

SUPPLEMENTARY DATA

Renal Denervation reverses hepatic insulin resistance induced by high-fat diet.

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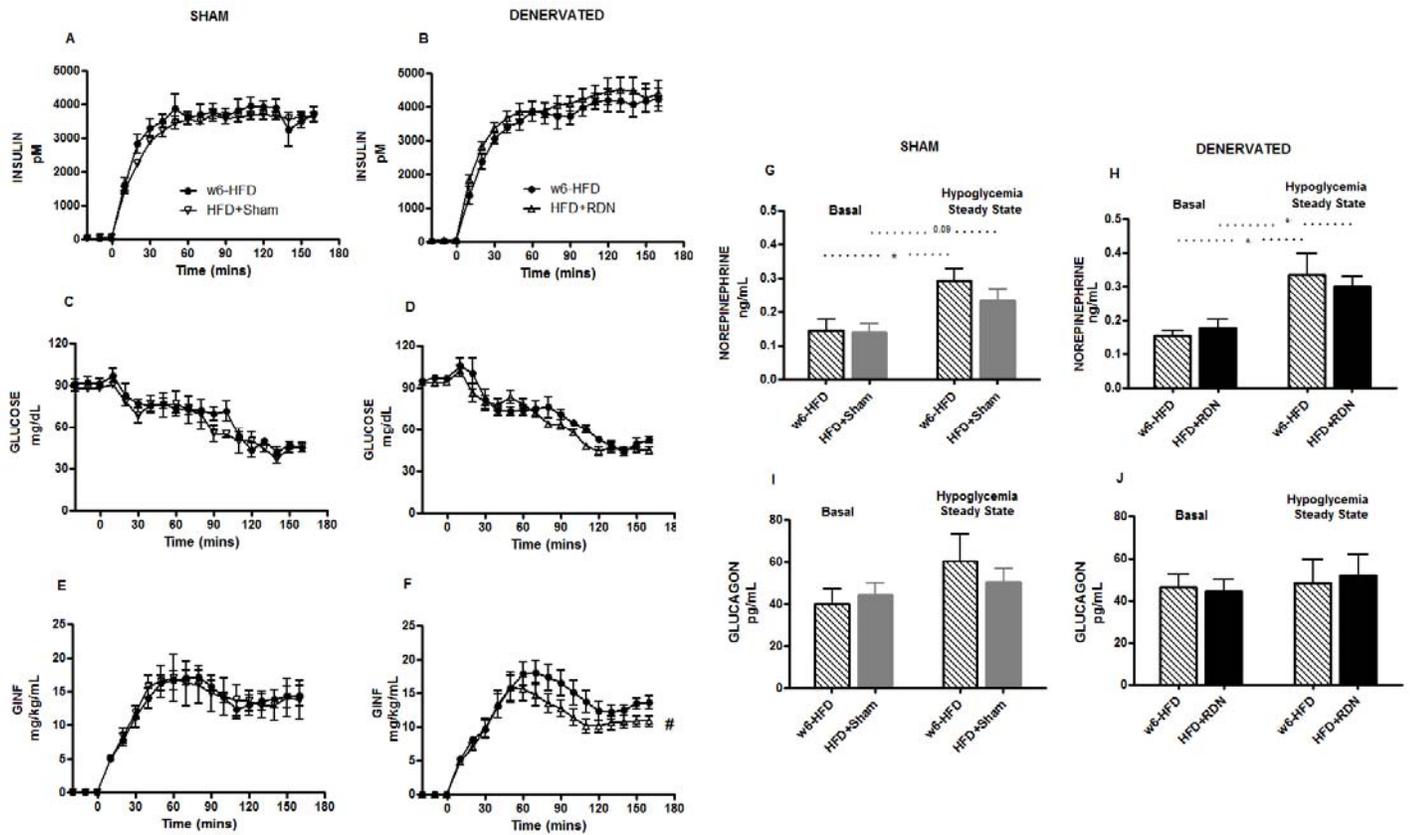
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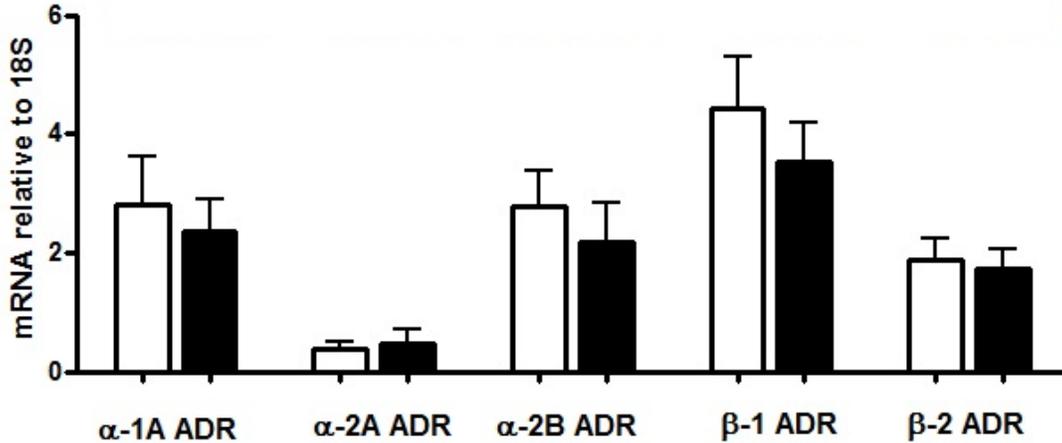
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Supplementary Figure S1. Hypoglycemic Clamp: Time course data of (A-B) plasma insulin concentration, (C-D) plasma glucose; (E-F) glucose infusion rate (GINF); (G-H) plasma norepinephrine and (I-J) plasma glucagon assessed during the hypoglycemic clamp. Panels A, C, E, G and I represent sham group; Panels B, D, F, H and J represent RDN group. RDN significantly lowers the GINF as compared to sham during insulin induced hypoglycemic clamp. Closed circles and hatched bars=w6-HFD, inverted triangles and grey bars=HFD+Sham, upright triangles and black bars=HFD+RDN. N=6 in each group. #P<0.05 vs w6-HFD as measured by two way ANOVA; *P<0.05 as measured by Mann-Whitney U non-parametric t-test.

