes of the perihilar interstitium)
EMAP:31378				└┬ rest of perihilar interstitium
EMAP:31475	G			└ small blood vessels
EMAP:30042				└ renal cortical capillary
EMAP:29535				└ efferent arteriole
EMAP:29590				└ renal medullary arterial system
EMAP:29536				└ afferent arteriole
EMAP:29537				└ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538				└┬ rest of afferent arteriole
EMAP:29533				└ glomerular capillary system
EMAP:30048				└ renal medullary capillary (syn: vasa recta)
EMAP:29591				└ renal medullary venous system
EMAP:31449	G			└ renal capillaries
EMAP:29533				└ glomerular capillary system
EMAP:30042				└ renal cortical capillary
EMAP:30048				└ renal medullary capillary (syn: vasa recta)
EMAP:31776	G			└ developing vasculature of urinary system GROUP
EMAP:29435				└ renal vasculature
EMAP:29533				└ glomerular capillary system
EMAP:29442				└ renal artery
EMAP:29981				└┬ endothelial layer of renal artery
EMAP:30002				└┬ endothelium of renal artery
EMAP:30010				└┬ smooth muscle layer of renal artery
EMAP:29441				└ renal vein
EMAP:29969				└┬ endothelial layer of renal vein
EMAP:30018				└┬ endothelium of renal vein
EMAP:30026				└┬ smooth muscle layer of renal vein
EMAP:30048				└ renal medullary capillary (syn: vasa recta)
EMAP:29552				└ interlobular artery
EMAP:29551				└ arcuate artery
EMAP:29536				└ afferent arteriole
EMAP:29537				└ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538				└┬ rest of afferent arteriole
EMAP:29554				└ interlobular vein
EMAP:29555				└┬ arcuate vein
EMAP:30859				└ ureteral vasculature
EMAP:29435	G			└ renal vasculature
EMAP:29533				└ glomerular capillary system
EMAP:29442				└ renal artery
EMAP:29981				└┬ endothelial layer of renal artery
EMAP:30002				└┬ endothelium of renal artery
EMAP:30010				└┬ smooth muscle layer of renal artery
EMAP:29441				└ renal vein
EMAP:29969				└┬ endothelial layer of renal vein
EMAP:30018				└┬ endothelium of renal vein
EMAP:30026				└┬ smooth muscle layer of renal vein
EMAP:30048				└ renal medullary capillary (syn: vasa recta)
EMAP:29552				└ interlobular artery
EMAP:29551				└ arcuate artery
EMAP:29536				└ afferent arteriole
EMAP:29537				└ part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538				└┬ rest of afferent arteriole
EMAP:29554				└ interlobular vein
EMAP:29555				└┬ arcuate vein
EMAP:31442	G			└ renal arterial system
EMAP:29442				└ renal artery
EMAP:29981				└┬ endothelial layer of renal artery
EMAP:30002				└┬ endothelium of renal artery
EMAP:30010				└┬ smooth muscle layer of renal artery
EMAP:29552				└ interlobular artery
EMAP:29551				└ arcuate artery
EMAP:29590				└ renal medullary arterial system

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EMAP:31456	G				renal venous system
EMAP:29441					renal vein
EMAP:29969					endothelial layer of renal vein
EMAP:30018					endothelium of renal vein
EMAP:30026					smooth muscle layer of renal vein
EMAP:29554					interlobular vein
EMAP:29555					arcuate vein
EMAP:29536					afferent arteriole
EMAP:29537					part of afferent arteriole forming the juxtaglomerular complex (syn: renin-producing cell)
EMAP:29538					rest of afferent arteriole
EMAP:29535					efferent arteriole
EMAP:29591					renal medullary venous system
EMAP:31812	G				nerves of urethra GROUP
EMAP:31800					nerve of pelvic urethra of female
EMAP:31790					nerve of pelvic urethra of male
EMAP:31741					nerve of phallic urethra of female
EMAP:29601					reproductive system
EMAP:29348					male reproductive system
EMAP:29370					epididymis
EMAP:30446	G				epithelium of epididymis
EMAP:29762					epithelium of caput of epididymis
EMAP:29756					epithelium of corpus epididymis
EMAP:29694					epithelium of cauda of epididymis
EMAP:30448	G				muscle layer of epididymis
EMAP:29764					muscle layer of caput of epididymis
EMAP:29758					muscle layer of corpus of epididymis
EMAP:29752					muscle layer of cauda of epididymis
EMAP:30444	G				adventitia of epididymis
EMAP:29766					adventitia of caput of epididymis
EMAP:29760					adventitia of corpus of epididymis
EMAP:29754					adventitia of cauda of epididymis
EMAP:30983	G				male external genitalia
EMAP:29380					penis (syn: genital tubercle of male)
EMAP:29383					glans penis
EMAP:29859					epithelial layer of glans penis
EMAP:29857					corpus spongiosum
EMAP:29861					rest of glans penis
EMAP:29381					crus penis
EMAP:29770					os penis
EMAP:29851					corpus spongiosum
EMAP:29853					epithelial layer of crus penis
EMAP:29855					rest of crus penis
EMAP:29382					prepuce of male
EMAP:30808					vasculature of penis
EMAP:29384					scrotum
EMAP:29734					epidermal layer of scrotum
EMAP:29736					basal layer
EMAP:29738					stratified layer
EMAP:29740					dermal layer of scrotum
EMAP:29742					hair follicle
EMAP:29744					sweat gland
EMAP:29746					septum of scrotum
EMAP:30792					vasculature of scrotum
EMAP:29396					female reproductive system
EMAP:29419					ovary
EMAP:31063	G				ovigerous cord
EMAP:31034					meiotic oocytes
EMAP:29408					vagina
EMAP:30996	G				epithelium of vagina
EMAP:29410					epithelial layer of lower part of vagina
EMAP:29936					gland of lower vaginal epithelium
EMAP:29938					rest of epithelial layer of lower vagina
EMAP:29413					epithelial layer of upper part of vagina
EMAP:29942					gland of upper vaginal epithelium
EMAP:29944					rest of epithelial layer of upper vagina
EMAP:31002	G				muscular layer of vagina
EMAP:29411					muscular layer of lower part of vagina
EMAP:29414					muscular layer of upper part of vagina
EMAP:31004	G				adventita of vagina
EMAP:29940					adventitia of lower part of vagina
EMAP:29946					adventitia of upper part of vagina
EMAP:30990	G				female external genitalia

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EMAP:30820 | | | clitoris (syn: genital tubercle of female)
EMAP:30822 | | | | crus of clitoris
EMAP:30826 | | | | | epithelial layer of crus of clitoris
EMAP:30828 | | | | | mesenchymal layer of crus of clitoris
EMAP:30824 | | | | | | os clitoris
EMAP:30830 | | | | | glans clitoris
EMAP:30832 | | | | | | surface epithelium of glans clitoris
EMAP:30834 | | | | | | mesenchymal layer of glans clitoris
EMAP:30836 | | | | | | vasculature of clitoris
EMAP:30838 | | | | | | labia
EMAP:30840 | | | | | | | epithelial layer of labia
EMAP:30844 | | | | | | | gland of labia
EMAP:30842 | | | | | | | mesenchymal layer of labia
EMAP:30846 | | | | | | | vasculature of labia
EMAP:31468 G | | | | | | | large blood vessels
EMAP:29551 | | | | | | | | arcuate artery
EMAP:29555 | | | | | | | | arcuate vein
EMAP:29552 | | | | | | | | interlobular artery
EMAP:29554 | | | | | | | | interlobular vein

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