

## Supplementary Materials

**Supplementary Table 1. Baseline Laboratory Examinations**

	Volunteers (n=60)	CIC (n=53)	IBS-C (N=24)	P Value
<b>Hematology</b>				
<b>WBC (<math>10^8/\mu\text{l}</math>)</b>				
Mean (SD)	6.2 (1.7)	5.8 (2.0)	6.4 (1.5)	0.23 <sup>a</sup>
Median	5.8	5.7	6.3	
Q1, Q3 (Range)	5.1, 6.8 (7.6)	4.3, 6.5 (9.0)	5.3, 7.3 (7.3)	
<b>Hemoglobin (g/dl)</b>				
Mean (SD)	14.0 (1.3)	13.3 (1.5)	13.9 (1.8)	0.03 <sup>a,b</sup>
Median	13.9	13.2	14.0	
Q1, Q3 (Range)	13.1, 15.0 (6.3)	12.4, 14.3 (7.0)	12.4, 15.4 (7.0)	
<b>Platelets (<math>10^3/\mu\text{l}</math>)</b>				
Mean (SD)	242.3 (47.3)	270.3 (54.9)	261.6 (49.9)	0.01 <sup>a,b</sup>
Median	243.5	261.0	257.5	
Q1, Q3 (Range)	211, 270 (214)	239, 302 (264)	242, 284, (258)	
<b>Chemistry</b>				
<b>Sodium (mmol/L)</b>				
Mean (SD)	140.1 (2.1)	140.2 (2.2)	139.7 (1.9)	0.50 <sup>a</sup>
Median	140	140	140	
Q1, Q3 (Range)	138, 141 (9)	139, 141 (11)	139, 141 (10)	
<b>Potassium (mEq/L)</b>				
Mean (SD)	4.4 (0.4)	4.5 (0.4)	4.5 (0.4)	0.38 <sup>a</sup>
Median	4.4	4.5	4.4	
Q1, Q3 (Range)	4.1, 4.6 (1.9)	4.3, 4.8 (2.0)	4.2, 4.8 (1.6)	
<b>Chloride (mmol/L)</b>				
Mean (SD)	101.5 (2.0)	102.0 (1.8)	101.4 (1.8)	0.16 <sup>a</sup>
Median	102	102	101	
Q1, Q3 (Range)	101, 103 (11)	101, 103 (8)	100, 103 (7)	
<b>Glucose (mg/dL)</b>				
Mean (SD)	89.5 (9.1)	95.2 (27.1)	92.1 (10.1)	0.22 <sup>a</sup>
Median	89.0	93.0	91.5	
Q1, Q3 (Range)	85.5, 94.0 (66)	86.0, 96.0 (210)	86.0, 96.0 (65)	
<sup>1</sup> ANOVA for comparison of group means; <sup>2</sup> Tukey multiple comparison test indicates group differences for volunteers vs. CIC; Fisher Exact, Wilcoxon				

