Supplemental Materials Table of Contents

Supplemental Figure 1. Cell type and protein mass distribution among mouse renal epithelial cells in cortex.

Supplemental Figure 2. Selected marker transcript expression in different renal tubule/cell types.

Supplemental Figure Legends

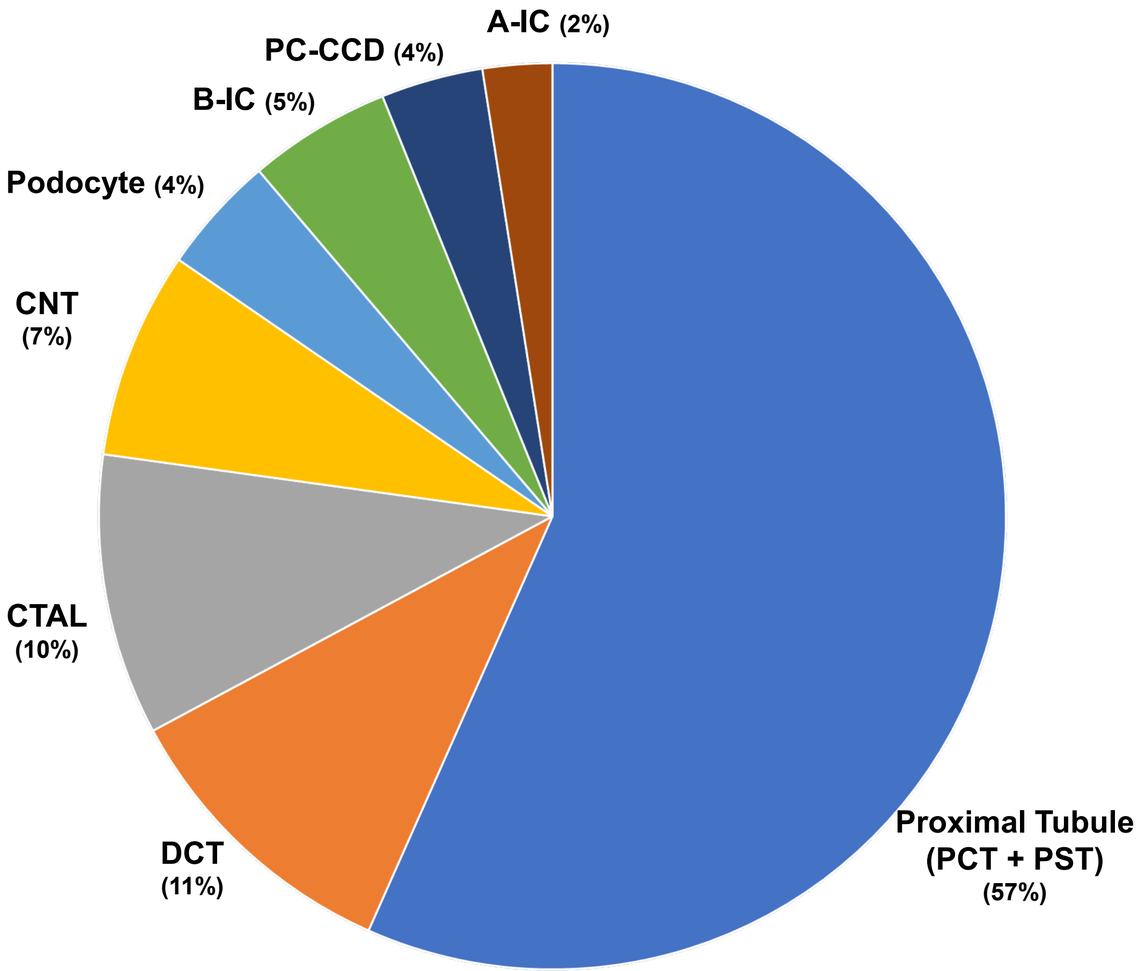
Supplemental Figure 1. Cell type and protein mass distribution among mouse renal epithelial cells in cortex. (A) The contributions of individual mouse renal epithelial cell types to renal cortex epithelial cell count (given at bottom). (B) The contributions of individual mouse renal epithelial cell types to renal cortex tubule protein mass (given at bottom). A-IC, type A intercalated cell; B-IC, type B intercalated cell; CCD, cortical collecting duct; CNT, connecting tubule; CTAL, cortical thick ascending limb of the loop of Henle; DCT, distal convoluted tubule; PC, principal cell; PCT, proximal convoluted tubule; PST, proximal straight tubule. The data are from Clark and colleagues.[58]

