

The prebiotic activity of a novel polysaccharide extracted from *Huangshui* by fecal fermentation *in vitro*

Mei Li¹, Jian Su², Jihong Wu^{1*}, Dong Zhao², Mingquan Huang¹, Yanping Lu², Jia Zheng², and Hehe Li¹

¹ Key Laboratory of Brewing Molecular Engineering of China Light Industry, Beijing Technology and Business University, Beijing 100048, China

² Key Laboratory of Solid-state Fermentation and Resource Utilization of Sichuan Province/Key Laboratory of Strong Flavor Baijiu Solid-state Fermentation of China Light Industry/Engineering Technology Research Center of Baijiu Brewing Special Grain of China, Wuliangye Yibin Co. Ltd., Yibin 644007, China

* Correspondence: wujihong12@126.com; Tel.: +86-156-5271-2036

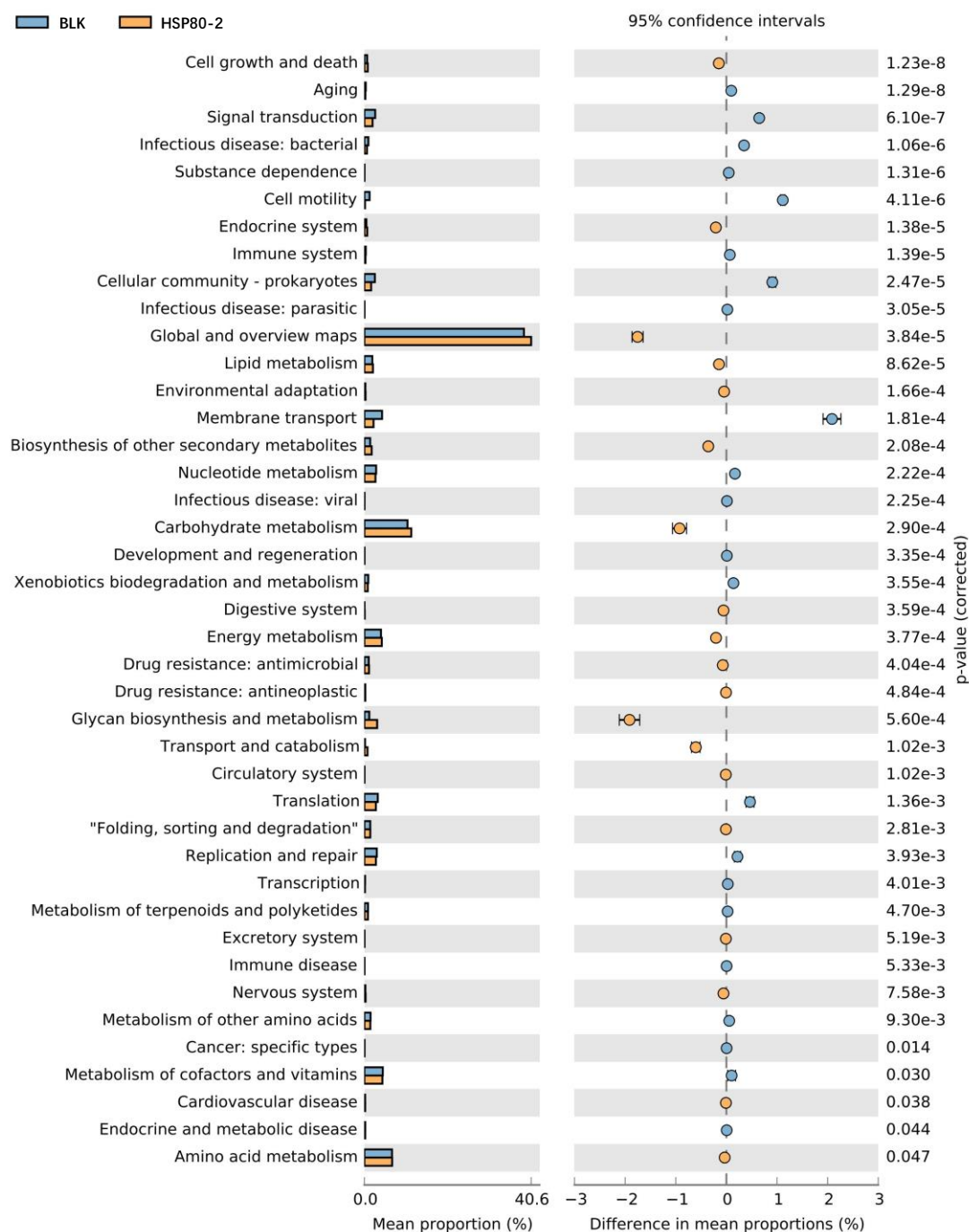


Figure S1 41 significantly different KEEG pathways on level 2

KEGG Pathway	KEGG ID	KEGG Pathway	KEGG ID
00010 Glycolysis / Gluconeogenesis	00010	00020 Citric Acid Cycle	00020
00020 Citric Acid Cycle	00020	00030 Pyruvate Metabolism	00030
00030 Pyruvate Metabolism	00030	00040 Amino Acid Metabolism	00040
00040 Amino Acid Metabolism	00040	00050 Nucleotide Metabolism	00050
00050 Nucleotide Metabolism	00050	00060 Lipid Metabolism	00060
00060 Lipid Metabolism	00060	00070 Carbohydrate Metabolism	00070
00070 Carbohydrate Metabolism	00070	00080 Vitamin and Cofactor Metabolism	00080
00080 Vitamin and Cofactor Metabolism	00080	00090 Energy Metabolism	00090
00090 Energy Metabolism	00090	00100 Immune System	00100
00100 Immune System	00100	00110 Signaling	00110
00110 Signaling	00110	00120 Environmental Information Processing	00120
00120 Environmental Information Processing	00120	00130 Human Diseases	00130
00130 Human Diseases	00130	00140 Microbial Metabolism	00140
00140 Microbial Metabolism	00140	00150 Metabolism of Other Organisms	00150
00150 Metabolism of Other Organisms	00150	00160 Biotin Metabolism	00160
00160 Biotin Metabolism	00160	00170 Steroid Metabolism	00170
00170 Steroid Metabolism	00170	00180 Xenobiotics Biodegradation and Bioremediation	00180
00180 Xenobiotics Biodegradation and Bioremediation	00180	00190 Environmental Biodegradation	00190
00190 Environmental Biodegradation	00190	00200 Microbial Metabolism	00200
00200 Microbial Metabolism	00200	00210 Metabolism of Other Organisms	00210
00210 Metabolism of Other Organisms	00210	00220 Biotin Metabolism	00220
00220 Biotin Metabolism	00220	00230 Steroid Metabolism	00230
00230 Steroid Metabolism	00230	00240 Xenobiotics Biodegradation and Bioremediation	00240
00240 Xenobiotics Biodegradation and Bioremediation	00240	00250 Environmental Biodegradation	00250
00250 Environmental Biodegradation	00250	00260 Microbial Metabolism	00260
00260 Microbial Metabolism	00260	00270 Metabolism of Other Organisms	00270
00270 Metabolism of Other Organisms	00270	00280 Biotin Metabolism	00280
