

SUPPLEMENTAL MATERIAL

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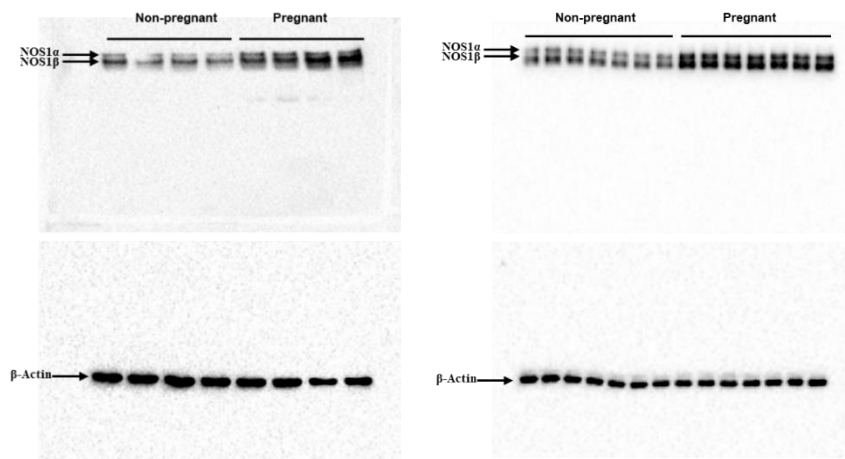
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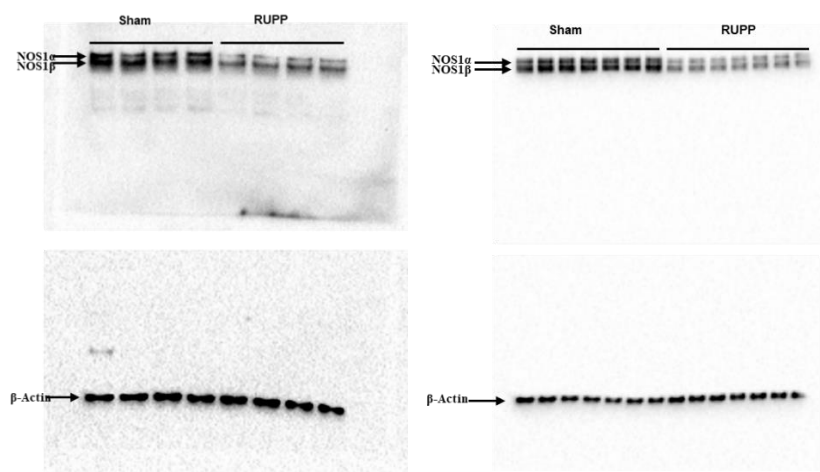
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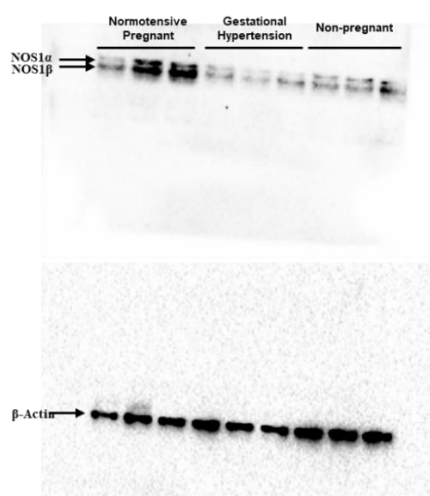
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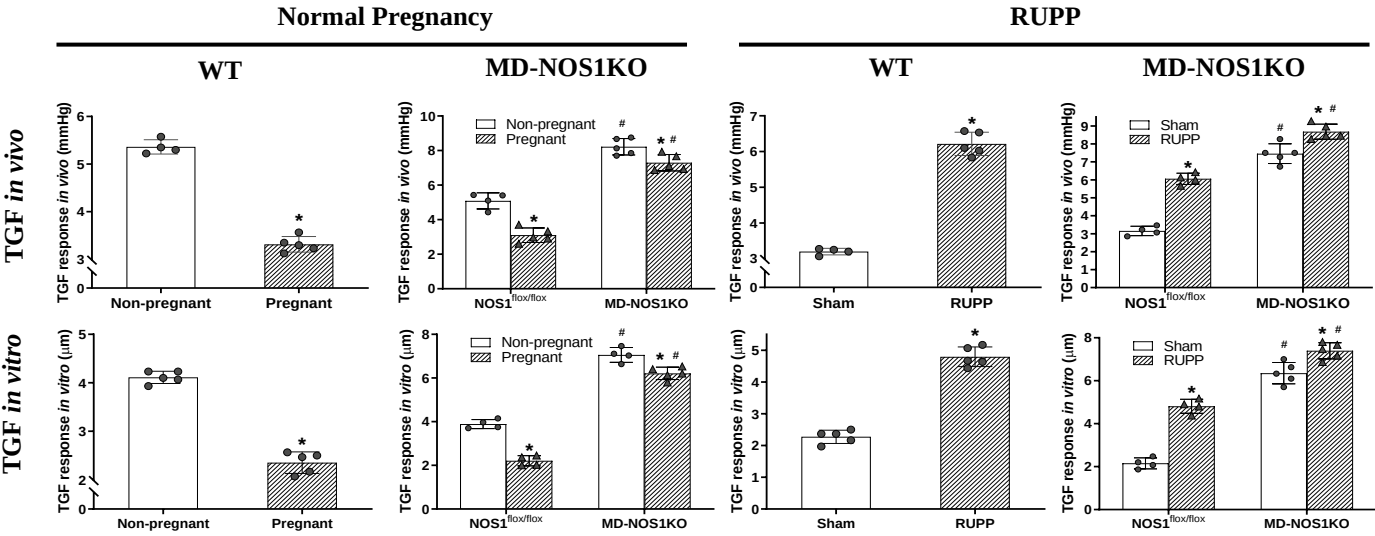
B.



