

Manuscript Title

Tuber flours improve intestinal health and modulate gut microbiota composition

Author list

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Table S1. Diets formula^a

	diet (g/kg dry weight)				
	AIN-93M	Cassava starch diet	Cassava flour diet	Potato starch diet	Potato flour diet
corn starch	465.692	0.000	0.000	0.000	0.000
cassava starch	0.000	465.692	0.000	0.000	0.000
cassava flour	0.000	0.000	465.692	0.000	0.000
potato starch	0.000	0.000	0.000	465.692	0.000
potato flour	0.000	0.000	0.000	0.000	465.692
casein	140.000	140.000	140.000	140.000	140.000
dextrin	155.000	155.000	155.000	155.000	155.000
sucrose	100.000	100.000	100.000	100.000	100.000
soybean oil	40.000	40.000	40.000	40.000	40.000
cellulose	50.000	50.000	50.000	50.000	50.000
mineral mix (AIN-93M-MX)	35.000	35.000	35.000	35.000	35.000
vitamins mix (AIN-93-VX)	10.000	10.000	10.000	10.000	10.000
L-cysteine	1.800	1.800	1.800	1.800	1.800
Choline bitartrate	2.500	2.500	2.500	2.500	2.500
TBHQ	0.008	0.008	0.008	0.008	0.008

^aValues in the same row do not share the same lowercase letter are significantly different ($P < 0.05$)

Table S2. Nutritional composition of diets^a

Nutritional composition (%)	Cassava starch diet	Cassava flour diet	Potato starch diet	Potato flour diet
Dry matter	92.73±0.04	93.33±0.03	93.85±0.11	92.15±0.07
Carbohydrate	73.15±3.17	71.93±2.76	74.83±3.58	69.05±4.49
Crude protein	12.42±0.01 b	13.04±0.06 b	12.61±0.01 b	15.58±0.80 a
Crude fat	4.63±0.02 a	4.83±0.03 a	3.79±0.02 b	3.83±0.01 b
Crude ash	2.52±0.02 b	3.53±0.03 a	2.62±0.04 b	3.69±0.04 a
Crude fiber	0.10±0.01	0.12±0.01	0.10±0.02	0.13±0.01
Rapidly digestible starch	36.20±2.11 b	31.50±0.25 c	38.20±1.94 a	26.57±0.18 d
Slowly digestible starch	7.19±0.11 b	11.67±2.21 a	8.76±1.47 b	10.15±0.99 a
Resistant starch	2.20±0.40 b	3.52±0.73 a	1.28±0.48 c	2.04±0.26 b
kJ/g feed				
Energy density	10.51	11.58	11.95	12.47

^aValues in the same row do not share the same lowercase letter are significantly different ($P < 0.05$)

Table S3. Fasting blood glucose level and blood lipids profile of rats fed with different diets after 7 weeks

	FBG(mmol/L)	TG(mmol/L)	TC(mmol/L)	HDL-C(mmol/L)	LDL-C(mmol/L)
Cassava starch group	3.99±0.42	1.44±0.17	2.41±0.35	0.64±0.09	0.32±0.01
Cassava flour group	4.47±0.86	1.28±0.32	2.07±0.58	0.51±0.10	0.33±0.02
Potato starch group	3.97±0.84	0.95±0.04	1.84±0.28	0.54±0.09	0.33±0.02
Potato flour group	3.79±0.53	1.24±0.50	2.26±0.40	0.64±0.10	0.32±0.02

