

Table ST1. Correlation analysis of the content of bioactive compounds, antioxidant activity, and glycemic index of *Agave* sap, prickly pear juice, and the beverage

	1	2	3	4	5	6	7	8	9	10	11
1. TPC	1.000										
2. Flavonoids	0.952	1.000									
3. PFRAP	0.820	0.918	1.000								
4. SASA	0.988	0.973	0.831	1.000							
5. ABTS	0.974	0.932	0.855	0.966	1.000						
6. GI	- 0.765	- 0.562	- 0.274	- 0.721	- 0.704	1.000					
7. Ascorbic acid	- 0.940	- 0.808	- 0.581	- 0.911	- 0.890	0.938	1.000				
8. Catechin	- 0.895	- 0.739	- 0.493	- 0.859	- 0.843	0.968	0.992	1.000			
9. Gallic acid	- 0.882	- 0.719	- 0.461	- 0.847	- 0.825	0.978	0.990	0.997	1.000		
10. Protocatechuic acid	- 0.939	- 0.813	- 0.589	- 0.914	- 0.897	0.932	0.994	0.986	0.984	1.000	
11. Myricetin	- 0.558	- 0.740	- 0.913	- 0.592	- 0.607	- 0.095	0.251	0.155	0.111	0.256	1

Bold numbers represent a significant correlation at 0.01. TPC: total phenolic compounds, PFRAP: Potassium Ferricyanide Reducing Power Assay; SASA: Superoxide anion scavenging activity test; ABTS: total radical scavenging activity.

Table ST2. Total production of SCFA ($\mu\text{mol/mL}$) and molar ratios (% of total SCFA produced) after 24 hours of *in vitro* intestinal fermentation.

Substrate	AS		PPJ		B	
	Total production	Molar ratio	Total production	Molar ratio	Total production	Molar ratio
Acetate	16.77 \pm 1.60 _a	45.22 \pm 4.33 _b	16.36 \pm 1.02 _a	60.29 \pm 3.77 _a	16.96 \pm 1.26 _a	56.11 \pm 4.18 _a
Propionate	4.92 \pm 0.76 _a	13.27 \pm 2.05 _a	3.92 \pm 0.28 _a	14.45 \pm 1.04 _a	4.36 \pm 0.39 _a	14.42 \pm 1.30 _a
Butyrate	12.47 \pm 0.77 _a	33.62 \pm 2.08 _a	6.85 \pm 0.87 _b	25.26 \pm 3.22 _b	8.91 \pm 0.89 _b	29.47 \pm 2.94 _b
Valerate	2.93 \pm 0.23	7.89 \pm 0.61	-	-	-	-
Total	37.09 \pm 3.36	100	27.14 \pm 2.18	100	30.23 \pm 2.54	100

Presented values are means \pm standard deviation from two biological replicates (n = 2). Values with different letters within each SCFA are significantly different from each other, comparing total production and molar ratio independently.

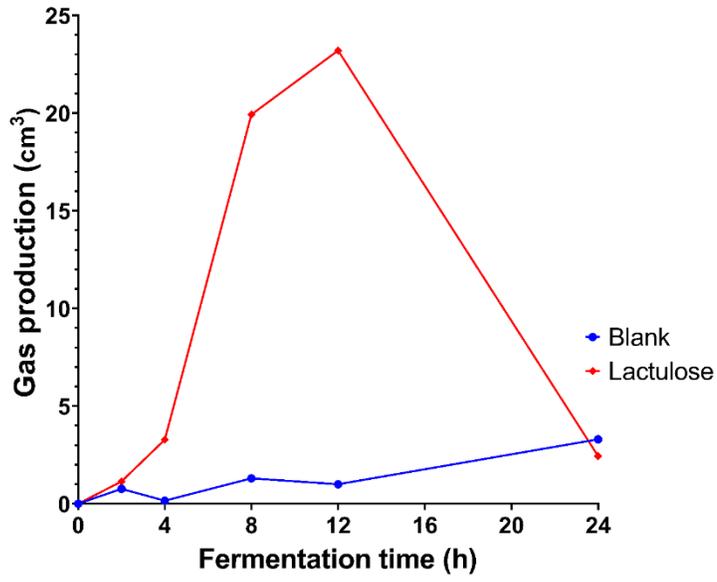


Figure SF1 Gas production during *in vitro* colonic fermentation in positive (lactulose) and negative control (blank).

