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Research article

***Listeria monocytogenes* isolates from Western Cape, South Africa exhibit resistance to multiple antibiotics and contradicts certain global resistance patterns**

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Table S1. Studies indicating the prevalence of antibiotic resistance of *Listeria monocytogenes* to ampicillin, chloramphenicol, erythromycin, gentamicin, and tetracycline

Antibiotic	Origin	Reference	<i>L. monocytogenes</i> isolates resistant/isolates tested (%)
Ampicillin	Clinical, USA	[67]	6/65 (9.2%)
	Clinical, Iran	[64]	14/14 (100%)
	Seafood, Iran	[9]	107/278 (38.5%)
	Seafood (open-air fish markets), Iran	[60]	9/43 (20.9%)
	Chicken, Iran	[64]	14/14 (100%)
	Poultry, Iran	[30]	44/98 (44.9%)
	Raw meat, Italy	[65]	8/40 (20%)
	Pork, China	[79]	3/26 (11.5%)
	Meat products, Turkey	[66]	5/66 (7.5%)
	Dairy products, Iran	[32]	5/19 (26.3%)
	RTE products, Spain	[31]	8/25 (32%)
	RTE products, Poland	[53]	20/210 (9.5%)

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Antibiotic	Origin	Reference	<i>L. monocytogenes</i> isolates resistant/isolates tested (%)
Chloramphenicol	Clinical, USA	[67]	7/54 (12.9%)
	Seafood, Iran	[9]	9/278 (3.2%)
	Seafood (open-air fish markets), Iran	[60]	1/43 (2.3%)
	Poultry, Iran	[30]	24/98 (24.5%)
	Dairy products, Iran	[32]	2/19 (10.5%)
	Vegetables, Nigeria	[93]	60/104 (57.7%)
	RTE meat products, China	[100]	11/33 (33.3%)
Erythromycin	Clinical, USA	[67]	1/84 (1.9%)
	Seafood, Iran	[9]	7/278 (2.5%)
	Seafood (open-air fish markets), Iran	[60]	12/43 (27.9%)
	Seafood, Poland	[101]	33/70 (47.1%)
	Poultry, Iran	[30]	15/98 (15.3%)
	Raw meat, Italy	[65]	2/40 (5%)
	Pork, China	[79]	3/26 (11.5%)
	Dairy products, Iran	[32]	3/19 (15.8%)
	Vegetables, Nigeria	[93]	23/104 (22.1%)
Gentamycin	Clinical, USA	[67]	2/52 (2%)
	Clinical, Iran	[64]	1/14 (7.1%)
	Seafood, Iran	[9]	2/278 (0.72%)
	Chicken, Iran	[64]	1/14 (7.1%)
	Poultry, Iran	[30]	10/98 (10.2%)
	Raw meat, Italy	[65]	3/40 (7.5%)
	Pork, China	[79]	1/26 (3.9%)
	Dairy products, Iran	[32]	1/19 (5.3%)
	Vegetables, Nigeria	[93]	33/104 (31.7%)
	RTE products, Spain	[31]	1/25 (4%)
Tetracycline	Clinical, USA	[67]	2/66 (3%)
	Seafood, Iran	[9]	52/278 (18.7%)
	Poultry, Iran	[30]	34/98 (34.7%)
	Raw meat, Italy	[65]	1/40 (2.5%)
	Chilled pork, China	[79]	7/26 (26.9%)
	Dairy products, Iran	[32]	3/19 (15.8%)
	Vegetables, Nigeria	[93]	32/104 (30.8%)
	RTE products, Spain	[31]	12/25 (48%)
	RTE meat products, China	[100]	4/33 (12.1%)
	Food processing environment, Canada	[102]	3/54 (5.6%)

Table S2. *Listeria monocytogenes* isolates from the period 2017–2019 showing resistance to one or more antibiotic in various categories (isolates susceptible to all antibiotics not shown). MDR isolates highlighted in bold.

Sample	Category	^a Subcategory (additional description, as provided by supplier)	^b Lineage	Ampicillin	Chloramphenicol	Erythromycin	Gentamicin	Tetracycline
<i>Clinical: total tested n=20</i>								
CLM17	Clinical	Unknown	I	-	R	R	R	R
<i>Environmental: total tested n=31</i>								
MEN30	Environmental	Drain (preparation area)	I	-	R	R	-	-
MEN34	Environmental	Drain (production)	I	-	-	R	-	-
MEN26	Environmental	Drain (preparation area)	I	-	R	-	-	-
MEN31	Environmental	Drain (cooking area)	II	-	R	R	-	-
MEN47	Environmental	Drain	I	-	R	R	-	-
MEN01	Environmental	Drain (mixer)	I	-	-	-	R	-
MEN04	Environmental	Drain (mixer)	I	-	-	R	-	-
MEN48	Environmental	Equipment	I	-	-	R	-	-
MEN11	Environmental	Equipment	I	-	-	R	-	-
MEN36	Environmental	Floor	II	-	-	R	-	-
MEN38	Environmental	Hand (during production)	II	-	R	R	-	R
MEN14	Environmental	Surface (red cutting boards)	II	-	R	R	-	-
MEN15	Environmental	Surface (production tables)	II	-	-	R	-	-
MVA03	Environmental	Unknown	II	-	-	R	-	-

