

Supplemental Table 1. Percent sodium-dependency of the jejunum by disease and age.

	20-Weeks		30-Weeks	
% Sodium-dependency	CKD	NL	CKD	NL
Disappearance from loop (%)	35	19	21	30
Appearance into plasma (%)	25	33	24	23

Sodium-dependency was determined by (average absorption for the group given the absorption buffer with sodium – average absorption for the group given the buffer without sodium)/(sodium-containing buffer group).

Supplemental Table 2. Components of balance for phosphorus

Component	20-weeks-old		30-weeks-old		P-Values			
	NL	CKD	NL	CKD	ANOVA Model	Age (20 vs 30)	Disease (CKD vs NL)	Age x Disease
Balance (mg/d)	4.6 (3.4)	-2.4 (2.7)	-9.68 (4.0)	-16.9 (5.0)	0.001	0.0003	0.07	0.98
Net absorption (mg/d)	88.8 (2.2)	93.3 (1.97)	74.6 (1.9)	78.2 (3.2)	<0.0001	<0.0001	0.09	0.84
Net absorption (%)	48.6 (1.0)	51.1 (0.9)	43.9 (1.1)	47.3 (1.7)	0.0006	0.0007	0.01	0.72
Fecal phosphorus (mg/d)	93.9 (2.0)	89.5 (2.6)	95.5 (2.2)	87.1 (3.5)	0.10	0.88	0.02	0.46
Urine phosphorus (mg/d)	84.2 (2.4)	95.7 (2.8)	84.3 (3.6)	95.1 (4.8)	0.02	0.94	0.002	0.92
Dietary phosphorus	182.7 (2.1)	182.8 (3.1)	170.1 (1.7)	165.4 (3.5)	<0.0001	<0.0001	0.38	0.37

intake									
(mg/d)									

Two-way ANOVA p-values for the overall model (P_{Model}), main effect of age (P_{Age}), main effect of disease (P_{Disease}), and interaction of age and disease ($P_{\text{Age} \times \text{Disease}}$) are shown, and means and (SEM) are shown for each group.

Supplemental Table 3. Components of balance for calcium

Component	20-weeks-old		30-weeks-old		P-Values			
	NL	CKD	NL	CKD	ANOVA Model	Age (20 vs 30)	Disease (CKD vs NL)	Age x Disease
Balance (mg/d)	17.7 (2.5)	18.4 (1.9)	5.5 (1.9)	8.3 (2.8)	<0.0001	<0.0001	0.43	0.64
Net absorption (mg/d)	19.9 (2.5)	21.9 (1.9)	8.7 (1.9)	13.4 (2.8)	0.0003	<0.0001	0.15	0.56
Net absorption (%)	14.1 (1.7)	15.6 (1.3)	6.7 (1.4)	10.4 (2.2)	0.002	0.0003	0.12	0.51
Fecal calcium (mg/d)	121.1 (2.7)	119.2 (2.9)	122.7 (2.3)	114.3 (3.7)	0.21	0.56	0.08	0.27
Urine calcium (mg/d)	2.3 (0.1)	3.5 (0.2)	3.3 (0.2)	5.1 (0.4)	<0.0001	<0.0001	<0.0001	0.21

Dietary calcium intake (mg/d)	141.1 (1.7)	141.1 (2.4)	131.4 (1.3)	127.7 (2.7)	<0.0001	<0.0001	0.38	0.37
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Supplemental Table 4. Absorption of phosphorus by pH

	pH 5.5	pH 7.4
Absorption from loop with sodium-free buffer (%)	CKD: 24.7 ± 5.3 % NL: 25.4 ± 6.1 %	CKD: 22.8 ± 4.2 % NL: 18.0 ± 4.2 %
Absorption from plasma with sodium-free buffer (AUC)	CKD: 0.51 ± 0.12 NL: 0.39 ± 0.10	CKD: 0.53 ± 0.14 NL: 0.35 ± 0.10

	pH 9.4	pH 7.4
Absorption from loop with sodium-containing buffer (%)	CKD: 36.4 ± 2.0 % NL: 30.1 ± 2.8 %	CKD: 30.5 ± 1.7 % NL: 29.7 ± 1.6 %
Absorption from plasma with sodium-containing buffer (AUC)	CKD: 0.67 ± 0.18 NL: 0.55 ± 0.20	CKD: 0.67 ± 0.16 NL: 0.50 ± 0.13