C.

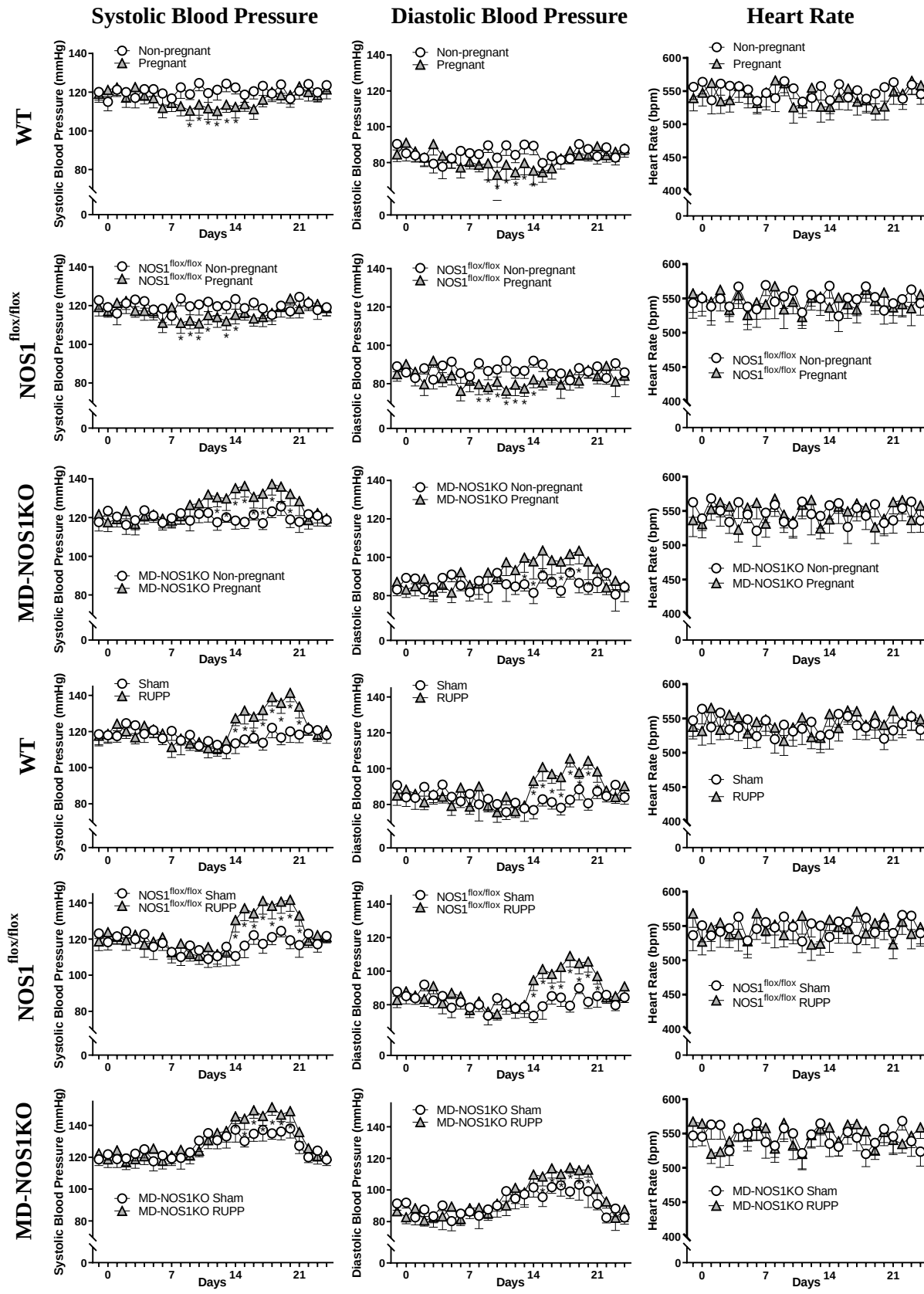


Supplemental Figure 2. The mean values of individual animal measurements for TGF *in