

Bacteriological Analytical Manual

Chapter 10: Detection and Enumeration of *Listeria monocytogenes* in Foods

Attachment 1:

Single Lab Validation (SLV) - Individual Ct values for each isolate by each enzyme mix

Attachment 1. SLV - Individual Ct values for each isolate by each enzyme mix.

	Organism	Isolate #	Isolate Information	Serology	Cycle Threshold (C _t)				
					SmartMix™ HM		OmniMix® HS		
					<i>Listeria</i> sp.	<i>L. mono.</i>	<i>Listeria</i> sp.	<i>L. mono.</i>	
Food Isolates									
1	<i>L. monocytogenes</i>	15b42	cucumber	4	21.76	20.81	21.23	20.88	
2	<i>L. monocytogenes</i>	3365	mackerel	4b6	22.2	21.71	21.74	21.48	
3	<i>L. monocytogenes</i>	3312	cheese	1a1	20.94	19.44	19.68	19.12	
4	<i>L. monocytogenes</i>	15b27	radish	1	21.9	20.6	20.78	20.09	
5	<i>L. monocytogenes</i>	2388	coleslaw	1	21.9	20.55	20.46	20.11	
6	<i>L. monocytogenes</i>	2478	raw milk	1	20.5	19.26	19.56	18.91	
7	<i>L. monocytogenes</i>	3313	shrimp	1a1	21.19	19.69	19.93	19.27	
8	<i>L. monocytogenes</i>	3326	roast beef	1a1	21.3	20.34	20.15	19.74	
9	<i>L. monocytogenes</i>	3358	milk product	1a2	21.43	20.21	19.71	19.3	
10	<i>L. monocytogenes</i>	3363	cooked snow crab	1a2	21.54	20.59	20.46	20.06	
11	<i>L. monocytogenes</i>	3756	beef & gravy Rh-	1	21.46	20.58	20.38	20.2	
12	<i>L. monocytogenes</i>	15b72	apple juice	1	21.6	20.2	20.3	19.49	
13	<i>L. monocytogenes</i>	15b85	cream ch. & veg	1	21.81	20.33	20.59	19.82	
14	<i>L. monocytogenes</i>	15c14	avocado pulp	1	21.92	20.22	20.71	19.68	
15	<i>L. monocytogenes</i>	15c22	fontina cheese	1	20.68	19.3	19.61	18.83	
16	<i>L. monocytogenes</i>	15a90	turkey ham	3b	21.94	20.58	20.46	19.83	
17	<i>L. monocytogenes</i>	2450	veg. mix	1	21.64	20.61	20.41	19.72	
18	<i>L. monocytogenes</i>	2475	cold cut sand.	1	21.46	19.9	19.95	19.49	
19	<i>L. monocytogenes</i>	2492	ice cream	1	20.71	19.4	19.34	18.59	
20	<i>L. monocytogenes</i>	3291	popsicle	1a1	21.7	20.32	19.99	19.64	
21	<i>L. monocytogenes</i>	3318	lobster	1a2	22.64	21.68	21.05	20.89	
22	<i>L. monocytogenes</i>	3321	raw shrimp	4b6	21.17	19.8	19.94	19.59	
23	<i>L. monocytogenes</i>	3332	mexican-style cheese	4b6	21.23	20.85	20.5	20.66	
24	<i>L. monocytogenes</i>	3359	surimi scallops	1a1	21.19	20.19	20.07	19.58	
25	<i>L. monocytogenes</i>	3362	pollack	1a1	21.56	20.54	20.41	19.9	
26	<i>L. monocytogenes</i>	3558	cheese	4b	20.83	19.91	20.24	19.65	
27	<i>L. monocytogenes</i>	3644	red bean ice bar	4b6	21.4	20.58	20.09	19.62	
28	<i>L. monocytogenes</i>	3662	cheese	4b6	22.76	21.58	21.53	21.26	
29	<i>L. monocytogenes</i>	15b70	cheddar cheese	4	21.28	21.26	20.26	20.89	
Clinical Isolates									
30	<i>L. monocytogenes</i>	2369	Clinical	1	21	19.93	20.26	19.69	