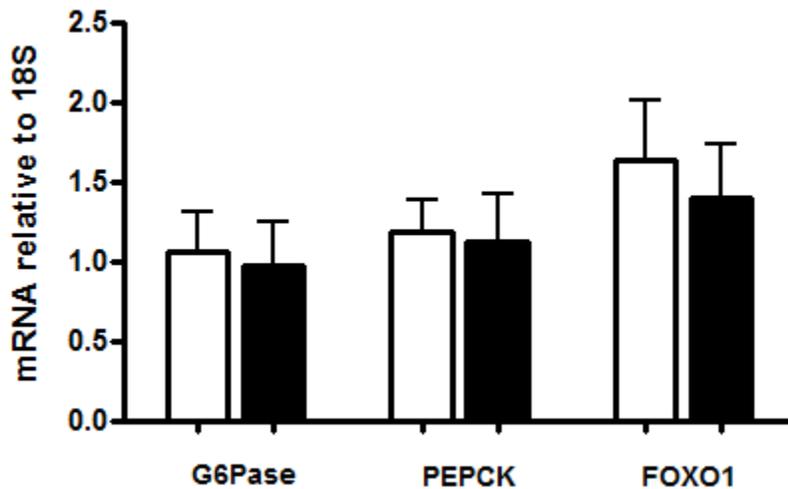


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Supplementary Figure S2. Adrenergic receptor gene expression in the kidney. White bars are HFD+Sham group and black bars are HFD+RDN group. ADR=adrenergic receptor. Data from right and left kidneys are combined for presentation. N=7 in sham group and N=8 in RDN group. Data are Mean±SEM. P=ns as measured by Mann Whitney non-parametric t-test.