00280 Biotin Metabolism	00280	00290 Steroid Metabolism	00290
00290 Steroid Metabolism	00290	00300 Xenobiotics Biodegradation and Bioremediation	00300
00300 Xenobiotics Biodegradation and Bioremediation	00300	00310 Environmental Biodegradation	00310
00310 Environmental Biodegradation	00310	00320 Microbial Metabolism	00320
00320 Microbial Metabolism	00320	00330 Metabolism of Other Organisms	00330
00330 Metabolism of Other Organisms	00330	00340 Biotin Metabolism	00340
00340 Biotin Metabolism	00340	00350 Steroid Metabolism	00350
00350 Steroid Metabolism	00350	00360 Xenobiotics Biodegradation and Bioremediation	00360
00360 Xenobiotics Biodegradation and Bioremediation	00360	00370 Environmental Biodegradation	00370
00370 Environmental Biodegradation	00370	00380 Microbial Metabolism	00380
00380 Microbial Metabolism	00380	00390 Metabolism of Other Organisms	00390
00390 Metabolism of Other Organisms	00390	00400 Biotin Metabolism	00400
00400 Biotin Metabolism	00400	00410 Steroid Metabolism	00410
00410 Steroid Metabolism	00410	00420 Xenobiotics Biodegradation and Bioremediation	00420
00420 Xenobiotics Biodegradation and Bioremediation	00420	00430 Environmental Biodegradation	00430
00430 Environmental Biodegradation	00430	00440 Microbial Metabolism	00440
00440 Microbial Metabolism	00440	00450 Metabolism of Other Organisms	00450
00450 Metabolism of Other Organisms	00450	00460 Biotin Metabolism	00460
00460 Biotin Metabolism	00460	00470 Steroid Metabolism	00470
00470 Steroid Metabolism	00470	00480 Xenobiotics Biodegradation and Bioremediation	00480
00480 Xenobiotics Biodegradation and Bioremediation	00480	00490 Environmental Biodegradation	00490
00490 Environmental Biodegradation	00490	00500 Microbial Metabolism	00500
00500 Microbial Metabolism	00500	00510 Metabolism of Other Organisms	00510
00510 Metabolism of Other Organisms	00510	00520 Biotin Metabolism	00520
00520 Biotin Metabolism	00520	00530 Steroid Metabolism	00530
00530 Steroid Metabolism	00530	00540 Xenobiotics Biodegradation and Bioremediation	00540
00540 Xenobiotics Biodegradation and Bioremediation	00540	00550 Environmental Biodegradation	00550
00550 Environmental Biodegradation	00550	00560 Microbial Metabolism	00560
00560 Microbial Metabolism	00560	00570 Metabolism of Other Organisms	00570
00570 Metabolism of Other Organisms	00570	00580 Biotin Metabolism	00580
00580 Biotin Metabolism	00580	00590 Steroid Metabolism	00590
00590 Steroid Metabolism	00590	00600 Xenobiotics Biodegradation and Bioremediation	00600
00600 Xenobiotics Biodegradation and Bioremediation	00600	00610 Environmental Biodegradation	00610
00610 Environmental Biodegradation	00610	00620 Microbial Metabolism	00620
00620 Microbial Metabolism	00620	00630 Metabolism of Other Organisms	00630
00630 Metabolism of Other Organisms	00630	00640 Biotin Metabolism	00640
00640 Biotin Metabolism	00640	00650 Steroid Metabolism	00650
