DIVERSITY OF *LISTERIA MONOCYTOGENES* ISOLATED FROM HUMANS, FOOD, AND ENVIRONMENTAL SOURCES IN NORWAY

Olav Rosef[1,2], Halvdan Klæboe[1], Algimantas Paulauskas[2], Daiva Ambrasienė[2]
[1]*ATP-Innovation, 3800 Bø i Telemark, Norway. Tel. +4791714454, E-mail: orosef@online.no*
[2]*Vytautas Magnus University, Department of Biology*
Vileikos str. 8, Kaunas LT-44404; Lithuania
Tel. +370 37 32 79 02; Fax. +370 37 32 79 16; E-mail: a.paulauskas@gmf.vdu.lt

Abstract. A total of 325 *Listeria monocytogenes* isolates from human, food and environmental sources were ribotyped with the Qualicon Automated Riboprinter Microbial Characterization System, using the enzyme E*co*R1. The human isolates (n=137) represented all isolates from clinical cases in Norway from 1992 to 2005. The food and environmental isolates (n=188) were collected from different food related sources in Norway in the period 1989–2002. A total of 37 ribotypes were differentiated. Most common ribotypes (i.e., ribotypes represented by >5 isolates) were isolated from human as well as food and environmental sources. The exceptions were ribotypes DUP-1062D and 1058A, which were found only among food and environmental samples (14 and 5 times, respectively), and DUP-1042A, which was identified only among human clinical isolates. DUP-1030A, the most frequent ribotype among the human isolates, as well as ribotypes DUP-1042B, DUP-1042C, DUP-1049B and DUP-1062B were identified from both foods, environmental and human sources. DUP-1039C (n=54) and DUP-1045B (n=27) were frequently isolated from patients, food and environmental samples.

The isolates were classified into lineages based on ribotyping results. The lineage I strain DUP-1038B was isolated every year from 1992 to 2005 from the human clinical samples. Out of 137 listeriosis cases, 76 (55.6%) were caused by lineage II strains. We found a considerable overlap between ribotypes, lineages and isolation sources. It does not seem possible to establish food strain specific regulations for *L. monocytogenes* based on ribotyping.

Keywords: *Listeria monocytogenes*, human isolates, environmental isolates, food safety, ribotyping, lineages.