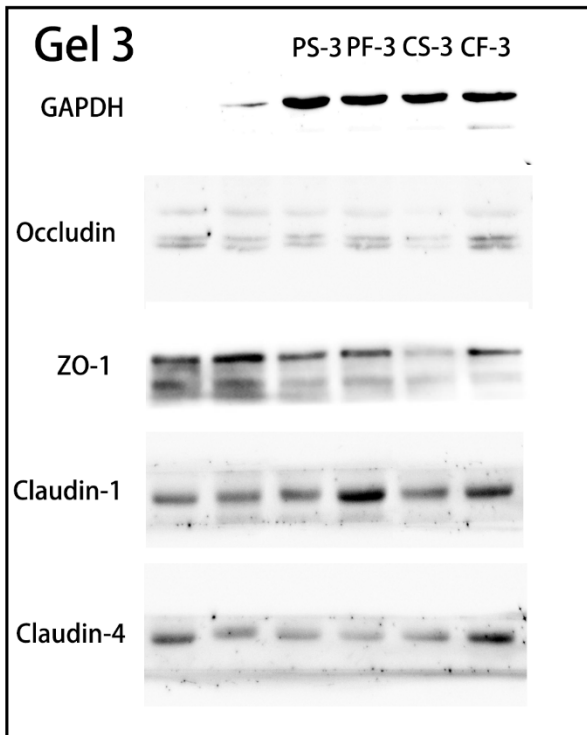
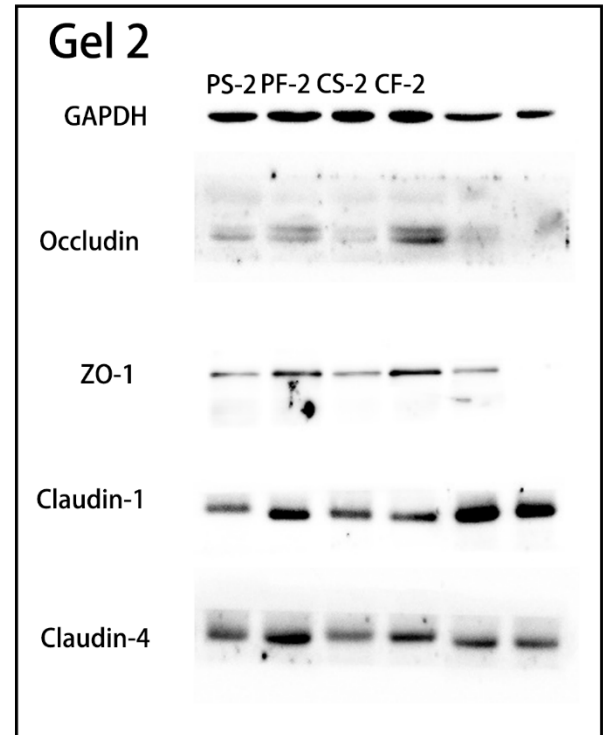
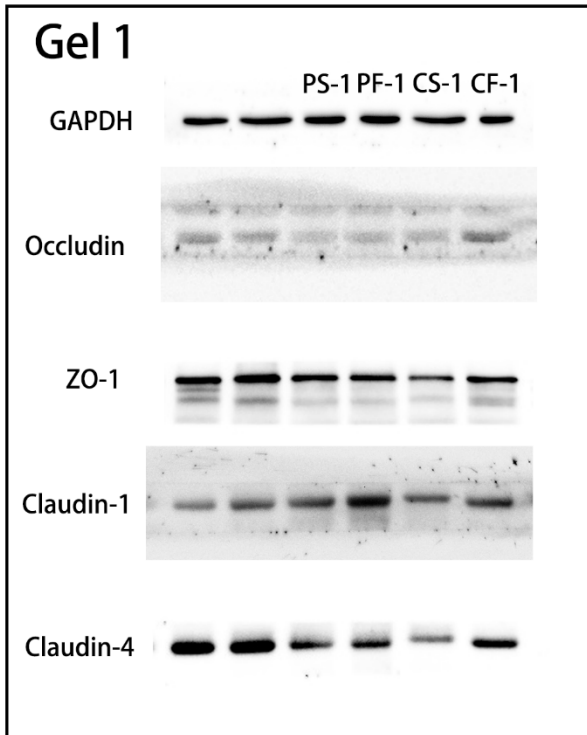


Figure S1. Original image of three gels of western blot analysis.