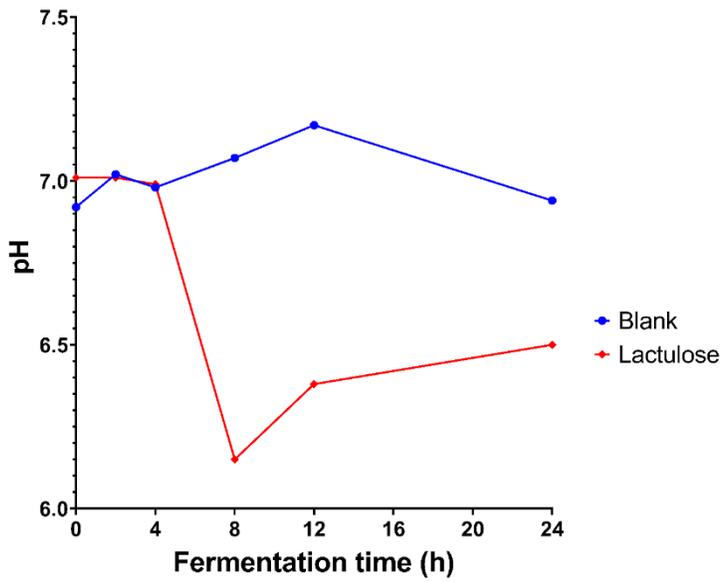


Figure SF2 pH changes during *in vitro* colonic fermentation in positive (lactulose) and negative control (blank).

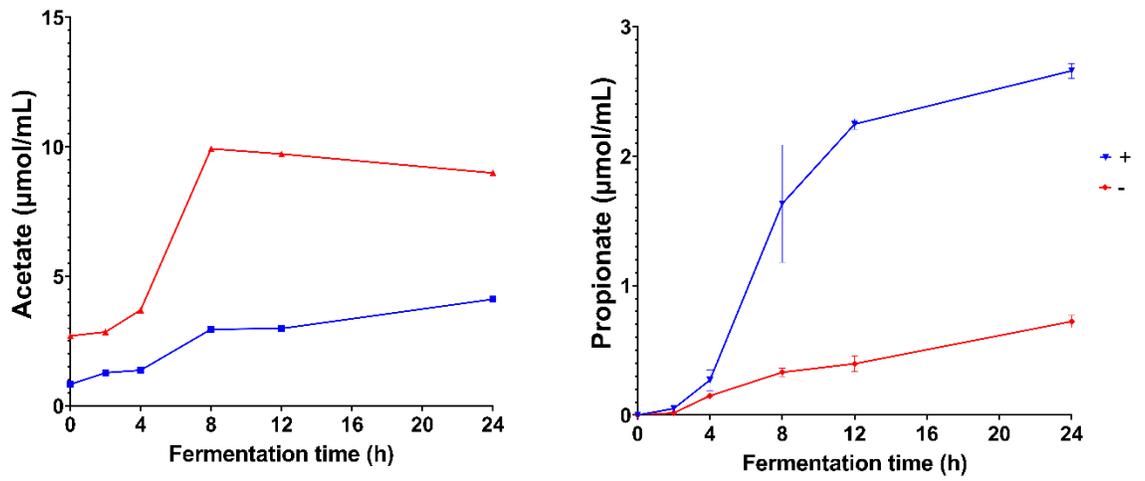


Figure SF3 SCFA production during the *in vitro* fermentation process of positive and negative control. Values are means \pm standard deviation.

Supplementary material 1.

