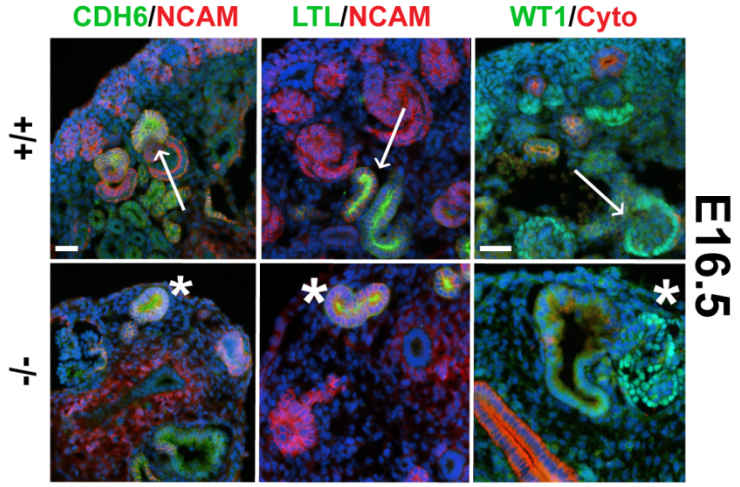
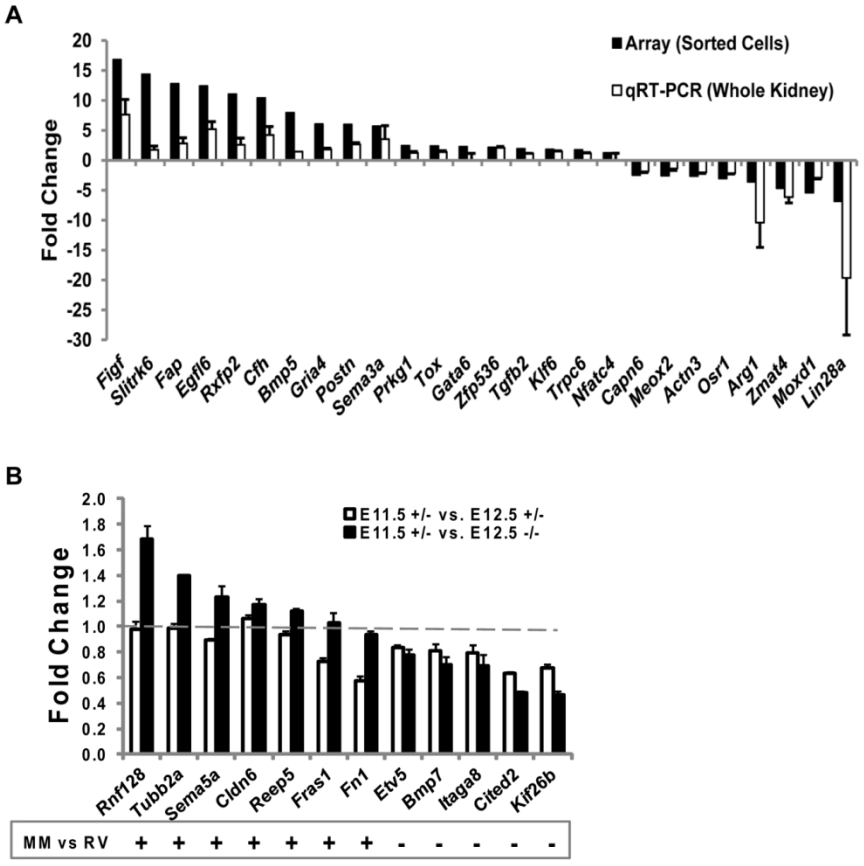
Supplemental Figure 1



Supplemental Figure 1. Nephron differentiation is abnormal in the *Sall1*^{GFP} mutant. CDH6 and LTL staining of E16.5 kidney reveal proximal tubule development in the +/+ toward the interior of the kidney, while WT1 staining shows proper glomeruli formation (arrows). In the *Sall1*^{GFP} -/- there are CDH6, LTL, and WT1+ structures toward the periphery of the kidney in the nephrogenic zone (asterisks). The WT1+ structures are poorly organized in the mutant. Scale bar = 50 µm.

Supplemental Figure 2



Supplemental Figure 2. Transcriptional profiling validation.

A. Gene expression changes were validated in whole kidney comparing developmentally stage matched E11.5 +/- and E12.5 -/- kidneys. Results of qRT-PCR performed in triplicate (± s.e.m.) from two independent pools of cDNA from whole kidney.

