

## **Antimicrobial resistance of *Listeria monocytogenes* and *Listeria innocua* from meat products and meat-processing environment**

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### **Abstract**

A total of 336 *Listeria* isolates from ready-to-eat (RTE) meat products and meat-processing environments, consisting of 206 *Listeria monocytogenes*, and 130 *Listeria innocua* isolates, were characterized by disc diffusion assay and minimum inhibitory concentration (MIC) values for antimicrobial susceptibility against twenty antimicrobials. Resistance to one or two antimicrobials was observed in 71 *L. monocytogenes* isolates (34.5%), and 56 *L. innocua* isolates (43.1%). Multidrug resistance was identified in 24 *Listeria* isolates, 18 belonging to *L. innocua* (13.9%) and 6 to *L. monocytogenes* (2.9%). Oxacillin resistance was the most common resistance phenotype and was identified in 100% *Listeria* isolates. A medium prevalence of resistance to clindamycin (39.3% isolates) and low incidence of resistance to tetracycline (3.9% isolates) were also detected. *Listeria* isolates from RTE meat products displayed higher overall antimicrobial resistance (31.3%) than those from the environment (13.4%). All the strains assayed were sensitive to the preferred antibiotics used to treat listeriosis. Results showed that although antimicrobial resistance in *L. monocytogenes* still occurs at a low prevalence, *L. innocua* can form a reservoir of resistance genes which may transfer between bacterial species, including transference to organisms capable of causing disease in humans.