Standard curves for individual carbohydrates identification and quantification

- Nystose (2.00, 3.00, and 4.00 mg/ml; $y=28288430.25x-10401275.75$; $R^2=0.98$)
- Kestose (0.30, 4.00, and 4.00 mg/ml; $y=16,482,480.84x+4,192,383.57$; $R^2=1.00$)
- Sucrose (1, 5, 10, 20, and 30.00 mg / ml; $y=22,954,952.46x-6,117,608.90$; $R^2=1.00$)
- Glucose (1, 5, 10, 20, and 30.00 mg / ml; $y=23714768.52x+23439121.49$ $R^2=0.99$)
- Fructose (1, 5, 10, 20, and 30.00 mg / ml; $y=20953623.53x+21983163.82$; $R^2=1.00$)
- Glucuronic acid (20, 15, 10, and 5 mg / ml; $y=38394690.45x+695733.76$; $R^2=0.999$)
- Galacturonic acid (30, 20, 10, 5, and 1 mg / ml; $y=37260683.60x+7973218.96$; $R^2=0.999$)
- Mannose (30, 20, 10, 5, and 1 mg / ml; $y=41293843.57x+4594900.44$; $R^2=0.999$)
- Galactose (30, 20, 10, 5, and 1 mg / ml; $y=42599665.93x+3118747.94$; $R^2=0.999$)
- Xylose (30, 20, 10, 5, y 1 mg / ml; $y=40469795.17x+6340066.0$; $R^2=0.999$)
- Rhamnose (30, 20, 10, 5, y 1 mg / ml; $y=38455572.16x+6772687.15$; $R^2=0.999$).

Standard curves for individual bioactive compounds identification and quantification

- Rutin (0.0039, 0.007, 0.031, 0.062, and 0.125 mg/ml; $y=1E+07x+2881.1$; $R^2=0.999$)
- Gallic acid (0.015, 0.03, 0.06, 0.12, and 0.25 mg/ml; $y=4376855.87x+67727.38$; $R^2=0.999$)
- Catechin (0.015, 0.031, 0.062, and 0.25 mg/ml; $y=962685x+5382.2$; $R^2=0.999$)
- Caffeic acid (0.015, 0.031, 0.062, and 0.25 mg/ml; $y=4E+07x-30040$; $R^2=0.999$)
- Quercetin (0.031, 0.062, 0.125, 0.25, and 0.5 mg/ml; $y=3E+07x-8571$; $R^2=0.999$)
- P-coumaric acid (0.031, 0.062, 0.125, 0.25, and 0.5 mg/ml; $y=6E+07x+410249$; $R^2=0.999$)
- Pelargonidin (0.031, 0.062, 0.125, 0.25, and 0.5 mg/ml; $y=4E+07x-1E+06$; $R^2=0.999$)
- Ferulic acid (0.031, 0.062, 0.125, 0.25, and 0.5 mg/ml; $y=7E+07x-594982$; $R^2=0.999$)
- Protocatechuic acid (0.03, 0.06, 0.12, and 0.25 mg/ml; $y=5E+07x-118957$; $R^2=0.989$)
- Ascorbic acid (0.05, 0.1, 0.2, 0.4, 0.6, and 0.8 mg/ml, $y=2E+07x-162364$; $R^2=0.997$)
- Myricetin ($y=858141x-1337.3$; $R^2=0.999$)
- Chlorogenic acid (0.05, 0.1, 0.4, 0.6, 0.8, and 1 mg/ml; $y=2E+07x+284103$; $R^2=0.999$).

Standard curves for individual short-chain fatty acids identification and quantification

- Acetic acid ($y=558.13x-207.1$; $R^2=0.99$)
- Propionic acid ($y=942.69x+109.55$; $R^2=0.99$)
- Isobutyric acid ($y=1194.6x+313.32$; $R^2=0.99$)
- Butyric acid ($y=1368.6x-382.68$; $R^2=0.99$)
- Isovaleric acid ($y=834.19x+383.66$; $R^2=0.99$)
- Valeric acid ($y=977.85x+736.65$; $R^2=0.99$).