

**Table S1.** Antimicrobial resistance and virulence characteristic of all strains used in the study.

No.	Strain	Identification		Isolation source	Biofilm	Slime production	Virulence-associated genes		Phenotypic antibiotic resistance	Minimum inhibitory concentration (MIC) (µg/ml)	Antibiotic-resistance genes
		PCR	MALDI-TOF MS				LIP1-1	Biofilm			
Strains from food											
1.	116	<i>L. monocytogenes</i>	1/2a	Farm cheese	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB</i>	DA (I)	DA - 1	<i>lnuA</i>
2.	130	<i>L. monocytogenes</i>	1/2a	Farm cheese	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB</i>	DA (I)	DA - 1.5	<i>lnuA</i>
3.	137	<i>L. monocytogenes</i>	1/2a	Raw milk	Moderate	No	<i>hlyA, prfA</i>	<i>inlB</i>	DA (R)	DA - 4	-
4.	138	<i>L. monocytogenes</i>	1/2a	Raw milk	Moderate	No	<i>hlyA, prfA</i>	<i>inlB</i>	DA (R)	DA - 4	-
5.	140	<i>L. monocytogenes</i>	1/2a	Raw milk	Weak	No	<i>hlyA, prfA</i>	<i>inlB</i>	DA (R)	DA - 4	-
6.	141	<i>L. monocytogenes</i>	1/2a	Frozen vegetables	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	<i>mefA, lnuA</i>
7.	142	<i>L. monocytogenes</i>	1/2a	Frozen vegetables	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1	<i>lnuA</i>
8.	147	<i>L. monocytogenes</i>	1/2a	Dumplings	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1.5	<i>mefA, lnuA</i>
9.	148	<i>L. monocytogenes</i>	1/2a	Frozen vegetables	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	CN (I), SXT (R)	CN - 0.19, SXT - 0.064	<i>aadB, mefA, lnuA, sulII</i>
10.	91	<i>L. monocytogenes</i>	1/2a	Juice	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	-	NA	NA
11.	92	<i>L. monocytogenes</i>	1/2a	Juice	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R), MEM (R), SXT (R)	DA - 2, MEM - 0.047, SXT - 0.064	<i>sull</i>
12.	93	<i>L. monocytogenes</i>	1/2a	Frozen vegetable	No biofilm	Yes	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 32	<i>lnuA</i>
13.	94	<i>L. monocytogenes</i>	1/2a	Frozen vegetable	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1	-
14.	95	<i>L. monocytogenes</i>	1/2a	Frozen vegetable	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1.5	-
15.	96	<i>L. monocytogenes</i>	1/2a	Chicken wings	No biofilm	Yes	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	-	NA	NA
16.	98	<i>L. monocytogenes</i>	1/2a	Farm cheese	No biofilm	Yes	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	CIP (I), DA (I)	CIP - 0.38, DA - 1.5	<i>lde</i>
17.	99	<i>L. monocytogenes</i>	1/2a	Farm cheese	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1	<i>mefA</i>
18.	139	<i>L. monocytogenes</i>	1/2a	Raw milk	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	-
19.	117	<i>L. monocytogenes</i>	1/2c	Raw milk	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB</i>	-	NA	NA
20.	129	<i>L. monocytogenes</i>	1/2c	Raw milk	No biofilm	No	<i>hlyA, prfA</i>	<i>luxS</i>	DA (I)	DA - 1.5	-
21.	146	<i>L. monocytogenes</i>	3c	Frozen vegetables	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, sigB</i>	CIP (I), DA (I)	CIP - 0.50, DA - 1.5	<i>lde, mefA, lnuA</i>
22.	149	<i>L. monocytogenes</i>	3c	Frozen vegetables	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	<i>mefA, lnuA</i>
23.	81	<i>L. monocytogenes</i>	3c	Frozen vegetable	Strong	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	-
24.	97	<i>L. monocytogenes</i>	3c	Chicken breast fillet	No biofilm	Yes	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 1.5	-
25.	143	<i>L. monocytogenes</i>	Other	Frozen vegetable	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	<i>lnuA</i>
26.	144	<i>L. monocytogenes</i>	Other	Frozen vegetable	Strong	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	<i>mefA, lnuA</i>
27.	145	<i>L. monocytogenes</i>	Other	Frozen vegetable	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	<i>mefA, lnuA</i>
Strains from food processing environments											
1.	172	<i>L. monocytogenes</i>	1/2a	Floor drain	Weak	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1.5	-
2.	167	<i>L. monocytogenes</i>	1/2a	Floor drain	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1.5	-
3.	165	<i>L. monocytogenes</i>	1/2c	Floor drain	Weak	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	P (R), SXT (R)	P - 1, SXT - 0.125	<i>mefA, sull</i>
4.	168	<i>L. monocytogenes</i>	1/2c	Floor drain	Strong	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	<i>lnuA</i>
5.	169	<i>L. monocytogenes</i>	1/2c	Venting system	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	-
6.	170	<i>L. monocytogenes</i>	1/2c	Production machine	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	-
7.	174	<i>L. monocytogenes</i>	1/2c	Production machine	Weak	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I), SXT (R)	DA - 1.5, SXT - 0.125	<i>sull</i>
8.	176	<i>L. monocytogenes</i>	1/2c	Production machine	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 1.5	-
9.	177	<i>L. monocytogenes</i>	1/2c	Production line	Weak	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I), SXT (R)	DA - 1, SXT - 0.064	<i>sull, sulII</i>
10.	164	<i>L. monocytogenes</i>	3a	Production line	No biofilm	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	-
11.	173	<i>L. monocytogenes</i>	3a	Production line	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	-
12.	166	<i>L. monocytogenes</i>	3c	Production line	Moderate	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (R)	DA - 4	-
13.	171	<i>L. monocytogenes</i>	3c	Production line	Weak	No	<i>hlyA, prfA</i>	<i>inlB, luxS, sigB</i>	DA (I)	DA - 2	-