31	<i>L. monocytogenes</i>	2370	Clinical	1	21.67	20.33	20.32	20.36	
32	<i>L. monocytogenes</i>	15b55	Clinical-Blood	1	20.21	19.6	19.5	19.2	
33	<i>L. monocytogenes</i>	15b65	Clinical-Blood	1	21.4	20.12	20.45	19.59	
34	<i>L. monocytogenes</i>	3555	Clinical-amniotic fluid	4	20.72	20.95	20.19	20.88	
35	<i>L. monocytogenes</i>	3664	Clinical	1a1	21.38	20.95	21.56	21.31	
36	<i>L. monocytogenes</i>	3666	Clinical	4b6	21.25	20.44	20.67	20.48	
37	<i>L. monocytogenes</i>	3668	Clinical	4b6	20.16	18.72	19.1	19.06	
38	<i>L. monocytogenes</i>	15a82	Clinical-Blood	4	20.77	20.67	20.16	21.66	
39	<i>L. monocytogenes</i>	15b56	Clinical-Blood	4	19.89	20.31	19.51	21.47	
40	<i>L. monocytogenes</i>	15b58	Clinical-Nares	4	21.68	21.44	20.06	20.85	
41	<i>L. monocytogenes</i>	15b81	Clinical-Blood	1	21.66	20.28	20.25	20.42	
42	<i>L. monocytogenes</i>	15b82	Clinical-CSF	4	21.28	20.71	20.09	20.25	
Environmental Isolates									
43	<i>L. monocytogenes</i>	3315	swab	1a1	21.9	20.83	20.32	19.6	
44	<i>L. monocytogenes</i>	3286	swab	1a2	21.53	19.98	19.99	19.86	
45	<i>L. monocytogenes</i>	3308	swab	1a2	22.79	21.37	21.37	20.81	
46	<i>L. monocytogenes</i>	3360	swab	1a1	19.92	19.86	19.27	20.45	
Other Isolates									
47	<i>L. monocytogenes</i>	KC 1710		4a7,9	23.42	22.1	22.45	22.08	
48	<i>L. monocytogenes</i>	ATCC 19114		4a	21.38	20.56	21.2	20.81	
49	<i>L. monocytogenes</i>	V-7	Raw Milk Outbreak -CDC	1a1	22.38	20.73	20.71	20.38	
50	<i>L. monocytogenes</i>	ATCC 15313		1	23.7	22.81	22.63	22.32	
51	<i>L. monocytogenes</i>	Scott A	Clinical	4b6	20.72	19.28	19.28	18.91	
52	<i>L. monocytogenes</i>	ATCC 19116		4c	21.37	21.14	20.5	20.84	
53	<i>L. monocytogenes</i>	ATCC 19115		4b	27.34	26.92	27.07	26.65	
					<i>L. mono.</i> average C _t	21.57	20.59	20.50	20.27
					Std. Dev.	1.1061	1.1654	1.1740	1.2320
<i>L. innocua</i>									
54	<i>L. innocua</i>	3107	LA-1 Mexican style cheese		20.74	0	20.32	0	
55	<i>L. innocua</i>	3124	Brie		22.28	0	21.27	0	
56	<i>L. innocua</i>	3516	Shrimp		20.97	0	20.48	0	
57	<i>L. innocua</i>	3654	Scallops		21.71	0	21.3	0	
58	<i>L. innocua</i>	3758	Smoked salmon		19.8	0	19.17	0	
59	<i>L. innocua</i>	6273	lab control		22.27	0	21.5	0	
60	<i>L. innocua</i>	3181	Brie		20.68	0	20.57	0	
61	<i>L. innocua</i>	3270	Muenster cheese		21.56	0	20.89	0	
62	<i>L. innocua</i>	3390	Crab		21.18	0	20.42	0	
63	<i>L. innocua</i>	3392	Lobster tail		21.82	0	20.99	0	
64	<i>L. innocua</i>	3552	Ground pork		22.16	0	20.85	0	
65	<i>L. innocua</i>	3757	Chop suey		21.24	0	20.55	0	
66	<i>L. innocua</i>	15a93	Soft cheese		21.49	0	20.4	0	
67	<i>L. innocua</i>	15a94	Meat patties		20.36	0	19.56	0	
68	<i>L. innocua</i>	15a95	Ham salad		21.85	0	20.41	0	