vivo* and TGF *in vitro*.



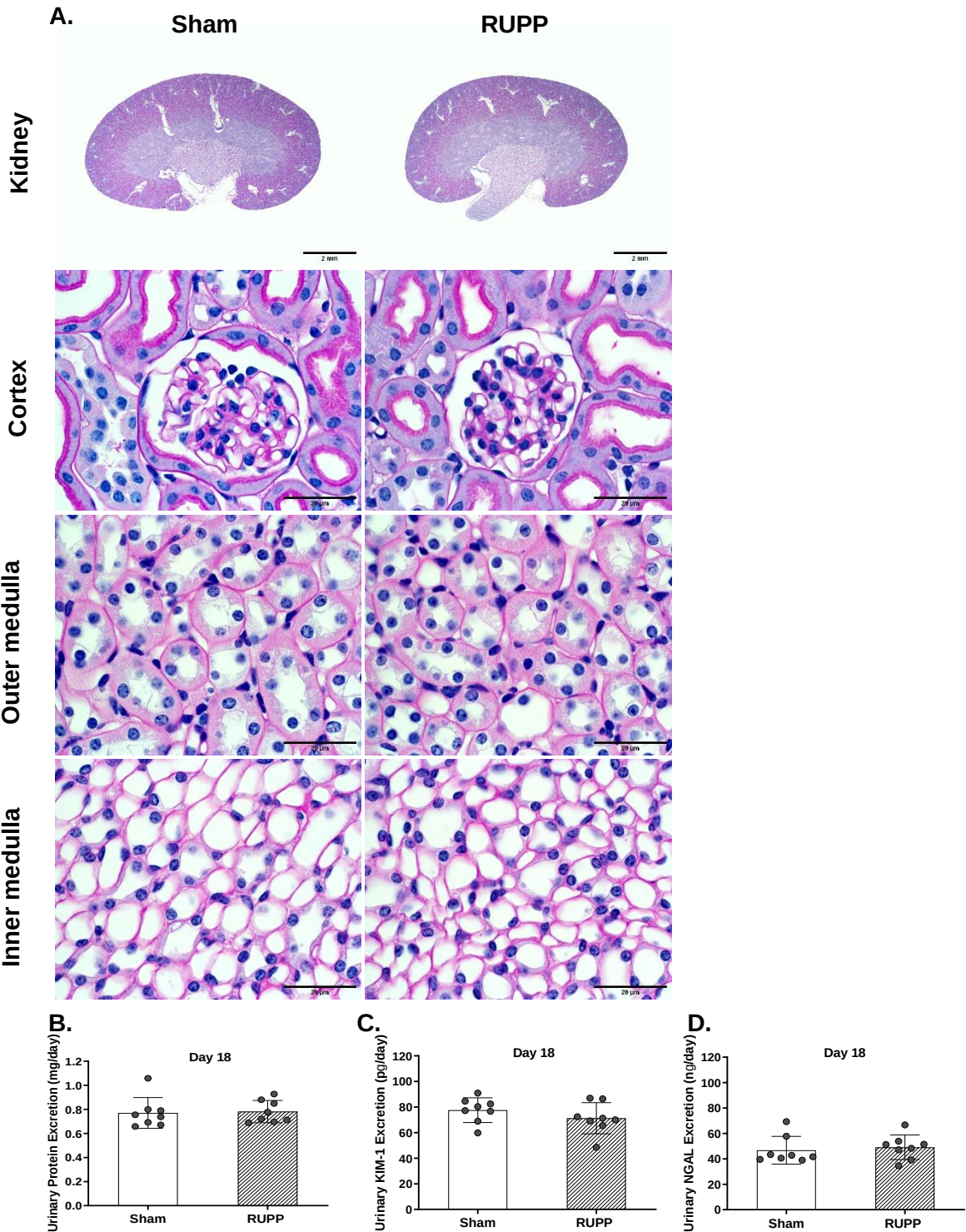
*P<0.05 vs. Non-pregnant or Sham; #P<0.05 vs. NOS1^{flox/flox}.

