

SUPPLEMENTAL DATA

**Dietary Sodium Suppresses Digestive Efficiency via the Renin-Angiotensin
System**

Benjamin J. Weidemann¹, Susan Voong¹, Fabiola I. Morales-Santiago¹, Michael Z. Kahn², Jonathan Ni¹, Nicole K. Littlejohn¹, Kristin E. Claffin¹, Colin M.L. Burnett¹, Nicole A. Pearson¹, Michael L. Lutter^{2,3,4}, and Justin L. Grobe^{1,3,4,5}

Departments of ¹Pharmacology and ²Psychiatry, ³the Fraternal Order of Eagles' Diabetes Research Center, ⁴the Obesity Research and Education Initiative, and ⁵the Center for Hypertension Research, University of Iowa, Iowa City, IA

Short Title: Sodium, Angiotensin, and Digestive Efficiency

Corresponding Author:
Justin L. Grobe, PhD, FAHA
Department of Pharmacology, University of Iowa
51 Newton Rd., 2-307 BSB
Iowa City, IA 52242
Tel: (319) 353-5789
Fax: (319) 335-8930
Email: justin-grobe@uiowa.edu

Figure S1. (A) Body composition over time on various diets. Lean: Diet $P=0.053$, Time $P<0.001$, Diet x Time $P=0.063$. Fat: Diet $P=0.003$, Time $P<0.001$, Diet x Time $P<0.001$. Fluid: Diet $P<0.001$, Time $P<0.001$, Diet x Time $P=0.002$. $N=5$ mice / group for all endpoints. (B) Tissue masses at sacrifice. $N=5$ mice / group for all endpoints. (C) Daily sodium ingestion during the 5th week of dietary intervention. (D) Relative intake of diets when presented as paired choice tests. * $P<0.05$ vs chow by Tukey multiple-comparisons procedure following $P<0.05$ one-way ANOVA result (panels A, B) or independent t-test (panel D).

Figure S2. (A) Respiriometric (aerobic) resting metabolic rate (RMR) with 2.5 weeks of dietary intervention. (B) Total RMR measured by direct calorimetry simultaneously with data in panel A. (C) Respiriometric RMR versus total RMR; data from panels A + B. $N=5$ mice / group for all groups. * $P<0.05$ vs chow by Tukey multiple-comparisons procedure following $P<0.05$ one-way ANOVA result.

Figure S3. (A) Systolic blood pressure as determined by tail-cuff plethysmography. (B) Heart rate determined simultaneously with data in panel A. $N=6$ chow, 7 HFD+0.25% NaCl, and 7 HFD+4% NaCl. (C) Plasma concentration of angiotensin II. $N=7$ chow, 8 HFD+0.25% NaCl, and 8 HFD+4% NaCl.

Figure S4. (A) mRNA for RAS components in whole-brain homogenate, as determined using realtime RT-PCR. Chow $N=7$, HFD+0.25% NaCl $N=4$, HFD+4% NaCl $N=5$. (B) mRNA for RAS components in segments of the gastrointestinal tract. Duodenum; $N=4$

for all groups. Jejunum; Chow N=7, HFD+0.25% NaCl N=6, HFD+4% NaCl N=8, HFD+4% NaCl+Ang II N=8. Ileum; Chow N=7, HFD+0.25% NaCl N=8, HFD+4% NaCl N=8, HFD+4% NaCl+Ang II N=8. Cecum; Chow N=6, HFD+0.25% NaCl N=5, HFD+4% NaCl N=7, HFD+4% NaCl+Ang II N=5. *P<0.05 for indicated comparisons, by Tukey multiple-comparisons procedure following P<0.05 one-way ANOVA result.

