

Table S1. Primers used to detect the potential binding related genes in *L. plantarum* strains.

Functions	Genes	Predicted function	For Primer (5'–3')	Rev Primer (3'–5')	Melting Temperature (°C)
Binding related gene	<i>apf</i>	Aggregation- promoting factors	YAGCCAACAAGTTCTTGTTAGCA	GAATCTGGTGGTTCATAYWCAGC	53.0
	<i>cbs</i>	Collagen binding S-layer	TTGGTACTGACAAGGTWACTCGTT	TGTCAGCGTTGATGWA CTTGC	57.2
	<i>Cnb</i>	Collagen binding protein	CGTGGAGAAGTCGGTGGATG	CATTGCTATGACGCCG GAAC	60.1
	<i>fpb</i>	Fibronectin-binding protein	WGCYAAAYCGGAAGAATCACC	ACCGAGTTCGTRYCGG GTCR	58.0
	<i>gtf</i>	Glucan synthase	ACACGCAGGGCGTTATTTTG	GCCACCTTCAACGTTC GTA	58.0
	<i>mapA</i>	Mucus adhesion promoting protein	TGGATTCTGCTTGAGGTAAG	GACTAGTAATAACGCG ACCG	50.0
	<i>msa</i>	Mannose-specific adhesion	GCAAGACGCTATCGGGTTCA	TAACGCCTGCGACTCT CCTG	59.8
	<i>mub1</i>	Mucin-binding protein	GTAGTTACTCAGTGACGATCAATG	TAATTGTAAAGGTATA ATCGGAGG	50.0
	<i>mub2</i>	Mucin-binding protein	ACGCGTATTGCGGGTAATGA	CGCCCCTGAAGTGGG ATGT	60.0
	<i>slp</i>	Surface layer protein	TTGCAGATCCTGTTGTTCCA	TGTACTTGCCAGTTGC CTTG	59.9

Table S2. Changes in color of Nham before (t = 0h) and after (t = 96h) fermentation.

Samples	Time	L^*	a^*	b^*	DE
Nham-NF	t = 0 h	45.20 ± 2.27 ^b	11.50 ± 1.79 ^a	8.89 ± 0.27 ^a	-
	t = 96 h	51.07 ± 0.85 ^a	12.03 ± 0.75 ^a	7.48 ± 0.50 ^b	
Nham-Lp4	t = 0 h	44.76 ± 0.24 ^b	13.34 ± 1.69 ^a	8.03 ± 0.87 ^a	1.63
	t = 96 h	52.07 ± 0.88 ^a	10.83 ± 0.49 ^b	6.95 ± 0.13 ^b	
Nham-Lp6	t = 0 h	44.70 ± 1.23 ^b	10.27 ± 0.31 ^b	7.41 ± 0.03 ^a	1.02
	t = 96 h	52.00 ± 1.90 ^a	11.87 ± 0.78 ^a	7.09 ± 0.62 ^a	

The values are mean ± standard deviation of triplicate determinations. Significant differences were analyzed by one-way ANOVA with Duncan's multiple range test. Different lowercase letters indicate significant differences between the fermentation times of the same Nham sample ($p \leq 0.05$). No significant difference in L^* , a^* and b^* values were observed among Nham samples at the same fermentation time. DE were calculated based on the L^* , a^* and b^* values of Nham-NF vs Nham-Lp4 and of Nham-NF vs Nham-Lp6 at 96 h of fermentation.