

Supplementary Table 1. Molecular weight, retention time, and size-exclusion chromatography of standard dextrans for molecular weight analysis of *Leuconostoc mesenteroides* SPCL 742 dextran

	Molecular weight (Da)	Retention time (min)	Chromatograph
Dextran	6.10×10^6	24.58	
P-800	7.36×10^5	28.46	
P-400	3.43×10^5	29.83	

Cont. Supplementary Table 1.

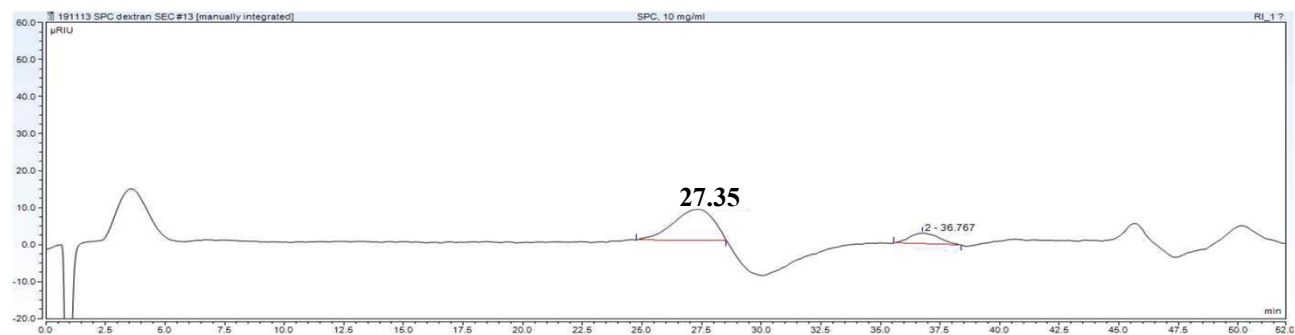
	Molecular weight (Da)	Retention time (min)	Chromatograph
P-200	2.02×10^5	31.03	
P-10	9.90×10^3	35.27	
P-5	6.60×10^3	35.84	

Cont. Supplementary Table 1.

Molecular weight (Da) Retention time (min)

Chromatograph

LM742 dextran 1.39×10^6 27.35



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Supplementary Table 2. Quantified metabolites in *in vitro* fecal fermentation of *Leuconostoc mesenteroides* SPLC742 dextran and fructo-oligosaccharides (FOS) after 12 and 24 h analysed by ¹H-NMR