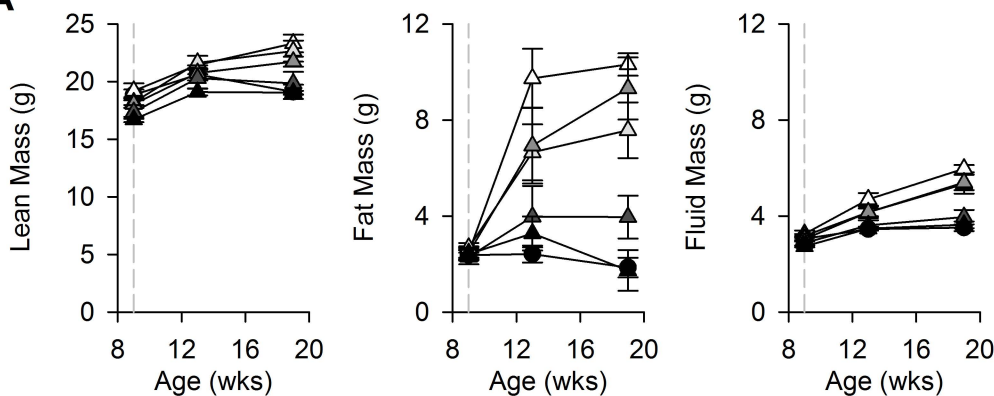
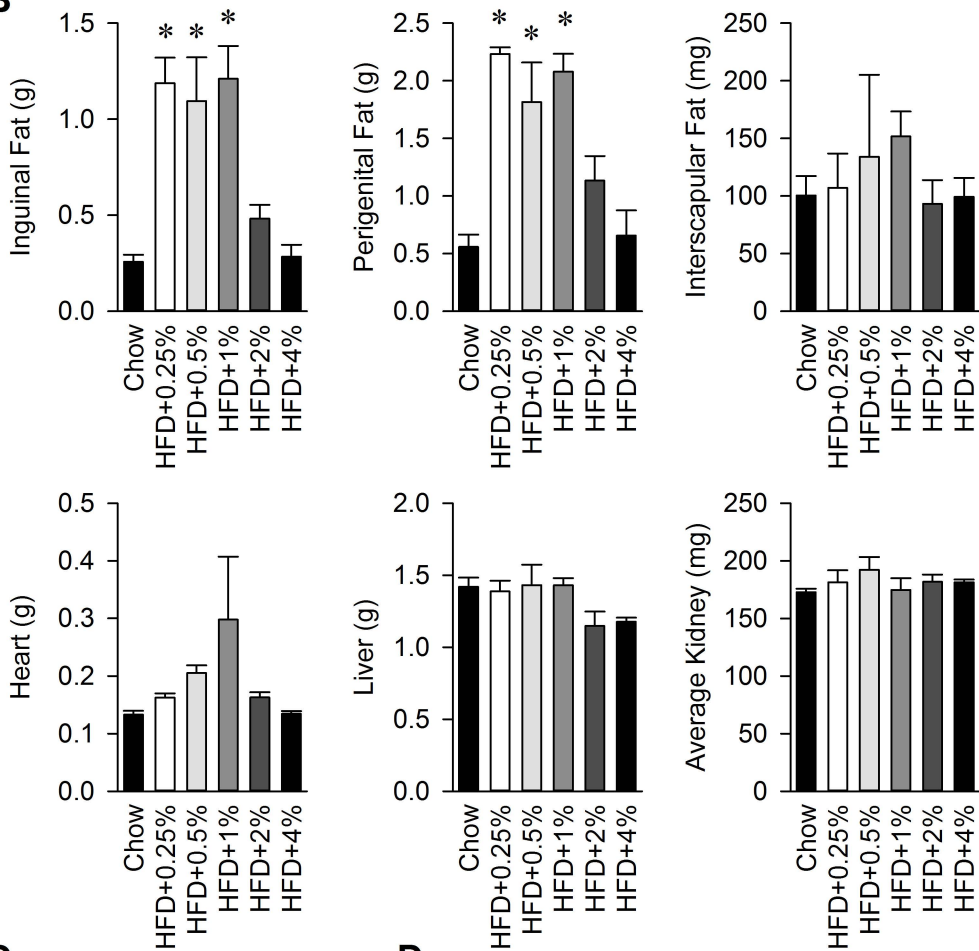
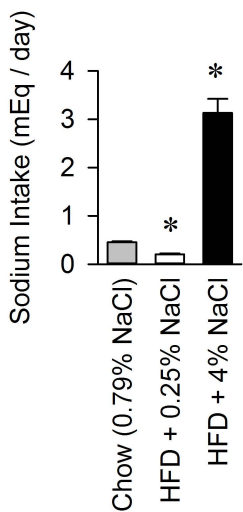
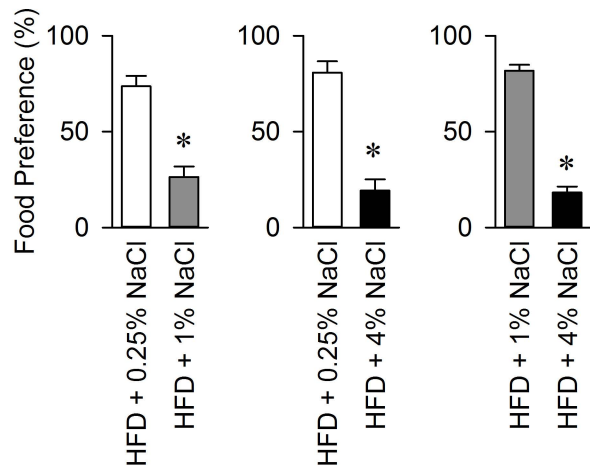
Figure S1**A****B****C****D**