Supplemental Figure 2. Selected marker transcript expression in different renal tubule/cell types. (A) Representative marker expression in different renal tubule segments of rat determined by single-tubule RNA-seq from Lee et al.[6] (B) Distribution of selected markers from (A) in collecting duct cell types (A-IC, B-IC and PC) determined by single-cell RNA-seq (median TPM values) from Chen et al.[14] Not all the transcripts from (A) are detected by single-cell RNA-seq in (B). Color gradient indicates relative abundance.

Suppl. Fig. 1

A

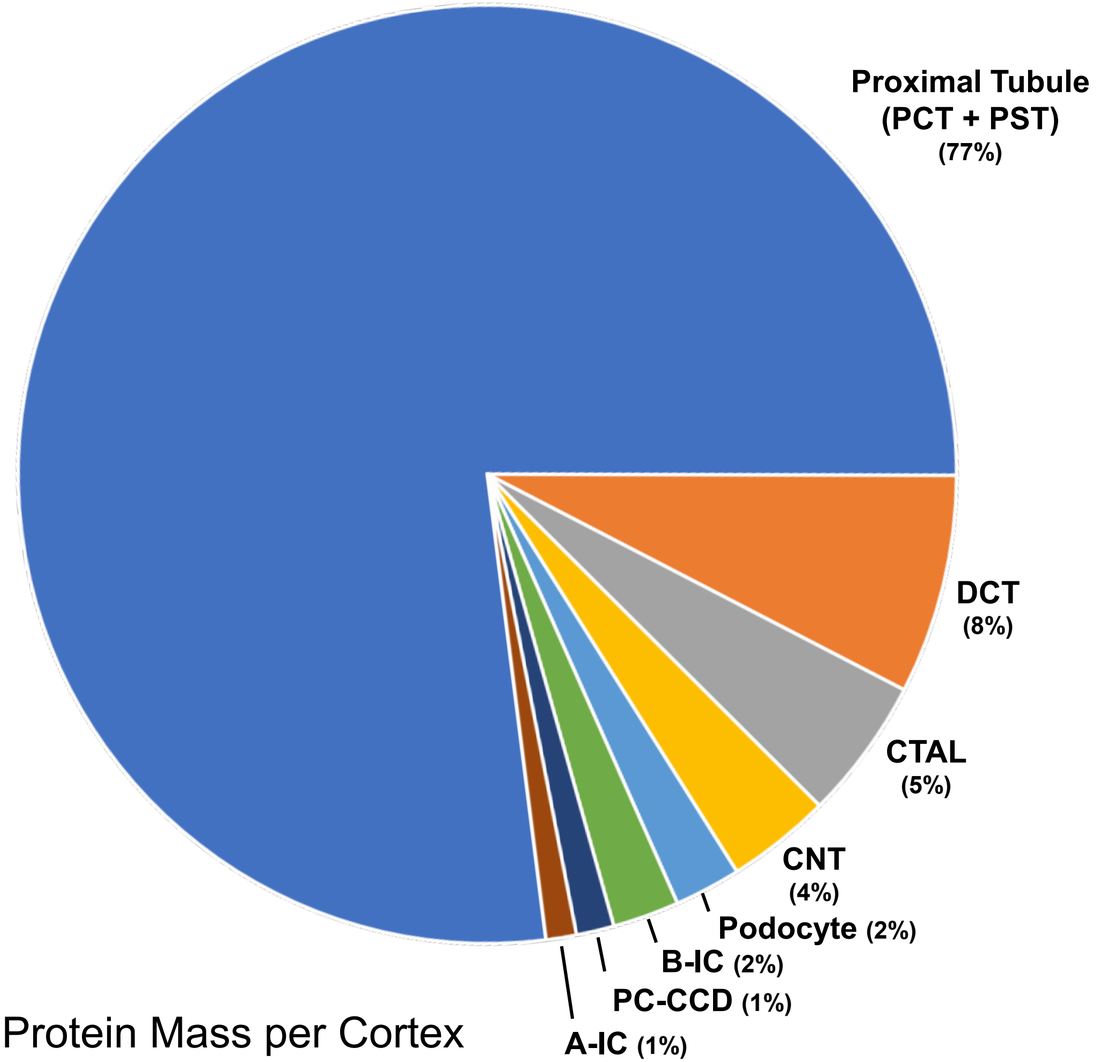
Cell Type Distribution



Total Cell Count per Cortex
3.6×10^7

B

Protein Mass Distribution



Total Protein Mass per Cortex
21.3 mg

Suppl. Fig 2.

A Rat single-tubule RNA-Seq

Gene Symbol	S1	S2	S3	DTL1	DTL2	DTL3	ATL	MTAL	CTAL	DCT	CNT	CCD	OMCD	IMCD
Umod	19	0	17	2	1	0	1	1597	12485	329	1	1	6	0
Aqp2	2	9	4	10	5	4	1	12	6	15	4240	6776	4608	6087
Aqp1	95	297	151	1317	1831	3748	8	0	0	1	1	1	0	0
Calb1	7	2	0	0	0	0	0	4	1	222	3623	145	1	0
Hsd11b2	20	32	50	15	9	5	5	8	25	179	1368	1151	952	11
Ggt1	97	743	1394	136	111	56	0	5	39	11	3	0	2	1
Lgals3	0	2	0	2	0	17	4	2	15	15	92	544	1077	881
Slc34a1	333	1242	215	0	0	0	0	0	5	2	1	0	0	0
Atp6v1g3	1	1	0	0	0	0	0	0	1	9	754	559	886	1
Defb1	8	3	0	0	0	0	0	7	28	345	785	503	877	6
Fst	0	0	0	365	1061	56	1	0	0	0	0	0	0	0
Pfn3	324	898	270	0	0	0	0	0	3	1	1	0	0	0
Slc7a13	0	137	780	0	1	23	0	1	0	0	0	0	1	0
Gclc	1	408	635	1	12	32	10	0	4	4	5	12	2	15
Slc3a1	50	114	710	2	2	4	3	0	3	4	2	4	9	7
Vim	0	0	3	431	495	380	38	0	14	8	0	2	0	1
Avpr2	0	0	0	0	0	0	2	15	34	10	177	399	472	371
Clcnkb	3	1	0	0	0	0	6	41	309	228	318	550	135	1
Muc20	0	0	0	0	0	0	0	0	0	6	124	256	328	511
Gss	33	74	593	11	31	0	25	21	10	13	8	9	18	11