**Supplementary Table 1. Baseline Laboratory Examinations (continued)**

	Volunteers (n=60)	CIC (n=53)	IBS-C (N=24)	P value
<b>Chemistry</b>				
<b>BUN (mg/dL)</b>				
Mean (SD)	13.5 (3.9)	12.1 (4.3)	13.1 (3.6)	0.17 <sup>a</sup>
Median	13.0	11.0	12.5	
Q1, Q3 (Range)	10.5, 16.0 (19)	10.0, 15.0 (26)	10.0, 16.0 (14)	
<b>Creatinine (mg/dL)</b>				
Mean (SD)	0.9 (0.17)	0.8 (0.22)	0.8 (0.19)	0.0003 <sup>a,c</sup>
Median	0.9	0.8	0.8	
Q1, Q3 (Range)	0.8, 1.1 (0.9)	0.6, 0.9 (1.1)	0.7, 0.9 (0.8)	
<b>Calcium (mg/dL)</b>				
Mean (SD)	10.1 (0.4)	9.6 (0.4)	9.5 (0.3)	<0.0001 <sup>a,c</sup>
Median	10.1	9.6	9.5	
Q1, Q3 (Range)	9.9, 10.4 (1.8)	9.4, 9.8 (2.3)	9.3, 9.8 (1.5)	
<b>Phosphorus (mg/dL)</b>				
Mean (SD)	3.5 (0.4)	3.6 (0.5)	3.5 (0.4)	0.20 <sup>a</sup>
Median	3.6	3.7	3.5	
Q1, Q3 (Range)	3.3, 3.8, (2.0)	3.4, 4.0 (2.4)	3.2, 3.8 (1.8)	
<b>Protein (g/dL)</b>				
Mean (SD)	7.4 (0.4)	7.3 (0.4)	7.5 (0.4)	0.09 <sup>a</sup>
Median	7.5	7.3	7.5	
Q1, Q3 (Range)	7.2, 7.7 (2.2)	7.0, 7.5 (2.6)	7.2, 7.8 (1.7)	
<b>Albumin (g/dL)</b>				
Mean (SD)	4.5 (0.2)	4.5 (0.3)	4.6 (0.3)	0.49 <sup>a</sup>
Median	4.6	4.5	4.6	
Q1, Q3 (Range)	4.4, 4.7, (1.0)	4.4, 4.7 (2.0)	4.4, 4.8 (1.0)	
<b>SGOT (U/L)</b>				
Mean (SD)	23.0(7.0)	20.0(10.3)	20.0 (7.4)	0.095 <sup>a</sup>
Median	21.5	17.0	18.0	
Q1, Q3 (Range)	18, 26 (35)	15, 22 (66)	15, 24 (38)	
<sup>a</sup> ANOVA for comparison of group means; <sup>b</sup> Tukey multiple comparison test indicates group differences for volunteers vs. CIC; <sup>c</sup> Tukey multiple comparison test indicates group differences for volunteers vs. either CIC or IBS-C;				