Figure S2

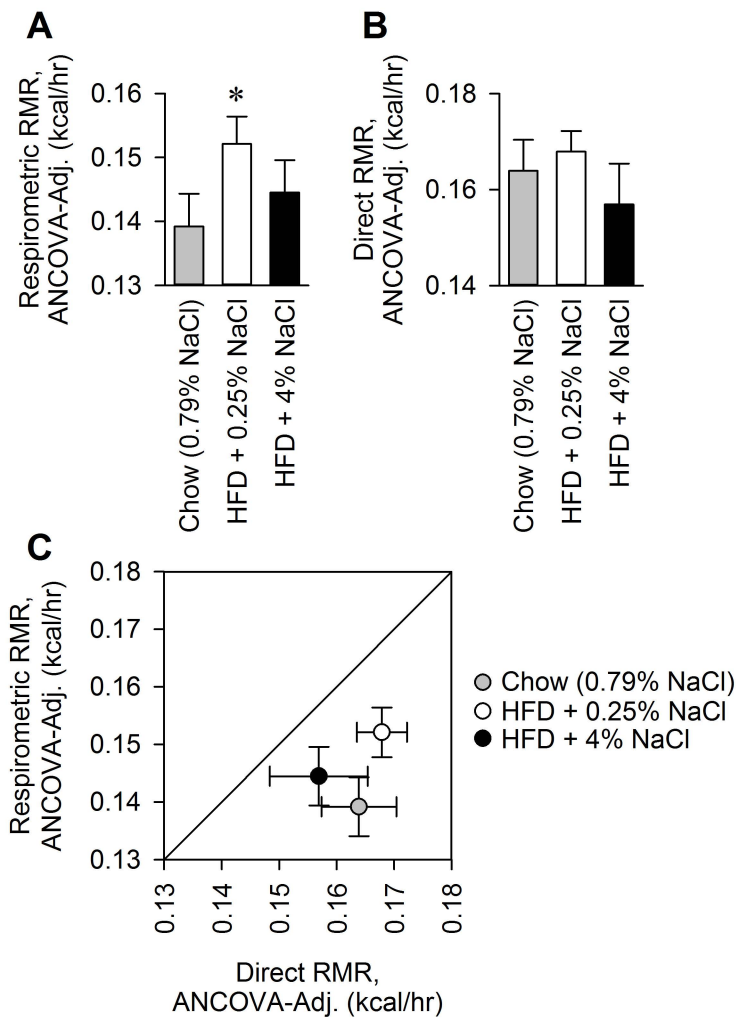


Figure S3

- Chow
- △ HFD + 4%
- ▲ HFD + 0.25%

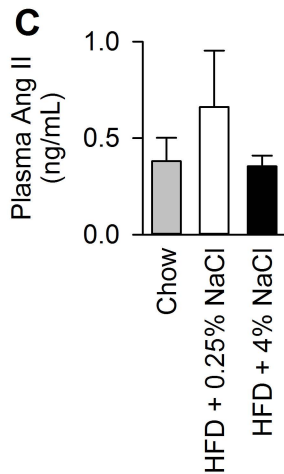
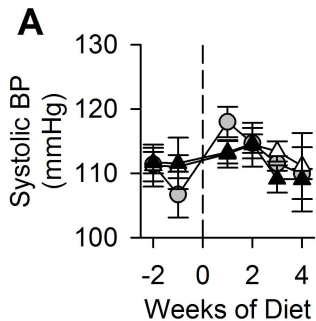
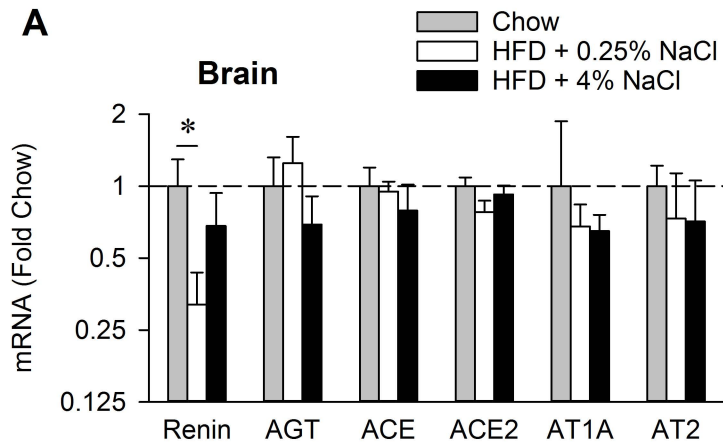


Figure S4**A****B**