I – Intermediate, R – Resistance; NA – not applicable; AMP – Ampicillin, C – Chloramphenicol, CIP – Ciprofloxacin, E – Erythromycin, CN – Gentamicin, DA – Clindamycin, MEM – Meropenem, P – Penicillin G, RD – Rifampicin, SXT – Trimethoprim/Sulfamethoxazole, TE – Tetracycline, VA – Vancomycin.

**Table S2.** Primer sequence, product size, PCR protocol, and references used for the detection of antimicrobial resistance genes in *L. monocytogenes*.

Antimicrobial agent	Target Genes	Primer Sequence (5'-3')	Product Size (bp)	Concentration	PCR cycling condition	Reference
CIP	<i>Lde</i>	F: ATCGTGAACCTAATGGTGG R: ATCCTCATATAACTCAAGCG	1518	0.2 μM	Initial denaturation for 3 min at 95 °C, followed by 1 min of denaturation at 95 °C, 45 s annealing at 45 °C, 1 min of extension at 72 °C for a total of 35 cycles and 5 min of final extension at 72 °C.	[47]
		F: GGTGGCTGGGGGTAGATGTATTAACTGG R: GCTTCTTTGAAATACATGGTATTTTCGATC				
DA	<i>lnuA</i>	F: CCTACCTATTGTTTGAA R: ATAACGTTACTCTCCTATT	323	0.4 μM	Initial denaturation for 5 min at 94 °C, followed by 1 min of denaturation at 94 °C, 1 min annealing at 59 °C, 2 min of extension at 72 °C for a total of 35 cycles and 5 min of final extension at 72 °C.	[56]
DA	<i>lnuB</i>	F: AGTATCATTAAATCACTAGTGC R: TTCTTCTGGTACTAAAAGTGG	405	1 μM	Initial denaturation for 5 min at 94 °C, followed by 1 min of denaturation at 94 °C, 1 min annealing at 54 °C, 2 min of extension at 72 °C for a total of 35 cycles and 5 min of final extension at 72 °C.	[48]
CN	<i>aadB</i>	F: GAGCGAAATCTGCCGCTTTG R: CTGTTACAACGGACTGGCGC	310	0.2 μM	Initial denaturation for 5 min at 95 °C, followed by 1 min of denaturation at 95 °C, 30 s annealing at 53 °C, 30 s of extension at 72 °C for a total of 40 cycles and 5 min of final extension at 72 °C.	[51]
CN	<i>aac(3)-IIa(aacC2)<sup>a</sup></i>	F: CGGAAGGCAATAACGGAG R: TCGAACAGGTAGCACTGAG	740	0.5 μM	Initial denaturation for 5 min at 94 °C, followed by 30 s of denaturation at 94 °C, 30 s annealing at 50 °C, 1,5 min of extension at 72 °C for a total of 30 cycles and 5 min of final extension at 72 °C.	[35]
P	<i>penA</i>	F: ATCGAACAGGCAGCATGTC R: GATTAAGACGGTGTTCACGG	500	0.2 μM	Initial denaturation for 3 min at 95 °C, followed by 1 min of denaturation at 95 °C, 45 s annealing at 46 °C, 1 min of extension at 72 °C for a total of 35 cycles and 5 min of final extension at 72 °C.	[51]
SXT	<i>sull</i>	F: CGGCGTGGGCTACCTGAACG R: GCCGATCGCGTGAAGTCCG	433	0.2 μM	Initial denaturation for 5 min at 94 °C, followed by 30 s of denaturation at 94 °C, 30 s annealing at 65 °C, 2 min of extension at 72 °C for a total of 30 cycles and 10 min of final extension at 72 °C.	[32]
SXT	<i>sullI</i>	F: GCGCTCAAGGCAGATGGCATT R: GCGTTGATACCGGCACCCGT	293	0.2 μM	Initial denaturation for 5 min at 94 °C, followed by 30 s of denaturation at 94 °C, 30 s annealing at 65 °C, 2 min of extension at 72 °C for a total of 30 cycles and 10 min of final extension at 72 °C.	[32]