**Supplementary Table 1. Baseline Laboratory Examinations (continued)**

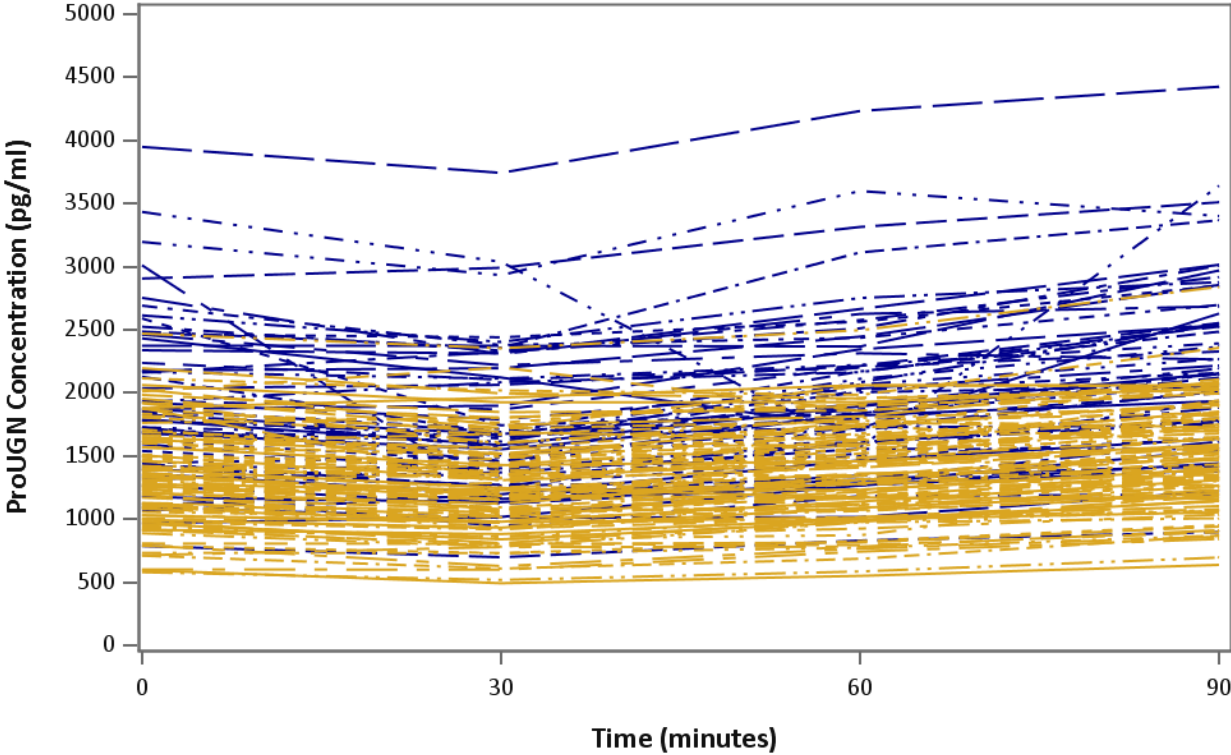
	Volunteers (n=60)	CIC (n=53)	IBS-C (N=24)	P value
<b>Chemistry</b>				
<b>SGPT (U/L)</b>				
Mean (SD)	24.3 (13.2)	18.1 (10.6)	21.2 (16.0)	0.056 <sup>a,b</sup>
Median	19	16	16	
Q1, Q3 (Range)	15, 31 (71)	12, 21 (55)	13, 24 (83)	
<b>Total Bilirubin (mg/dL)</b>				
Mean (SD)	0.52 (0.28)	0.49 (0.25)	0.55 (0.37)	0.67 <sup>a</sup>
Median	0.40	0.50	0.50	
Q1, Q3 (Range)	0.3, 0.7 (1.3)	0.3, 0.6 (1.2)	0.3, 0.6 (2.3)	
<b>Alk. Phosphatase (U/L)</b>				
Mean (SD)	69.2 (22.8)	68.6 (18.9)	72.6 (19.9)	0.56 <sup>a</sup>
Median	65	68	70	
Q1, Q3 (Range)	53, 80 (105)	55, 78 (89)	60, 83 (92)	
<b>Urate (mg/dL)</b>				
Mean (SD)	5.4 (1.5)	4.9 (1.7)	5.4 (1.4)	0.12 <sup>a</sup>
Median	5.4	4.7	5.7	
Q1, Q3 (Range)	4.4, 6.4 (7.0)	3.8, 6.0 (8.1)	4.5, 6.5 (6.2)	
<b>Cholesterol (U/L)</b>				
Mean (SD)	185.9 (37.1)	186.2 (33.6)	178.9 (27.1)	0.43 <sup>a,c</sup>
Median	180.5	186.0	172.0	
Q1, Q3 (Range)	161, 208 (201)	157, 215 (139)	156, 204 (103)	
<b>Magnesium (mg/dL)</b>				
Mean (SD)	1.7 (0.1)	2.1 (0.2)	2.1 (0.2)	<0.0001 <sup>a,c</sup>
Median	1.7	2.1	2.1	
Q1, Q3 (Range)	1.6, 1.8 (0.4)	2.0, 2.2 (0.6)	1.9, 2.2 (0.9)	
<sup>a</sup> ANOVA for comparison of group means; <sup>b</sup> Tukey multiple comparison test indicates group differences for volunteers vs. CIC; <sup>c</sup> Tukey multiple comparison test indicates group differences for volunteers vs. either CIC or IBS-C;				

## **Supplementary Figure Legends**

**Supplementary Figure 1.** Time course of post-prandial changes in serum ProUGN concentrations in individual participants.

**Supplementary Figure 2.** Time course of post-prandial changes in serum UGN concentrations in individual participants.

Supplementary Figure 1



Supplementary Figure 2