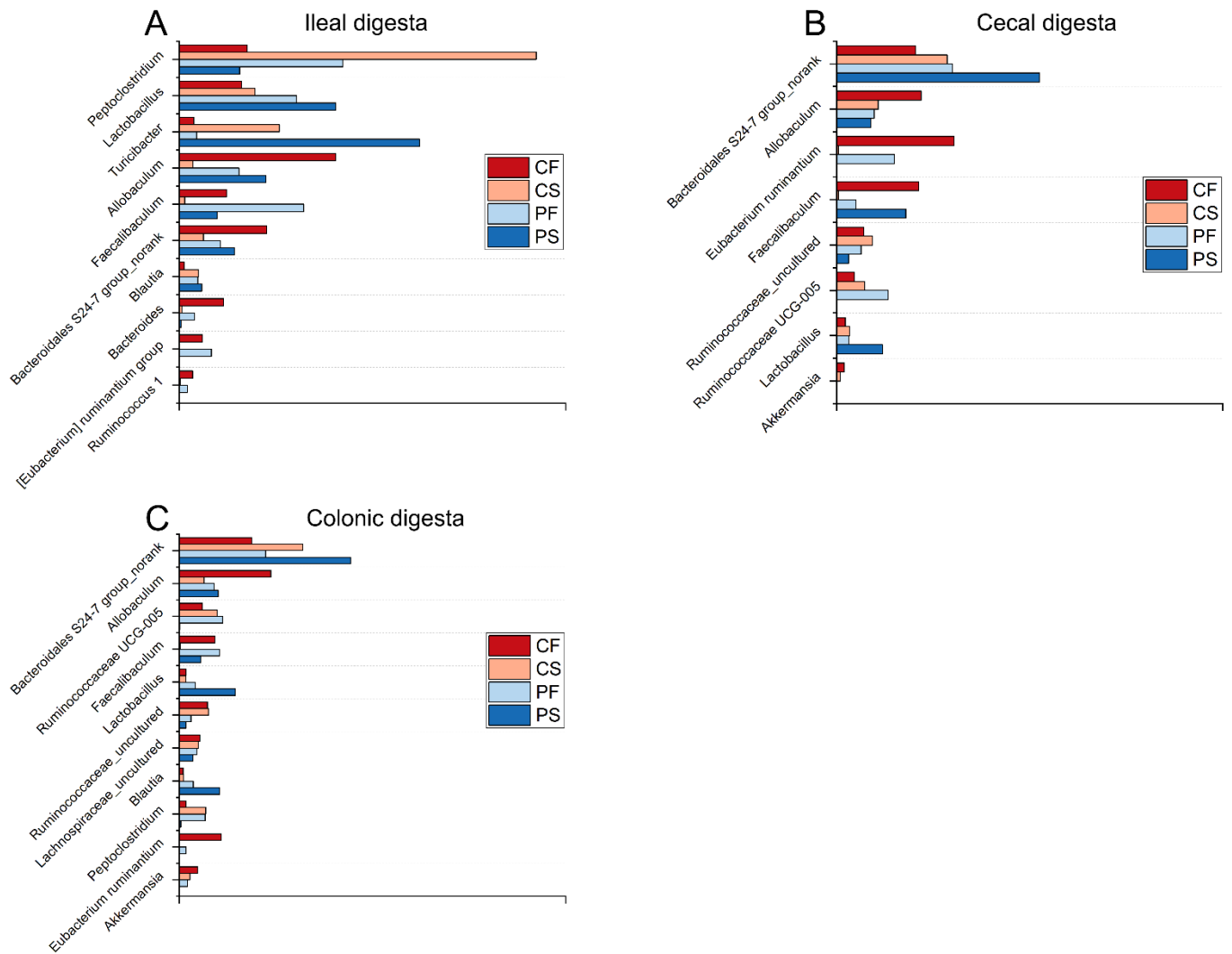


Figure S2. Relative abundance of gut microbiota at genus level. Bar graph of relative abundance in ileum (A), cecum (B), and colon (C).

