

Yeast β -Glucan, potential prebiotics, showed a similar probiotic activity with inulin

Huali Wang,^a Guijie Chen,^{c,*} Xiang Li,^d Fuping Zheng^{b,*}, Xiaoxiong Zeng^c

^a China National Center for Food Safety Risk Assessment, Beijing 100022, China

^b Beijing Laboratory of Food Quality and Safety, Beijing Technology and Business University, Beijing 100048, China

^c College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, China

^d School of Marine and Biological Engineering, Yancheng Teachers University, Yancheng, China

Corresponding author:

*College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, China. E-mail: guijiechen@njau.edu.cn (G. Chen)

*Beijing Laboratory of Food Quality and Safety, Beijing Technology and Business University, Beijing 100048, China. E-mail: zhengfp@btbu.edu.cn (F. Zheng)

Table S1 The contents of reducing sugars (C_R) of β -Glucan at different time points in digestion and fermentation.

Digestion time	C_R (mg/mL)
Oral cavity	
0 h	$0.5749 \pm 0.0080b$
0.5 h	$0.5714 \pm 0.0128b$
1 h	$0.5785 \pm 0.0130b$
Stomach	
0 h	$0.1899 \pm 0.0063e$
1 h	$0.1857 \pm 0.0050e$
2 h	$0.1914 \pm 0.0088e$
Small intestine	
0 h	$0.4766 \pm 0.0081c$
1 h	$0.4809 \pm 0.0131c$
2 h	$0.4775 \pm 0.0111c$
4 h	$0.4852 \pm 0.0090c$
Large intestine	
0 h	$1.0845 \pm 0.0446a$
24 h	$0.4008 \pm 0.0246d$

The different letters mean significance differences was between different groups in the richness or α -diversity index ($p < 0.05$) analyzed using One-way ANOVA procedure followed by Tukey test.

Table S2 The richness and α -diversity of gut microbiota in ORI, INL, BLK and β -GLU groups

	observed_otus	Shannon	Simpson	Chao1
ORI	1116.0±62.9c	5.08±0.37a	0.86±0.03a	1366.4±23.1b
INL	996.3±67.1bc	5.31±0.35ab	0.93±0.02b	1311.3±55.2b
BLK	806.7±85.0a	5.88±0.22b	0.96±0.00b	1151.4±55.2a
β -GLU	939.7±30.2ab	5.08±0.03a	0.92±0.00b	1265.9±51.9b

The different letters mean significance differences was between different groups in the richness or α -diversity index ($p < 0.05$) analyzed using One-way ANOVA procedure followed by Tukey test.

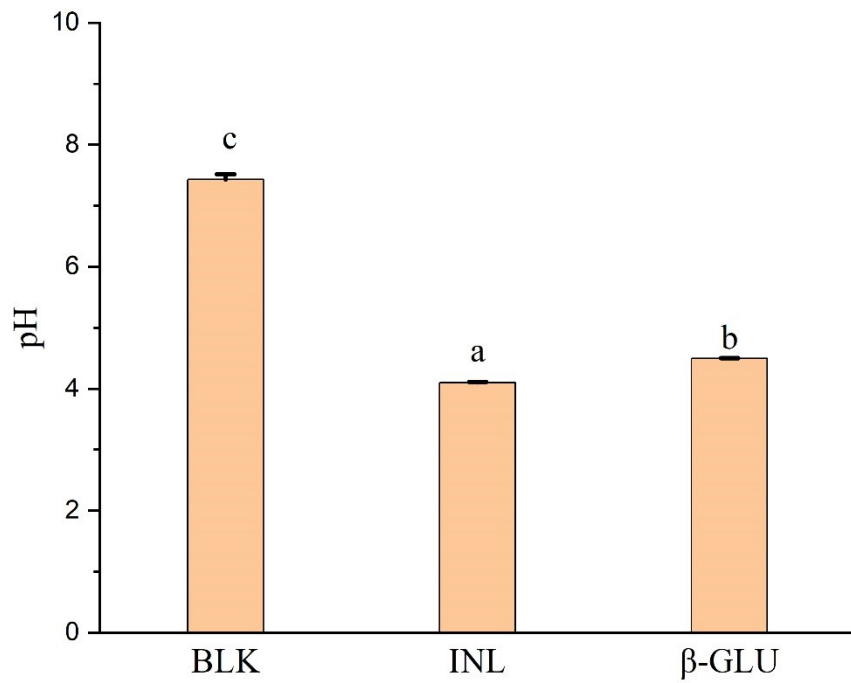


Figure S1. The pH values of fermentation solution in BLK, INL and β -Glucan groups after fermentation by gut microbiota. The different letters mean significance differences ($p < 0.05$) analyzed using One-way ANOVA procedure followed by Tukey test.