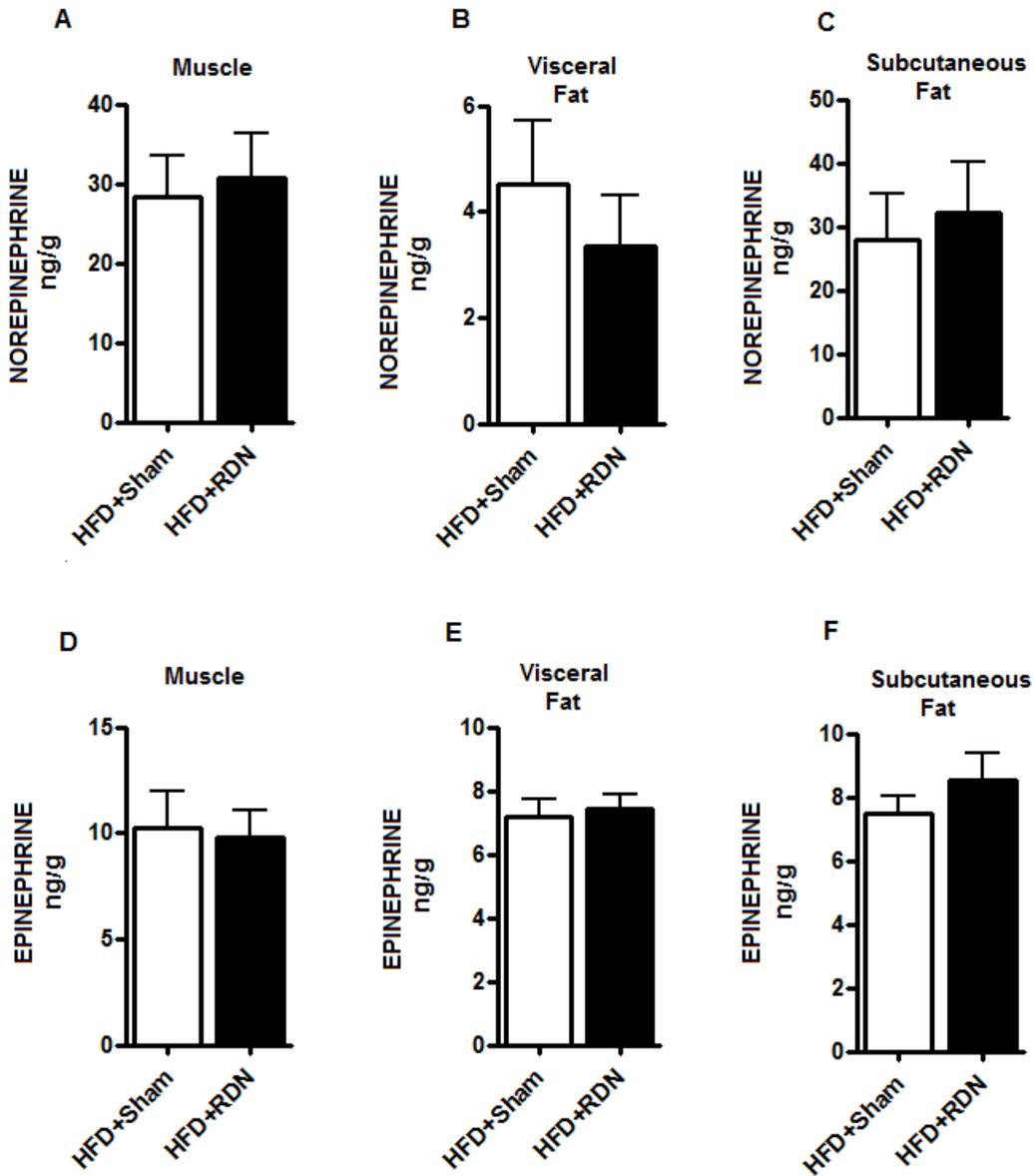


Supplementary Figure S3. Gluconeogenic gene expressions in the kidney cortex. White bars are HFD+Sham group and black bars are HFD+RDN group. Data are from right and left kidneys are combined for presentation. N=7 in sham group and N=8 in RDN group. Data are Mean±SEM. P=ns as measured by Mann Whitney non-parametric t-test.