69	<i>L. innocua</i>	15b30	Mushroom		22.34	0	20.72	0
70	<i>L. innocua</i>	15b31	radish		21.81	0	20.73	0
71	<i>L. innocua</i>	15b51	Queso blanco		21.85	0	20.61	0
72	<i>L. innocua</i>	15a92	Env. - ceiling condensate		21.55	0	19.97	0
73	<i>L. innocua</i>	ATCC 33090			27.28	0	26.87	0
74	<i>L. ivanovii</i>	2244	Env. - swab smk.salmon processor		24.25	0	24.58	0
75	<i>L. ivanovii</i>	3106	KC1714- FDA Cinc.		21.88	0	21.70	0
76	<i>L. ivanovii</i>	3417	Environmental - water		24.72	0	25.64	0
77	<i>L. ivanovii</i>	6274	lab control		23.86	0	23.12	0
78	<i>L. ivanovii</i>	15a96	Brie		24.27	0	23.80	0
79	<i>L. ivanovii</i>	15a97	Clinical - CDC		22.76	0	21.65	0
80	<i>L. ivanovii</i>	15a98	Clinical - CDC		24.4	0	23.50	0
81	<i>L. ivanovii</i>	15b24	sheep		21.86	0	21.52	0
82	<i>L. ivanovii</i>	ATCC 19119			25.26	0	25.39	0
83	<i>L. seeligeri</i>	2232	smoked salmon		25.83	0	24.22	0
84	<i>L. seeligeri</i>	2233	Matjes fillets		23.5	0	23.14	0
85	<i>L. seeligeri</i>	2243	in-line smk. seafood processor		24.88	0	24.47	0
86	<i>L. seeligeri</i>	ATCC 35967			25.88	0	29.77	0
87	<i>L. seeligeri</i>	3110	Brie		21.79	0	21.37	0
88	<i>L. seeligeri</i>	3126	Brie		24.57	0	23.42	0
89	<i>L. seeligeri</i>	3389	Crab		24.92	0	24.68	0
90	<i>L. seeligeri</i>	3423	Environmental - water		28.83	0	32.48	0
91	<i>L. seeligeri</i>	3439	Environmental - water		24.59	0	24.34	0
92	<i>L. seeligeri</i>	3451	Environmental - water		23.82	0	23.64	0
93	<i>L. seeligeri</i>	3517	Shrimp		24.66	0	24.04	0
94	<i>L. seeligeri</i>	3531	Environmental - water		22.16	0	21.88	0
95	<i>L. seeligeri</i>	3656	Scallops		29.92	0	31.74	0
96	<i>L. seeligeri</i>	6275	lab control		22.81	0	22.61	0
97	<i>L. seeligeri</i>	15b07	Milk		24.4	0	23.86	0
98	<i>L. seeligeri</i>	15b08	Brie cheese		23.42	0	23.47	0
99	<i>L. seeligeri</i>	15b09	Green peppers		24.89	0	24.59	0
100	<i>L. seeligeri</i>	15b26	Ice cream roll		28.18	0	31.27	0
101	<i>L. seeligeri</i>	15b28	Cherry nut ice cream		23.95	0	23.89	0
102	<i>L. seeligeri</i>	15b49	Ice		25.71	0	25.69	0
103	<i>L. welshimeri</i>	2230	Crabmeat		23.21	0	23.06	0
104	<i>L. welshimeri</i>	2231	Smoked Salmon		21.95	0	22.64	0
105	<i>L. welshimeri</i>	3425	Environmental - water		21	0	20.28	0