B. A number of genes that change in expression from MM to RV (+ up and - down) (Brunskill et al., 2008), show a correlative change in expression in the *Sall1*^{GFP}-/- kidney. Genes that normally go up in expression in the RV show a greater increase in expression in the mutant compared to the change observed in the control from E11.5 to E12.5. The correlative association is also true for those genes that decrease in expression from the MM to RV transition.

Supplemental Tables

Supplementary Table 1. qRT-PCR Primers.

Gene	Forward Primer	Reverse Primer
Actn3	GGGGCGGCGAGTACATGGAACA	TGCGCAGATGTGAGTTGCACCA
Arg1	AGGACAGCCTCGAGGAGGGGTA	GCCAGGTCCCCGTGGTCTCTC
Bbx	AGAGGGAAACGAAGCTCAGG	TTCATCCAGCTTCGCAGAAC
Bmp5	ACAGCTCTGTGCAGAGACGGG	GCCCATGTCTTCCCACAAGACCA
Bmp7	ACGGACAGGGCTTCTCCTAC	ATGGTGGTATCGAGGGTGGAA
Capn6	GGGAAGGTGGTGTGGAAGCGTC	TGGTGGTTGCTGATGTTGCCCA
Ccnd1	GCGTACCCTGACACCAATCTC	CTCCTCTTCGCACTTCTGCTC
Cdh5 (VE-Cadherin)	AATCGCTGCCCCACTATGT	AGTACTCAGAGACTTTCTCCCGG
Cfh	TGGTGCAGATGGGTGGATCAATG	TGGTCTGTTTCTGCTGCACCACT
Cited1	AAGGCACAGCACCCACTC	AGTGCAGGCCTCGACATAGT
Cited2	CCATCGGCTGTCCCTCTAT	GTGGTTCATGGCCATCATATG
Cldn6	CGAGGCTCGGATATCAGG	TCAGGACGATCCCCAAGAT
c-Myc	GAGCTGTTTGAAGGCTGGAT	CGAGGTCATAGTTCCTGTTGG
Egfl6	GGGGCAATGGCCTGCAGTGTT	ATGGTGCGCTTGTGAGCCAGT
Etv5	CCAGAACCTGGATCACAGC	GGCTCAGACAGCTGTCGC
Eya1	CATAGCCGACTGAGTGGTAGT	GCTCTGTTTTAACTTCGGTGCC
Fap	CTCACCACGTGGGCCCAATGG	GACACCCATGTGAGCCAGCTGAA
Fgf20	ATCAGTGTGGCAGTGGGACT	CAAATTGTTCCCTGAAGATGC
Fgf8	AGAAGACGGAGACCCCTTCG	TGAATACGCAGTCCTTGCCTT
Figf	GCTCAGCATCCCATCGCTCCA	ACGCATGTCTCTCTAGGGCTGCA
Flk1	TTTGGCAAATACAACCCTTCAGA	GCAGAAGATACTGTCACCACC
Fn1	GCTTTAAGCTCACATGCCAGT	GAGGCATGTGCAGCTCATC
Foxd1	GTTTAGCTCAGAGGGTCCATCTAT	AGTGCCAAGACAGAGCGACT
Fras1	TGCTTGTCTGTATCAGGGCTC	TTCTCAAAGGCACACCGAG
Gata6	TCGAAACGCCGGTGCTCCAC	CAACAGGTCTGTGCTGGGGCC
Gdnf	GGCTGTCTGCCTGGTGTT	TGACGTCATCAAACTGGTCA
Gria4	GCTATGGTGTAGCGACGCCCA	CAGCTTGTCTAAGACGCCTGCC
Hprt1	TCAGTCAACGGGGGACATAAA	GGGGCTGTACTGCTTAACCAG
Itaga8	TGGCTGGGATTCCAAGAGGA	GTGCCCCGACCAATATGTCA
Jag1	TATGCCTGTGACCAGAACGG	CCTGCAGTCACCTGGAAGTT
Kif26b	CAACAAGGTGAAGGACACTCC	TGACCTCCGCAAGTCAGG
Klf6	AACCCGACATGGATGTGCTCCC	AACTCCAGGCAGGTCTGTTGCCA
Lama4	GCCCCAGGGCAATAGAACAT	GGGTCTTCAGACGAATGGCA
Lin28a	CACTGGCCCTGGTGGTGTGTT	TGATGGTCTAGCCCACCGCAGT
Mecom	GGCAAGGAAACTGGCCACAA	AGGAGAGCATGGCTCTTGAA
Meox2	GCGTGCGCACCAGGGGATTAT	TCCTTCCTGGGAATCTGAGCTGTCG
Moxd1	CACGTTGGCTTATCCCTCGGCA	ACCCTCAGCCCCGAACTGTCTA
Nfatc4	ACCCTGGAGGAAGTGAGTGAGATCA	TGGGGCTTCGGGGACCACTAC
Npy	CCGCTCTGCGACACTACATC	TGTTCTGGGGGCGTTTTCTG