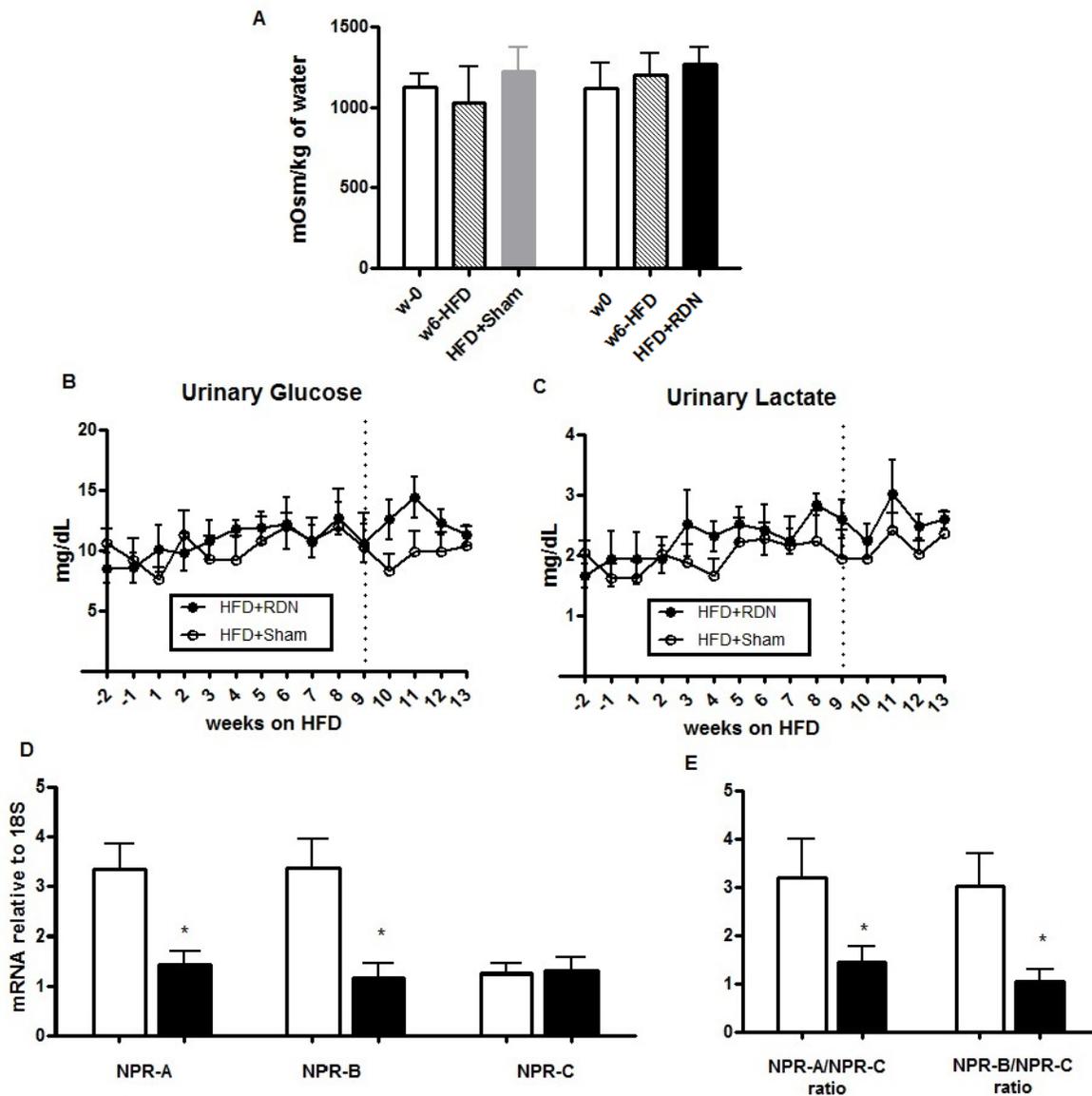
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Supplementary Figure S4. Tissue Catecholamine Content. Panels A-D are tissue norepinephrine levels and panels E-H are tissue epinephrine levels. White bars=HFD+Sham group and black bars=HFD+RDN group. N=7 in sham group and N=8 in RDN group. Data are Mean±SEM. *P<0.05 as measured by Mann Whitney non-parametric t-test.



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Supplementary Figure S5. Urine osmolality (A), urinary glucose (B), urinary lactate (C) and natriuretic peptide receptor expressions (D-E) in the kidney. Panel A: white bar=w0, hatched bar=w6-HFD, grey bar=HFD+Sham and black bar=HFD+RDN. Panels B-C: Renal denervation does not induce significant changes in urinary glucose and lactate. The vertical line represents the week of surgery. Open circles=HFD+Sham and closed circles= HFD+RDN. Panels D-E: Renal denervation reduces renal natriuresis by lower the expression of NPR-A and NPR-B as compared to sham. NPR = natriuretic peptide receptor. White bars=HFD+Sham group and black bars=HFD+RDN group. Data from right and left kidneys are combined for presentation. N=7 in sham group and N=8 in RDN group. Data are Mean±SEM. *P<0.05 as measured by Mann Whitney non-parametric t-test.



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Supplementary Figure S6. Fasting parameters. RDN has no effect on fasting plasma glucose (A), lactate (B), insulin (C), C-peptide (D), glucagon (E), FFA (F), glycerol (G), triglycerides (H), NE (I) and EP (J) as compared to w6-HFD. White bar=w0, hatched bar=w6-HFD, grey bar=HFD+Sham and black bar=HFD+RDN. N=7 in sham group and N=8 in RDN group in all panels except D where N=6 in sham group and N=6 in RDN group. Data are means±SEM. FFA = free-fatty acids. #P<0.01 vs w0 as measured by Two Way ANOVA.