00650 Steroid Metabolism	00650	00660 Xenobiotics Biodegradation and Bioremediation	00660
00660 Xenobiotics Biodegradation and Bioremediation	00660	00670 Environmental Biodegradation	00670
00670 Environmental Biodegradation	00670	00680 Microbial Metabolism	00680
00680 Microbial Metabolism	00680	00690 Metabolism of Other Organisms	00690
00690 Metabolism of Other Organisms	00690	00700 Biotin Metabolism	00700
00700 Biotin Metabolism	00700	00710 Steroid Metabolism	00710
00710 Steroid Metabolism	00710	00720 Xenobiotics Biodegradation and Bioremediation	00720
00720 Xenobiotics Biodegradation and Bioremediation	00720	00730 Environmental Biodegradation	00730
00730 Environmental Biodegradation	00730	00740 Microbial Metabolism	00740
00740 Microbial Metabolism	00740	00750 Metabolism of Other Organisms	00750
00750 Metabolism of Other Organisms	00750	00760 Biotin Metabolism	00760
00760 Biotin Metabolism	00760	00770 Steroid Metabolism	00770
00770 Steroid Metabolism	00770	00780 Xenobiotics Biodegradation and Bioremediation	00780
00780 Xenobiotics Biodegradation and Bioremediation	00780	00790 Environmental Biodegradation	00790
00790 Environmental Biodegradation	00790	00800 Microbial Metabolism	00800
00800 Microbial Metabolism	00800	00810 Metabolism of Other Organisms	00810
00810 Metabolism of Other Organisms	00810	00820 Biotin Metabolism	00820
00820 Biotin Metabolism	00820	00830 Steroid Metabolism	00830
00830 Steroid Metabolism	00830	00840 Xenobiotics Biodegradation and Bioremediation	00840
00840 Xenobiotics Biodegradation and Bioremediation	00840	00850 Environmental Biodegradation	00850
00850 Environmental Biodegradation	00850	00860 Microbial Metabolism	00860
00860 Microbial Metabolism	00860	00870 Metabolism of Other Organisms	00870
00870 Metabolism of Other Organisms	00870	00880 Biotin Metabolism	00880
00880 Biotin Metabolism	00880	00890 Steroid Metabolism	00890
00890 Steroid Metabolism	00890	00900 Xenobiotics Biodegradation and Bioremediation	00900
00900 Xenobiotics Biodegradation and Bioremediation	00900	00910 Environmental Biodegradation	00910
00910 Environmental Biodegradation	00910	00920 Microbial Metabolism	00920
00920 Microbial Metabolism	00920	00930 Metabolism of Other Organisms	00930
00930 Metabolism of Other Organisms	00930	00940 Biotin Metabolism	00940
00940 Biotin Metabolism	00940	00950 Steroid Metabolism	00950
00950 Steroid Metabolism	00950	00960 Xenobiotics Biodegradation and Bioremediation	00960
00960 Xenobiotics Biodegradation and Bioremediation	00960	00970 Environmental Biodegradation	00970
00970 Environmental Biodegradation	00970	00980 Microbial Metabolism	00980
00980 Microbial Metabolism	00980	00990 Metabolism of Other Organisms	00990
00990 Metabolism of Other Organisms	00990	01000 Biotin Metabolism	01000

Figure S2 256 significantly different KEEG pathways on level 3