CIP – Ciprofloxacin, CN – Gentamicin, DA – Clindamycin, MEM – Meropenem, P – Penicillin G, SXT – Trimethoprim/Sulfamethoxazole.

**Table S3.** Primer sequence, product size, PCR protocol, and references used for identification, serotyping, and detection of virulence-associated genes in *L. monocytogenes* strains.

Species/Gene/Serovar specificity	Primer Sequence (5'-3')	Product Size (bp)	PCR cycling condition	Reference	
<b>Identification</b>					
<i>Listeria genus</i>	F: GCTGAAGAGATTGCGAAAGAAG				
- <i>prs</i>	R: CAAAGAAACCTGGATTGCGG	370	Initial denaturation for 5 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 60°C, 30 s of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	[9]	
<i>L. monocytogenes</i>	F: GCTTGTATTCACTTGGATTGTCTGG				
- <i>lmo1030</i>	R: ACCATCCGCATATCTCAGCCAATC	509			
<b>Serotyping</b>					
Serotype 1/2a and some serotype 3a strains	F: TTACTAGATCAAATGCTCC				
- <i>flaA</i> ( <i>Im_0690</i> )	R: AAGAAAAGCCCCCTCGTCC	538	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 52°C, 1 min of extension at 72°C for a total of 30 cycles and 5 min of final extension at 72°C.	[10]	
Serotype 1/2c strains	F: ATGCAACATCAAGAGCAAGAA				
- <i>LMOSLCC2372_0308</i>	R: TGGCATTCTAAGGATGTCTCT	300			
Most serotype 3a strains	F: TGAGTTGCAGGAAAGAAGG				
- <i>LMLG_0742</i>	R: AACCGTGGTGGAACTGTAA	388			
<b>Virulence-associated genes</b>					
<b>LIP1-1</b>	<i>hlyA</i>	F: GCAGTTGCAAGCGCTTGGAGTGAA R: GCAACGTATCCTCCAGAGTGATCG	456	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 55°C, 1 min of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	
	<i>prfA</i>	F: GATACAGAAACATCGGTTGGC R: GTGTAATCTTGATGCCATCAGG	274	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 49°C, 1 min of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	
<b>Biofilm</b>	<i>inlB</i>	F: AAAGCACGATTTCATCGGAG R: ACATAGCCTTGTGGTCGG	148	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 49°C, 1 min of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	[14]
	<i>luxS</i>	F: ATGGCAGAAAAAATGAATGTAGAAA R: TTATTACACAAACACATTTCACCA	500	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 51°C, 1 min of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	
	<i>sigB</i>	F: TCATCGGTGTACCGGAAGAA R: TGACGTTGGATTCTAGACAC	310	Initial denaturation for 3 min at 94°C, followed by 30 s of denaturation at 94°C, 30 s annealing at 51°C, 1 min of extension at 72°C for a total of 35 cycles and 5 min of final extension at 72°C.	