Supplemental Figure 3. Systolic blood pressure, diastolic blood pressure, and heart rate.

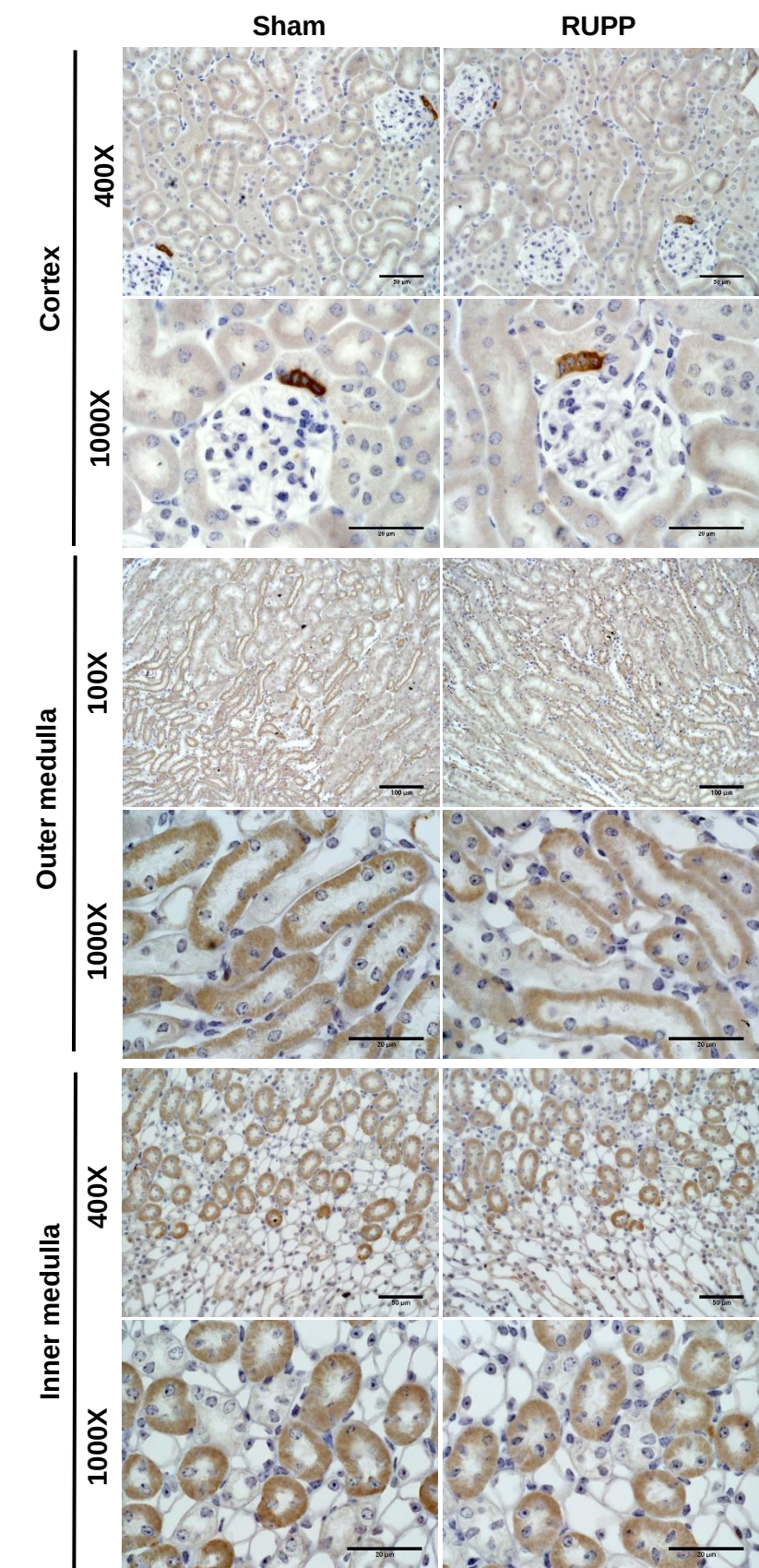


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Supplemental Figure 4. Representative PAS stained histological micrographs of whole kidney, renal cortex, outer medulla and inner medulla from C57BL/6J mice with RUPP or sham-operation (A). The 24-hour urinary excretion levels of protein (B), KIM-1 (C) and NGAL (D) in sham and RUPP mice.



Supplemental Figure 5. Representative micrographs of NOS1 immunohistochemistry staining in renal cortex, outer medulla and inner medulla of C57BL/6J mice with RUPP or sham-operation.



Supplemental Table 1. Demographic data of African green monkeys.

Monkey Number	Pregnancy Status	Blood Pressure Category	Non-Pregnant Blood Pressure	Pregnant Blood Pressure	Weight	Glucose	Fetal Sex	Fetal Weight	Fetal Length	Fetal Head Circumference