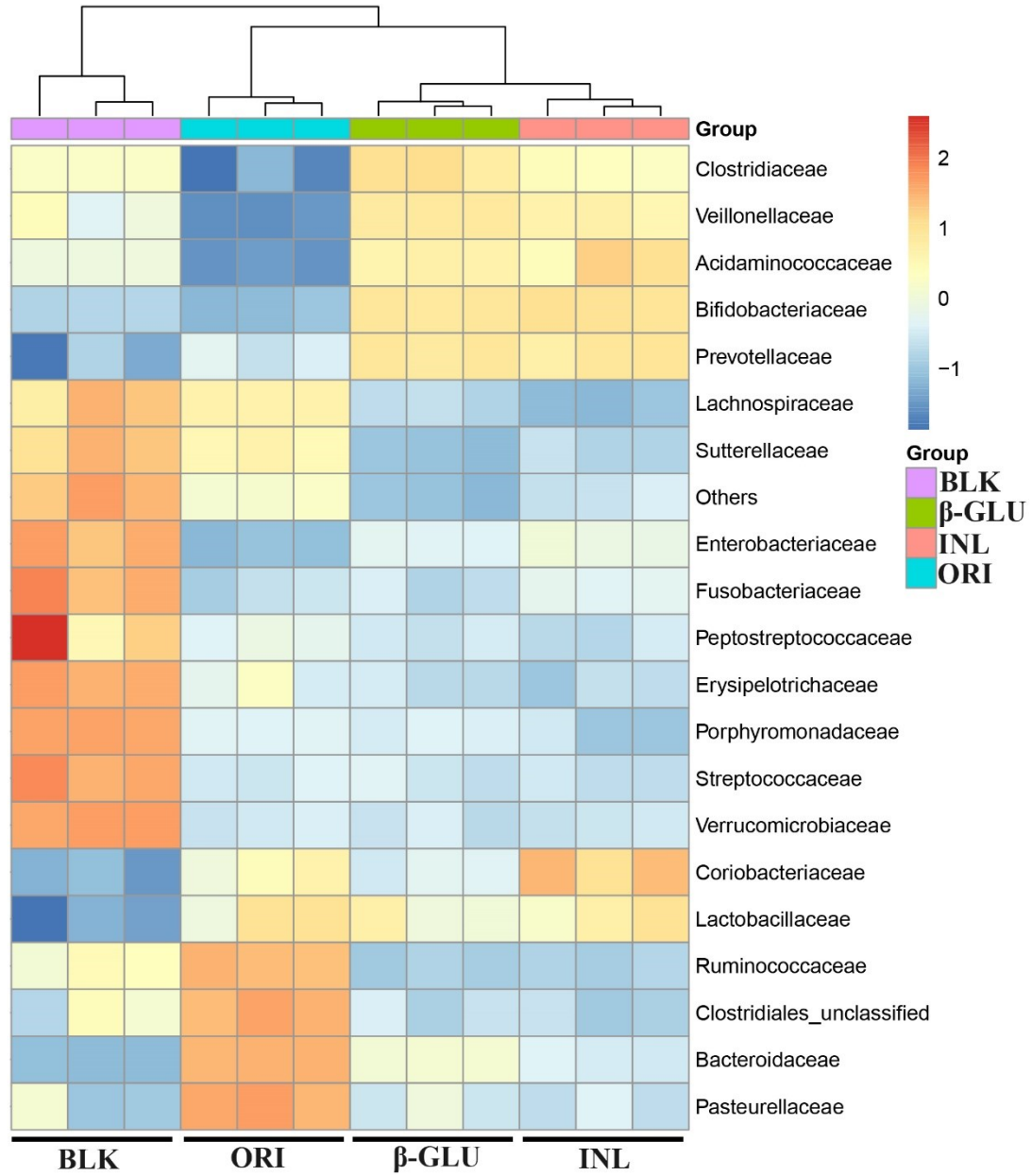


Figure S2. Heatmap of gut microbiota composition at family level

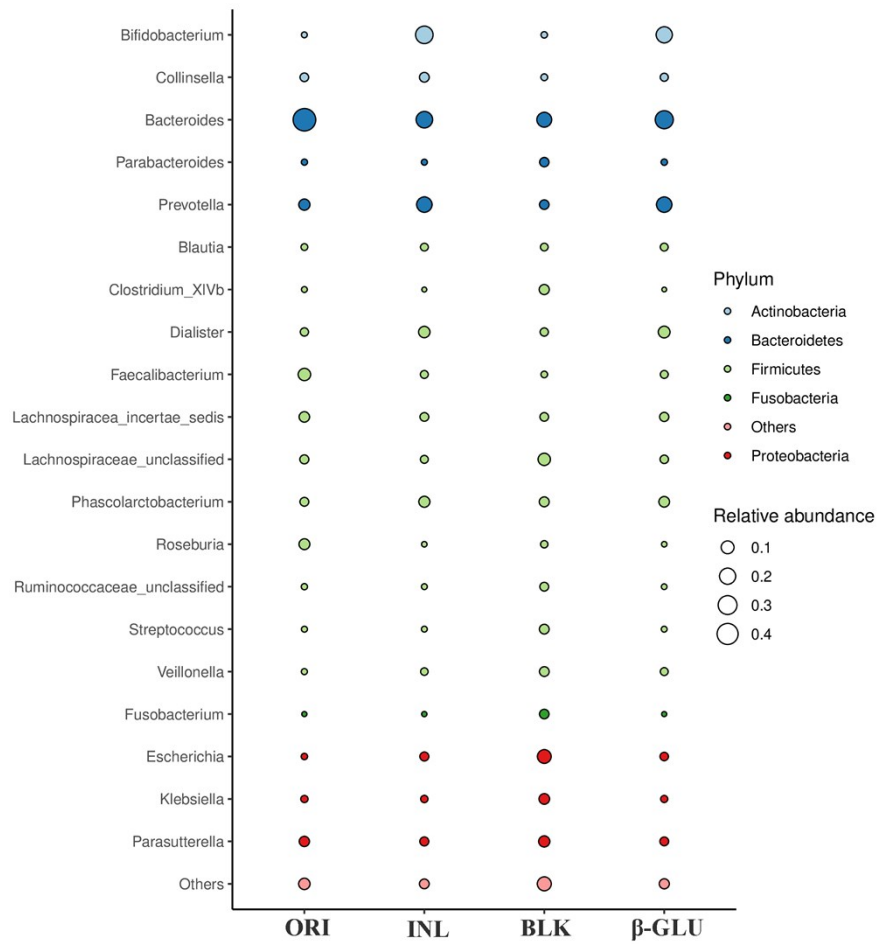


Figure S3. Bubble chart of relative abundance of gut microbiota at the genus level