106	<i>L. welshimeri</i>	3441	Environmental - water		22.82	0	22.32	0
107	<i>L. welshimeri</i>	3659	Pollack roe		19.98	0	19.84	0
108	<i>L. welshimeri</i>	15b05	Limburger cheese		21.72	0	21.9	0
109	<i>L. welshimeri</i>	15b06	Raw milk		22.83	0	23.14	0
110	<i>L. welshimeri</i>	15b16	Smoked salmon pate		22.28	0	22.48	0
111	<i>L. welshimeri</i>	15b46	radish		22.97	0	23.3	0
112	<i>L. welshimeri</i>	15b48	crabmeat		22.63	0	23.33	0
113	<i>L. welshimeri</i>	15b50	cucumber		27.33	0	27.11	0
				<i>Listeria sp. average C,</i>	23.26	0.00	23.04	0.00
				Std. Dev.	2.1677		2.9047	
114	<i>Hafnia alvei</i>	ATCC 13337			0	0	0	0
115	<i>E. coli</i>	6365	C-600		0	0	0	0
116	<i>Morganella morganii</i>	13b67	lettuce		0	0	0	0
117	<i>Shigella dysenteriae</i>	ATCC 29026			0	0	0	0
118	<i>Citrobacter braakii</i>	13d26	Broccoli sprouts		0	0	0	0
119	<i>E. coli</i>	13d64	Porcino cheese		0	0	0	0
120	<i>Leclercia adecarboxylata</i>	13d65	Jack cheese		0	0	0	0
121	<i>Hafnia alvei</i>	13d66	Roquefort cheese		0	0	0	0
122	<i>Shigella sonnei</i>	13g01	Clinical		0	0	0	0
123	<i>Shigella boydii</i>	13g18	Clinical		0	0	0	0
124	<i>Shigella flexneri</i>	13g19	Clinical		0	0	0	0
125	<i>Citrobacter freundii</i>	6251	QC control		0	0	0	0
126	<i>Salmonella</i> Grp. 30	6269	lab control		0	0	0	0
127	<i>Salmonella</i> lansing Grp. P	6270	lab control		0	0	0	0
128	<i>Klebsiella pneumonia</i>	6271	lab control		0	0	0	0
129	<i>Vibrio cholerae</i>	6277	Clinical - 154		0	0	0	0
130	<i>Vibrio parahaemolyticus</i>	6278	Clinical - NY477		0	0	0	0
131	<i>Vibrio vulnificus</i>	6279	Shrimp		0	0	0	0
132	<i>Staphylococcus aureus</i>	ATCC 25923			0	0	0	0
133	<i>Rhodococcus equi</i>	6281	lab control		0	0	0	0
134	<i>Lactobacillus</i> sp.	6282	salsa		0	0	0	0
135	<i>Lactobacillus</i> sp.	6286	canned artichokes		0	0	0	0
136	<i>Salmonella typhimurium</i>	6290	Clinical		0	0	0	0
137	<i>Streptococcus pyogenes</i>	ATCC 19615			0	0	0	0
138	<i>Alcaligenes faecalis</i>	ATCC 8750			0	0	0	0
139	<i>Salmonella choleraesuis</i>	ATCC 6539			0	0	0	0
140	<i>Yersinia enterocolitica</i>	1269	PT-18-1		0	0	0	0
141	<i>Yersinia enterocolitica</i>	1270	WA+		0	0	0	0
142	<i>E. coli</i> O157:H16	13a80	CDC		0	0	0	0
143	<i>Enterobacter cloacae</i>	ATCC 2335			0	0	0	0