Electronic Supplementary Material (ESI) for Food & Function.
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1 **Supporting information**

2 **Table S1. Primer sequence and product size.**

Gene		Primer sequence	Product size (bp)
GADPH	Forward	AGGAGCGAGACCCCACTAACA	247
	Reverse	AGGGGGGCTAAGCAGTTGGT	
AMPK*α*	Forward	GGACTTACTTGTTGGATTTCCG	113
	Reverse	CCTTTGGCAAGATCGATAGTTG	
SREBP-2	Forward	TTTTACTGAAGTAGAGCGGGTC	92
	Reverse	CATGCATGGCTCTACAGGTATA	
HMGR	Forward	AATGCCTTGTGATTGGAGTTGG	284
	Reverse	AGCGTGAACAAGGACCAAGC	
LxR*α*	Forward	CAGCTCCCTGGCTTCCTACA	234
	Reverse	GAGTTGCAGCTCATTCATGGC	
CYP7A1	Forward	GTGATGTTTGAAGCCGGATATC	168
	Reverse	TTTATGTGCGGTCTTGAACAAG	

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5 **Table S2. The mass, retention time, standard curve and R2 of BAs.**

Standard	[M-H] -	Retention Time (min)	Standard curve	R^2
CA	407.25	5.10	Y=60.444x+12523	0.9949
GCA	464.29	3.94	Y=36.224x+10280	0.9971
LCA	375.32	6.82	Y=87.489x-4202.5	0.9937
TLCA	482.33	4.96	Y=70.225x+6461.4	0.9987
DCA	391.30	6.02	Y=145.38x-5860.7	0.9949
GDCA	448.32	5.04	Y=63.5x-2229.2	0.9992
CDCA	391.27	5.91	Y=84.049x+17086	0.9918
GCDCA	448.33	4.80	Y=107.12x-6448.7	0.9935
TCDCA	498.32	4.04	Y=52.831x-2728.3	0.9979
UDCA	391.30	4.50	Y=77.038x-5062	0.9931
GUDCA	448.30	3.12	Y=153.83x-34639	0.9953
TUDCA	498.35	2.52	Y=59.644x-3327.2	0.9981

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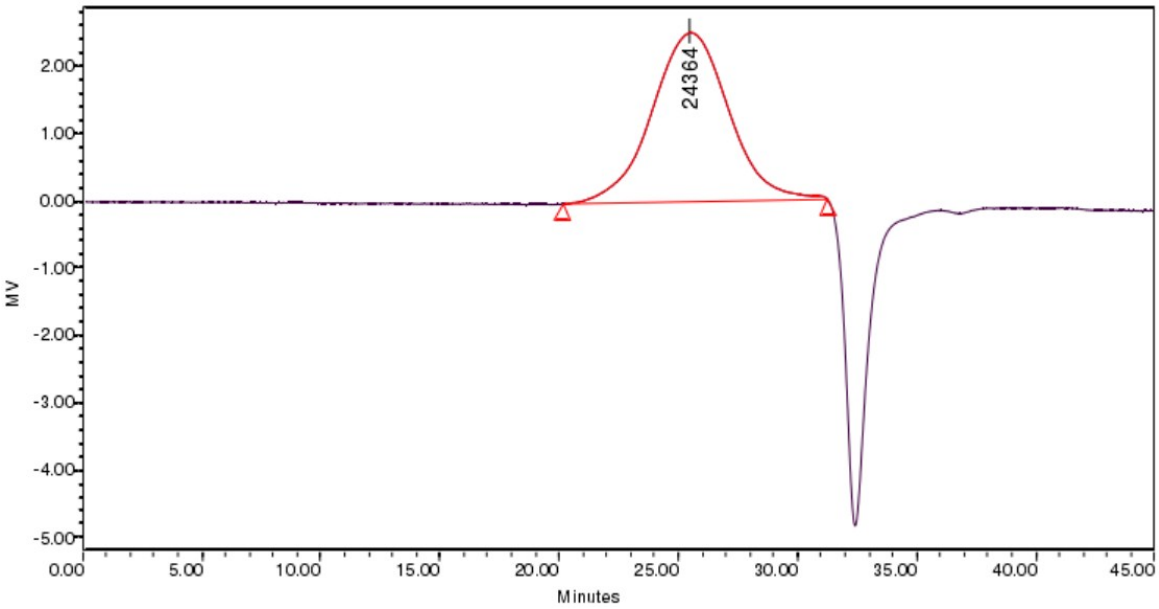

Fig. S1 GPC chromatogram of GLP for molecular weight analysis. A single, symmetric peak was presented in the chromatogram, which indicates that GLP was a homogeneous polysaccharide.