Group	Metabolite	NA (mM)			FOS (mM)		Dextran (mM)	
		0 hr	12 hr	24 hr	12 hr	24 hr	12 hr	24 hr
Organic acid	2-Aminobutyrate	0.19±0.009 ^d	0.48±0.01 ^{bc}	0.69±0.019 ^a	0.56±0.056 ⁴	0.19±0.056 ^d	0.44±0.029 ^c	0.45±0.034 ^c
	4-Aminobutyrate	0.18±0.014 ^b	0.28±0.017 ^a	0.1±0.003 ^c	0.26±0.007 ^a	0.18±0.007 ^b	0.19±0.011 ^b	0.15±0.03 ^b
	Acetate	0.57±0.02 ^f	2.86±0.03 ^e	5.77±0.024 ^d	8.46±0.111 ^c	27.34±0.111 ^a	5.09±0.132 ^d	22.28±1.405 ^b
	Butyrate	0.07±0.006 ^c	0.26±0.009 ^b	0.78±0.135 ^a	0.3±0.006 ^b	0.72±0.006 ^a	0.29±0.017 ^b	0.64±0.01 ^a
	Isobutyrate	0.23±0.03 ^a	0.08±0.01 ^a	0.1±0.004 ^a	0.15±0.013 ^a	0.08±0.013 ^a	0.26±0.018 ^a	0.22±0.277 ^a
	Isovalerate	0.33±0.027 ^a	0.22±0.003 ^{cd}	0.21±0.037 ^d	0.32±0.008 ^{ab}	0.11±0.008 ^e	0.27±0.003 ^b	0.13±0.016 ^e
	Propionate	0.2±0.002 ^c	0.34±0.008 ^c	0.46±0.34 ^c	0.17±0.003 ^c	2.31±0.003 ^b	0.14±0.031 ^c	4.78±0.279 ^a
	Valerate	0.02±0.002 ^c	0.14±0.019 ^c	0.37±0.105 ^b	0.33±0.017 ^b	0.28±0.017 ^b	0.05±0.008 ^c	0.54±0.035 ⁴
Indole derivatives	5-Hydroxyindole-3-acetate	0.02±0.002 ^{cd}	0.01±0.001 ^{de}	0.02±0.002 ^c	0.07±0.002 ^a	0.01±0.002 ^{de}	0.04±0.004 ^b	0.01±0.001 ^e
	Indole-3-acetate	0.02±0.005 ^{bc}	0.02±0.002 ^{bc}	0.03±0.005 ^{ab}	0.02±0.004 ^c	0.01±0.004 ^c	0.03±0.004 ^a	0.01±0.001 ^c
	Indole-3-lactate	0.02±0.002 ^a	0.02±0.001 ^a	0.02±0.001 ^a	0.02±0.003 ^a	0.02±0.003 ^a	0.02±0.005 ^a	0.01±0.002 ^b
Choline metabolites	Betaine	0.25±0.002 ^{ab}	0.27±0.007 ^{ab}	0.23±0.019 ^{ab}	0.26±0.002 ^b	0.19±0.048 ^{ab}	0.19±0.011 ^b	0.35±0.019 ^a
	Choline	0.05±0.009 ^a	0.03±0.002 ^b	0.01±0.002 ^c	0.02±0.001 ^{bc}	0.02±0.001 ^{bc}	0.02±0.004 ^{bc}	0.02±0.006 ^{bc}
	Trimethylamine (TMA)	0.01±0.001 ^c	0.02±0.002 ^{ab}	0.06±0.001 ^{abc}	0.03±0.001 ^{bc}	0.04±0.007 ^{bc}	0.03±0.000 ^c	0.02±0.001 ^a
	Trimethylamine N-oxide (TMAO)	0.01±0.001 ^{ab}	0.01±0.001 ^b	0.01±0.001 ^{ab}	0.01±0.001 ^b	0.01±0.001 ^{ab}	0.01±0.001 ^b	0.02±0.007 ^a
Phenolic derivatives	2-Hydroxyphenylacetate	0.03±0.001 ^a	0.02±0.002 ^a	0.03±0.029 ^a	0.02±0.002 ^a	0.01±0.002 ^a	0.02±0.008 ^a	0.11±0.134 ^a
	2-Phenylpropionate	0.07±0.001 ^a	0.06±0.006 ^b	0.08±0.007 ^a	0.06±0.002 ^b	0.03±0.002 ^c	0.05±0.007 ^b	0.02±0.005 ^c
	3-Phenylpropionate	0.03±0.002 ^b	0.02±0.002 ^c	0.04±0.003 ^a	0.03±0.003 ^b	0.01±0.003 ^c	0.04±0.003 ^a	0.04±0.003 ^a
	4-Hydroxyphenylacetate	0.02±0.004 ^b	0.01±0.002 ^c	0.02±0.002 ^{bc}	0.06±0.005 ^a	0.02±0.005 ^{bc}	0.02±0.007 ^{bc}	0.02±0.003 ^{bc}
	Phenylacetate	0.04±0.002 ^{abc}	0.04±0.005 ^{abc}	0.03±0.001 ^{bc}	0.02±0.004 ^c	0.02±0.004 ^c	0.05±0.002 ^a	0.04±0.023 ^{ab}

Cont. Supplementary Table 2.