2453	Pregnant	Normotensive	109/45 mmHg	114/47 mmHg	4.95 kg	75 mg/dL	Male	425 g	17 cm	16 cm
3411	Pregnant	Normotensive	119/53 mmHg	121/60 mmHg	6.37 kg	93 mg/dL	Male	325 g	14 cm	18 cm
4325	Pregnant	Normotensive	118/50 mmHg	92/54 mmHg	4.075 kg	170 mg/dL	Female	200 g	14 cm	18 cm
774	Pregnant	Gestational Hypertension	112/54 mmHg	168/88 mmHg	4.58 kg	122 mg/dL	Male	195 g	11 cm	16 cm
4812	Pregnant	Gestational Hypertension	95/57 mmHg	139/62 mmHg	4.27 kg	63 mg/dL	Male	240 g	13 cm	16 cm
3404	Pregnant	Gestational Hypertension	115/47 mmHg	140/56 mmHg	4.85 kg	89 mg/dL	Female	285 g	13 cm	17 cm
3511	Non-Pregnant	Normotensive	109/49 mmHg	NA	2.74 kg	NA				
3554	Non-Pregnant	Normotensive	102/47 mmHg	NA	2.54 kg	NA				
816	Non-Pregnant	Normotensive	98/53 mmHg	NA	3.81 kg	NA				

Supplemental Table 2: Mean arterial pressure in anesthetized mice during micropuncture studies.