Gpha2	0	0	0	0	0	31	0	0	0	0	0	0	0	575
Acss2	31	98	560	8	26	0	10	21	8	10	6	4	8	9
Aqp3	1	1	0	1	0	0	0	0	0	0	174	234	312	348
Rhbg	0	0	0	0	0	0	0	0	1	20	218	203	418	17
Pck1	280	375	186	0	0	0	0	0	2	0	0	1	0	0
Aqp6	0	0	0	0	0	0	0	0	0	4	88	95	461	0
Ass1	398	250	105	1	0	1	0	1	3	10	1	0	0	0
Osgin1	0	105	448	0	1	1	2	0	0	0	0	2	0	2
Slc12a1	1	0	1	0	0	0	2	346	255	2	0	0	0	0
Pdzk1	299	257	203	0	0	4	0	0	1	0	2	0	4	1
Klk1	1	0	0	0	0	0	0	0	34	220	327	3	0	0
Aqp4	0	0	0	0	0	0	0	0	0	0	44	18	73	376
Atp6v1b1	1	0	0	0	0	0	0	0	47	83	236	196	202	0
Casr	0	0	0	0	0	0	0	7	332	30	3	14	0	0
Slc26a4	0	0	0	0	0	0	0	0	0	0	241	203	17	0
Slc12a3	1	0	0	0	0	0	0	0	2	287	0	0	0	0
Hmx2	0	0	0	0	0	0	0	0	0	2	160	211	1	0
Scnn1b	0	0	0	0	0	0	0	0	3	32	160	191	110	0
Pth1r	144	179	60	0	0	0	0	1	132	48	11	1	0	0
Dak	94	197	114	0	0	0	0	0	1	1	1	1	0	1
Acaa1b	190	136	112	1	3	7	2	1	20	19	6	11	13	4
Hepacam2	0	0	0	0	0	0	0	0	0	0	149	184	48	0
Slc4a1	0	0	0	0	0	0	0	0	0	6	83	103	182	0
Tsc22d3	10	8	3	131	35	160	121	14	3	5	6	10	0	71
Gls	0	0	0	10	22	203	86	0	3	2	13	13	1	23
Kl	8	48	4	0	0	0	0	28	57	157	121	7	7	0
Mx2	7	1	0	0	0	4	185	0	2	0	0	1	16	27
Wnk1	4	1	0	7	4	4	7	1	45	182	41	10	1	4
Foxi1	0	0	0	0	0	0	0	0	0	1	79	112	94	0
Anpep	2	43	141	2	1	5	0	0	0	0	1	2	0	0
Cdh1	1	0	2	11	17	20	19	1	25	15	59	76	65	128
Scnn1a	0	0	0	0	0	0	0	11	39	69	88	104	47	0
Slc8a1	0	0	0	0	0	0	0	0	0	41	130	16	0	0
Slc22a6	83	105	20	0	0	0	0	0	1	0	0	0	0	0
Scnn1g	0	0	0	0	0	0	0	0	0	0	53	89	61	0
Khk	24	77	76	0	0	0	0	0	1	1	0	0	0	1
Ptger3	4	0	0	0	0	0	2	91	33	50	0	1	0	0
Kcne1	0	0	0	0	0	0	0	0	0	0	66	71	0	0
L1cam	0	0	0	3	3	39	16	0	4	2	16	31	4	89
Slc14a2	0	0	0	18	0	22	0	0	0	0	0	0	0	90
Gata2	0	0	0	0	0	0	0	0	0	0	56	56	0	58
Slc5a2	91	8	0	0	0	0	0	0	2	5	4	5	0	1
Slc4a9	0	0	0	0	0	0	0	0	0	1	29	73	6	0
Hk1	0	0	1	18	36	26	36	23	29	42	33	51	42	50