		NA (mM)			FOS (mM)		Dextran (mM)	
		0 hr	12 hr	24 hr	12 hr	24 hr	12 hr	24 hr
Vitamins	Riboflavin (B2)	0.01±0.002 ^b	0.01±0.001 ^b	0.05±0.008 ^a	0.02±0.002 ^b	0.02±0.002 ^b	0.02±0.007 ^b	0.01±0.002 ^b
	Niacinamide (B3)	0.02±0.004 ^{ab}	0.02±0.002 ^{ab}	0.01±0.001 ^b	0.01±0.001 ^{ab}	0.01±0.001 ^b	0.02±0.009 ^a	0.01±0.001 ^{ab}
	Pyridoxine (B6)	0.02±0.002 ^b	0.02±0.001 ^b	0.01±0.002 ^c	0.02±0.003 ^b	0.01±0.003 ^c	0.03±0.003 ^a	0.02±0.001 ^b
	Pantothenic acid (B5)	0.07±0.005 ^{bc}	0.02±0.002 ^d	0.05±0.003 ^{cd}	0.04±0.002 ^{cd}	0.1±0.002 ^{ab}	0.13±0.032 ^a	0.1±0.029 ^{ab}
	Biotin (B7)	0.07±0.013 ^{bc}	0.07±0.002 ^c	0.04±0.01 ^d	0.1±0.004 ^{ab}	0.12±0.004 ^a	0.12±0.014 ^a	0.02±0.002 ^d
Polyamines	Putrescine	0.03±0.004 ^d	0.13±0.006 ^a	0.12±0.007 ^a	0.06±0.006 ^c	0.05±0.006 ^c	0.05±0.008 ^c	0.1±0.004 ^b
Amino acids	Alanine	0.77±0.003 ^{bc}	0.87±0.029 ^{ab}	0.53±0.013 ^d	0.96±0.025 ^a	0.33±0.025 ^e	0.73±0.094 ^c	0.72±0.044 ^c
	Carnitine	0.15±0.182 ^a	0.03±0.002 ^a	0.03±0.016 ^a	0.01±0.001 ^a	0.01±0.001 ^a	0.01±0.001 ^a	0.1±0.01 ^a
	Cysteine	0.04±0.009 ^c	0.07±0.008 ^{bc}	0.47±0.028 ^a	0.03±0.002 ^c	0.1±0.002 ^{bc}	0.14±0.004 ^b	0.07±0.034 ^{bc}
	Glutamate	0.66±0.033 ^{cd}	0.84±0.053 ^{bc}	0.36±0.024 ^c	0.86±0.046 ^b	1.2±0.046 ^a	0.76±0.05 ^{bcd}	0.65±0.015 ^d
	Histidine	0.08±0.007 ^a	0.02±0.01 ^{bc}	0.03±0.001 ^b	0.03±0.011 ^b	0.01±0.011 ^{bc}	0.02±0.004 ^{bc}	0.01±0.001 ^c
	Isoleucine	0.38±0.004 ^b	0.46±0.004 ^a	0.39±0.018 ^b	0.28±0.014 ^c	0.09±0.014 ^d	0.42±0.011 ^{ab}	0.14±0.027 ^d
	Leucine	0.54±0.006 ^a	0.55±0.004 ^a	0.34±0.15 ^{bc}	0.3±0.011 ^{bc}	0.11±0.011 ^d	0.42±0.006 ^{ab}	0.19±0.01 ^{cd}
	Lysine	0.27±0.01 ^a	0.12±0.008 ^{bc}	0.14±0.042 ^b	0.13±0.011 ^{bc}	0.15±0.011 ^b	0.08±0.005 ^{cd}	0.03±0.002 ^d
	Methionine	0.13±0.001 ^a	0.06±0.007 ^b	0.05±0.002 ^b	0.04±0.047 ^b	0.02±0.047 ^b	0.06±0.003 ^b	0.04±0.003 ^b
	Phenylalanine	0.07±0.075 ^a	0.05±0.002 ^a	0.03±0.004 ^a	0.05±0.004 ^a	0.01±0.004 ^a	0.04±0.001 ^a	0.06±0.029 ^a
	Serine	0.88±0.021 ^c	0.88±0.018 ^c	0.75±0.015 ^d	1.25±0.093 ^b	0.43±0.093 ^e	3.32±0.021 ^a	0.76±0.01 ^d
Tyrosine	0.06±0.001 ^a	0.02±0.004 ^b	0.02±0.003 ^b	0.02±0.003 ^b	0.02±0.003 ^b	0.02±0.003 ^b	0.02±0.004 ^b	

* Different letters reveal significant changes determined by ANOVA test ($P < 0.05$).