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## Expression of major virulens genes of *Listeria monocytogenes* isolated from cattle, sheep and chicken

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**S**tatement of the Problem: *Listeria monocytogenes* is a zoonotic food-borne bacteria that leads to a variety serious infections in humans such as encephalitis, meningitis, abortion and septicemia. Most *L. monocytogenes* strains can cause high morbidity and mortality depending on their virulence, however some strains don't cause any infections in mammals due to absence of their virulence factors. *L. monocytogenes* provides its pathogenicity with virulence factors such as *hlyA*, *actA*, *inlA*, *inlB*, *inlC*, *inlJ*, *plcA*, *plcB* genes and *vip*, *fbpA* and *fri* which are recently reported. The presence of these genes is just as important as the expression levels that play an important role on its pathogenicity. Therefore, this study was aimed to detect the important virulence genes and expression levels of *L. monocytogenes* isolated from cattle, sheep carcasses and chicken (broiler) neck skin samples during slaughtering in Turkey. Methodology & Theoretical Orientation: In the study 31 *L. monocytogenes* isolated from 5 cattle, 3 sheep carcasses and 10 chicken neck skin samples were analyzed by real time RT-PCR for the presence and expression levels of major virulence genes including *hlyA*, *actA*, *inlA*, *inlB*, *inlC*, *inlJ*, *plcA*, *plcB*, *vip*, *fbpA* and *fri*. In the study *spoG* was used as house-keeping gene. Findings: According to the real time RT-PCR, *hlyA*, *actA*, *inlA*, *inlB*, *inlC*, *inlJ*, *plcA*, *plcB*, *fbpA* and *fri* genes were detected from all the isolates. However 5 isolate were not harbor *vip* gene. Six virulence genes were up regulated in a chicken isolate that has the highest virulence potential compared with the other *L. monocytogenes* isolates. Conclusion & Significance: Most of the *L. monocytogenes* isolates harbored all the 11 virulence genes. Some were up regulated, some were down and some were expressed as same as the house-keeping gene. Genetically, most virulent *L. monocytogenes* was originated from chicken and its serotype was 1/2a.

### Biography

Naim Deniz Ayaz is Professor of the Department of Food Hygiene and Technology at Kirikkale University Faculty of Veterinary Medicine. He received his PhD in Food Hygiene and Technology from Ankara University in 2008. His main research interests are food microbiology, characterization of food-borne pathogens, bacteriophages, biocontrol of pathogens and bacterial antibiotic resistance.

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