

## PRELIMINARY RESULTS REGARDING THE PREVALENCE OF CTX-M GENES IDENTIFIED IN *E. COLI* STRAINS ISOLATED FROM SLAUGHTERED PIGS

Marinela TIPIȘCĂ<sup>1</sup>, Andreea Paula COZMA<sup>2</sup>, Dragoș ANIȚĂ<sup>2</sup>,  
Adriana ANIȚĂ<sup>2</sup>, Gheorghe SAVUȚA<sup>2</sup>

<sup>1</sup>Sanitary-Veterinary and Food Safety Laboratory Iași County, Iași, Romania

<sup>2</sup>Faculty of Veterinary Medicine, “Ion Ionescu de la Brad” University of Agricultural Sciences  
and Veterinary Medicine of Iași, România

E-mail: marinelatipisca@yahoo.com

### **Abstract**

*Extended spectrum beta-lactamase (ESBL)-producing enterobacteriaceae and AmpC cephalosporinases are of major importance for public health because these bacteria have low sensitivity to antibiotics such as extended spectrum cephalosporins, which are antimicrobials widely used both in human and in veterinary medicine. Such strains, especially Escherichia coli (E. coli), have been frequently isolated from pigs too, production animals being considered carriers with major implications in the transmission chain of these strains in humans. The aim of this study was to characterise the molecular substrate of ESBL-positive E. coli strains isolated from slaughtered pigs from 3 slaughter houses from the Moldova area by identifying the CTX-M genes. After collection, the samples were primarily processed for phenotypical identification and confirmation of ESBL-positive E. coli strains. Bacterial DNA extraction for the target strains was carried out using the “boiled preps” method. Identification of the bla<sub>CTX-M</sub> (bla<sub>CTX-M-9</sub>; bla<sub>CTX-M-1</sub>) genes was carried out by PCR using the specific protocol. Molecular investigations revealed that out of the 118 analysed samples, the bla<sub>CTX-M-U</sub> gene was identified in 61% (72/118). Characterisation of the CTX-M groups signalled the presence of the CTX-M-I group in 44/72 (61.11%) of the analysed strains, and the presence of the CTX-M-9 group in 18/72 (25%) of the strains. This study emphasised a high prevalence of CTX-M enzyme-producing E. coli strains isolated from the caecum of slaughtered pigs.*

**Key words:** *E. coli*, CTX-M, slaughtered pigs