B Mouse single-cell RNA-Seq

Gene Symbol	A-IC	B-IC	PC
Umod	0	0	0
Aqp2	3	0	1821
Calb1	1	0	675
Hsd11b2	1	0	770
Lgals3	3	267	1357
Slc34a1	1	0	0
Atp6v1g3	2331	3806	4
Defb1	1941	7	1661
Gclc	7	26	3
Avpr2	0	0	455
Clcnkb	507	660	123
Muc20	1	0	0
Gss	0	0	0
Aqp3	46	137	1303
Rhbg	226	38	56
Pck1	0	0	0
Aqp6	55	0	0
Ass1	0	0	0
Osgin1	0	0	0
Slc12a1	0	0	0
Pdzk1	0	0	0
Klk1	207	914	5
Aqp4	0	0	0
Atp6v1b1	277	201	31
Casr	0	1	0
Slc26a4	0	1135	0
Hmx2	0	108	0
Scnn1b	3	0	308
Pth1r	0	0	0
Acaa1b	0	0	0
Hepacam2	24	561	0
Slc4a1	94	0	0
Tsc22d3	0	0	0
Gls	20	23	62
Kl	0	0	3
Wnk1	228	56	3
Foxi1	26	396	0
Anpep	0	0	0
Cdh1	39	28	97
Scnn1a	1	20	8
Scnn1g	0	0	102
Khk	0	0	0
Ptger3	0	0	0
Kcne1	1	0	554
L1cam	0	0	9
Gata2	1	9	345
Slc4a9	76	424	0
Hk1	4	8	4