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Sample	Category	^a Subcategory (additional description, as provided by supplier)	^b Lineage	Ampicillin	Chloramphenicol	Erythromycin	Gentamicin	Tetracycline
<i>Raw meats: total tested n=31</i>								
MRA32	Raw meats	Beef (mince)	II	-	-	R	R	R
MRA32a	Raw meats	Beef (mince)	II	-	-	R	-	-
MRA18	Raw meats	Beef	I	-	R	R	-	R
MRA03	Raw meats	Beef (mince)	II	-	-	R	-	-
MRA31	Raw meats	Chicken (whole birds)	I	-	-	-	-	R
MRA34	Raw meats	Chicken (fresh breasts)	I	-	-	R	-	R
MRA42	Raw meats	Chicken (frozen thighs)	I	-	-	-	-	R
MRA43	Raw meats	Chicken (pieces)	II	-	-	-	-	R
MRA46	Raw meats	Chicken (mixed portions)	I	-	-	-	-	R
MRA17	Raw meats	Chicken (drumsticks)	I	-	-	R	-	R
MRA36	Raw meats	Pork (BBQ portions)	II	-	R	R	-	R
MRA23	Raw meats	Unknown	I	-	-	R	-	-
MRA26a	Raw meats	Unknown	II	-	R	R	-	R
MRA26	Raw meats	Unknown	II	-	R	R	-	-
MRA20	Raw meats	Unknown	I	-	R	R	-	-
MRA11	Raw meats	Unknown	I	-	-	R	-	-
MRA13	Raw meats	Unknown	I	-	-	-	R	-
MRA14	Raw meats	Unknown	I	-	-	R	-	-
MRA20a	Raw meats	Unknown	I	-	-	R	-	-
MRA21	Raw meats	Unknown	I	-	R	R	-	-
MRA33	Raw meats	Unknown	II	-	-	R	-	-
MRA30	Raw meats	Unknown	I	-	-	R	-	-

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Sample	Category	^a Subcategory (additional description, as provided by supplier)	^b Lineage	Ampicillin	Chloramphenicol	Erythromycin	Gentamicin	Tetracycline
<i>Raw seafood: total tested n=61</i>								
MRA02	Raw seafood	Seafood	I	-	-	-	-	R
MVA02	Raw seafood	Seafood	I	-	-	R	-	R
MVA05	Raw seafood	Seafood	I	-	-	R	-	-
MVA30	Raw seafood	Seafood	I	-	-	R	-	-
MVA38	Raw seafood	Seafood	I	-	R	-	-	-
MVA41	Raw seafood	Seafood	I	-	-	R	-	-
MVA44	Raw seafood	Seafood	I	-	-	R	-	-
MVA47	Raw seafood	Seafood	I	-	-	R	-	-
MVA56	Raw seafood	Seafood	I	-	-	R	-	-
MVA62	Raw seafood	Seafood	II	-	-	-	-	R
MVA65	Raw seafood	Seafood	I	-	-	R	-	-
<i>Ready-to-eat: total tested n=34</i>								
MRE21	Ready-to-eat	Deli meat (bacon breakfast griller)	II	-	-	R	-	-
MRE40	Ready-to-eat	Deli meat (cheese griller)	I	-	-	R	-	R
MRE17	Ready-to-eat	Deli meat (pepper beef)	II	-	-	R	-	-
MRA04	Ready-to-eat	Fresh produce	I	-	-	R	-	R
MRE32	Ready-to-eat	Fresh produce (coriander after dipping)	I	-	-	R	R	R
MRE38	Ready-to-eat	Hummus	II	-	R	-	-	-

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Sample	Category	^a Subcategory (additional description, as provided by supplier)	^b Lineage	Ampicillin	Chloramphenicol	Erythromycin	Gentamicin	Tetracycline
MRE07	Ready-to-eat	Hummus	II	-	-	R	-	-
MRE08	Ready-to-eat	Hummus (red pepper)	II	-	-	R	-	-
Hb6	Ready-to-eat	Polony	II	-	R	-	-	-
Hb4	Ready-to-eat	Polony	II	-	R	R	-	R

^aIsolates from the same category are not necessarily from the same retail outlet, or environmental origin. Isolates with similar descriptions are not referring to duplicates.

^bThese isolates were characterised into lineage groups by PCR-RFLPs [51].



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