Osr1	AGCGACCCTCACAGACGCGC	AATGGGTACCGGTGCTGGCAAG
Postn	CATTGAAGGTGGCGATGGTCACTT	GGCCCTTGAACCCTTTTGTTGGC
Pparg	GTCCTTCCCGCTGACCAA	GCCACCTCTTTGCTCTGCT
Prkg1	AAGCAGATCATGCAGGGGGCT	CCACCCAGGCACGCTTCCATC
Ptprcap (CD45)	CTACCACAACGAAGCAAACATG	CACGTTTTCACAATCCTCATTTC
Raldh2	CTCTTGGTTCTGTGTGGAGAAG	CGCCATTTAGGGATTCCATAGTT
Reep5	TCATCGGACTGGTGGCTT	GTCAGCCACTGGGTGTCAT
Ret	TACCGTCTGATGCTGCAGTG	TGCAGCCAGGTCCAAGTAGT
Rnf128	GCACCTTGAAACAAGGAGACA	GGGTCCACACATGTCTTATGG
Rpl 19	CCAATGCCAACTCCCGTCA	TACCCTTCCTCTTCCCTATGC
Rxfp2	ACACCGGACACCTCTCGAGCG	GGGCACAGAGGAGCCACCATACT
Sall1GFP	CTCAACATTTCCAATCCGACCC	GTGAACAGCTCCTCGCCCTT
Sema3a	GACCGTCTTCCGGGAACCAACAAC	GTGCCACTCCCGCAGTTGAGC
Sema5a	GGCATCTGGGCTGGTGTGTGACA	ACCGAGGAGAGAGAGGGCAAAGA
Six2	GCAAGTCAGCAACTGGTTCA	CTTCTCATCCTCGGAACTGC
Slitrk6	TCGCACCAGGAAGTGACTGCTTT	TGGGACTGTAGAGACAGACAAGCAA
Tgfb2	AGCGGAGCGACGAGGAGTACT	AAGTGGGCGGGATGGCATTTTCG
Tox	ACACTCGCCCACCATGCAGC	CGCACGTACTCCATCGCTTGGG
Trpc6	GGCATGCATCCAAAGCTCAGAGCA	GGTCCCACTTTATCCTGGCCAGA
Tubb2a	TTAGCCCTCTGTCCACGC	TATCACCTCCCAAAACTTAGCG
Zfp536	ACCGGAAGCGCCCAAGAGGAT	CTGTCTCGAAGCAGCGCCTGC
Zmat4	CCGCGTTGCCTTGCTAGAGC	GCGACACACTGCACGTGGTACA

Supplemental Table 2. Primers for WISH probes.

Gene	**Forward**	**Reverse**
Bbx	AAACGACCAAAACGGAAGTG	TGCCAGTTGAAAGAGTGCAG
Bmp7	AGGTGCACTCCAGCTTCATC	TCTTGGTTCTTTGGCGTCTT
Ccnd1	TGAAGGAGACCATTCCCTTG	CCCTACTCTCAGGGTGATGC
Cited1	ATGCCAACTATGTCGAGGC	TCAGCAGCCAGAGGGAAA
Eya1	Gift from Richard Maas and Pin Xu, Brigham and Women's Hospital.	
Fgf8	ACCCAGCTGACACTCTCG	CTCTGCTCGGTGGTGTGGT
Lef1	AAGATCTTCGCCGAGATCAG	ATAGCTGGATGAGGGATGCC
Lhx1	CCCATCCTGGACCGTTTC	GCCAGTTGCTCACGGATATG
Myc	CCTGACGACGAGACCTTCAT	TCGTCTGCTTGAATGGACAG
Osr1	ATGGGCAGCAAAACCTTG	CACACTCTTGACACTTGAAAGGC
Pax8	TCACAACTCGATCAGATCCG	TCGAGATGGTGCTGGCTG
Six2	AATGAAAGCGTGCTCAAGG	ACTGGTACGGGTACTGCGC
Wnt4	AGCAATTGGCTGTACCTGG	ACTTGACGAAGCAGCACCA
Wnt9b	CAGTGGGGTGTGTGTGGT	GCGCTTGCAGGTATACACG
Wnt11	GTGTGCTATGGCATCAAGTGG	TTCCAACAGGTGCGGATG