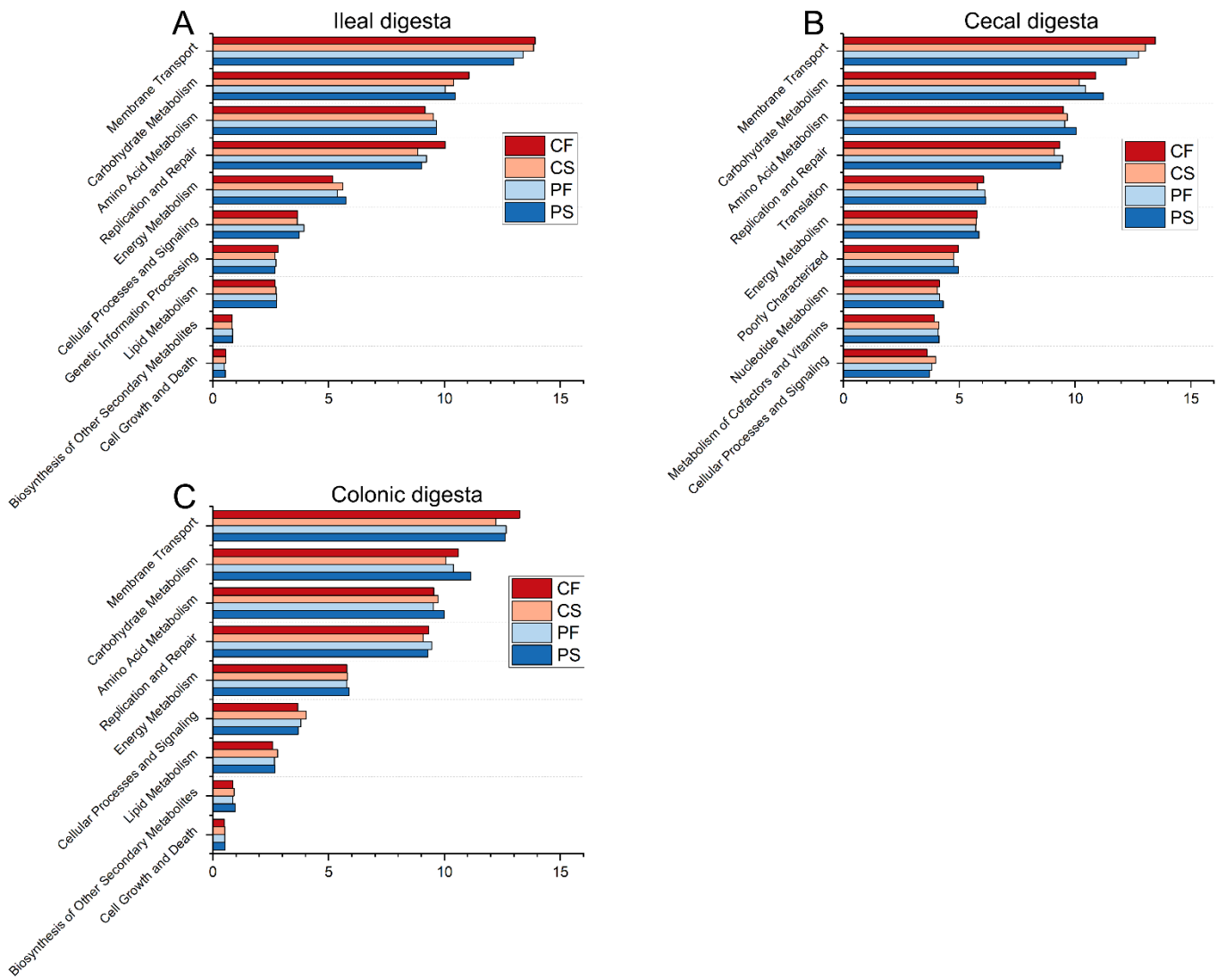


Figure S3. PICRUSt analysis of different diet on gut microbiota. The different gene function predicted for gut microbiota in ileum (A), cecum (B), and colon (C).