	WT		NOS1 ^{flox/flox}		MD-NOS1KO		WT		NOS1 ^{flox/flox}		MD-NOS1KO	
	Non-Pregnant	Pregnant	Non-pregnant	Pregnant	Non-pregnant	Pregnant	Sham	RUPP	Sham	RUPP	Sham	RUPP
MAP (mmHg)	93.1±3.6	90.3±2.3	94.5±3.0	92.9±4.2	92.7±3.4	111.0±3.2 ^{&#}	92.5±2.9	109.1±4.3*	91.8±3.4	113.2±4.5*	110.8±3.1 [#]	121.9±3.8* [#]

&P<0.05 vs. Non-pregnant; *P<0.05 vs. Sham; [#]P<0.05 vs. NOS1^{flox/flox}.

Supplemental Table 3. Biomedical parameters.

	WT		NOS1 ^{flox/flox}		MD-NOS1KO		WT		NOS1 ^{flox/flox}		MD-NOS1KO	
	Non-Pregnant	Pregnant	Non-pregnant	Pregnant	Non-pregnant	Pregnant	Sham	RUPP	Sham	RUPP	Sham	RUPP
Litter size	NA	6.0±0.8	NA	6.1±0.7	NA	5.9±0.9	5.9±0.6	5.3±1.8	6.2±0.7	5.4±1.6	5.8±1.0	5.1±1.9
Pup weight (g)	NA	1.51±0.22	NA	1.56±0.18	NA	1.48±0.20	1.55±0.21	0.98±0.19*	1.52±0.23	1.04±0.23*	1.49±0.18	0.93±0.21*
RBF (ml/min)	0.61±0.04	0.95±0.05 ^{&}	0.58±0.06	0.93±0.07 ^{&}	0.59±0.05	0.74±0.04 ^{&#}	0.93±0.06	0.67±0.05*	0.94±0.06	0.68±0.07*	0.75±0.06	0.59±0.04* [#]
BUN (mg/dl)	13.4±1.4	15.3±2.8	17.0±2.7	15.7±2.3	14.3±1.7	16.1±3.5	13.8±1.2	15.2±2.7	14.9±2.7	16.2±2.9	15.6±2.6	16.7±1.8
Plasma Na ⁺ (mmol/l)	150.6±4.8	148.1±3.1	148.5±4.3	149.7±2.0	149.4±3.9	150.0±1.7	145.1±5.3	146.8±5.9	149.2±2.7	149.1±3.9	149.4±3.1	150.2±3.7
Plasma K ⁺ (mmol/l)	5.79±1.11	6.02±1.02	5.84±0.96	5.96±0.90	5.59±0.73	5.81±0.94	5.92±0.93	5.85±1.12	6.19±0.92	5.71±0.97	6.03±1.28	5.63±0.87
Plasma Cr (mg/dl)	0.072±0.017	0.087±0.018	0.072±0.025	0.083±0.023	0.073±0.005	0.074±0.015	0.074±0.008	0.075±0.004	0.079±0.016	0.085±0.012	0.070±0.017	0.073±0.012
FENa (%)	0.082±0.022	0.056±0.012 ^{&}	0.084±0.022	0.057±0.011 ^{&}	0.078±0.023	0.045±0.016 ^{&#}	0.059±0.013	0.041±0.011*	0.055±0.012	0.042±0.010*	0.044±0.012	0.029±0.007*
PRC (ng/ml/h)	30.3±11.2	86.5±27.4 ^{&}	37.5±9.2	85.5±22.6 ^{&}	19.4±7.2 [#]	44.8±13.6 ^{&#}	75.9±24.1	68.3±28.8	82.5±21.1	80.3±24.9	38.6±15.7 [#]	41.6±12.7 [#]

RBF: renal blood flow; BUN: blood urea nitrogen; Plasma Cr: plasma creatinine concentration; FENa: fractional excretion of sodium; PRC: plasma renin concentration

&P<0.05 vs. Non-pregnant; *P<0.05 vs. Sham; [#]P<0.05 vs. NOS1^{flox/flox}.

Supplemental Table 4. Morphometric evaluation of renal histology.

	Sham	RUPP
Glomerular injury index (0-4)	0.01±0.02	0.02±0.02
Tubular damage index (0-5)	0.00±0.00	0.00±0.00