

# MICROBIOTEC 19

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## BOOK OF ABSTRACTS

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## III6. Health Microbiology and Biotechnology

### P275. Occurrence of *mcr-1* in *Escherichia coli* from rabbits of intensive farming

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**Background:** The emergence of mobile colistin resistance genes (*mcr*) is yet another challenge in the fight against antimicrobial resistance, with reports proving the dissemination of these genes in different countries and different environments, including food producing animals. Rabbit intensive farming is highly dependent on the use of antibiotics, making this animal species relevant in the epidemiology of antimicrobial resistance. **Objectives:** Three colistin-resistant *E. coli* strains recovered from intestinal content of necropsied meat rabbits reared in two intensive production systems in Portugal were characterized. The isolates were recovered in 2015 and 2016 during routine diagnostic.

**Methods:** Antibiotic susceptibility profiles were determined by disk-diffusion or reference broth microdilution method (colistin). The isolates were screened for *mcr*-(1-5) genes by PCR and sequencing. Plasmid characterization (PCR-PBRT/pMLST/sequencing) and location (S1-PFGE- hybridization) were performed. Isolates were subjected to conjugation assays using the recipient strain *E. coli* HB101. Clonal relatedness was assessed by MLST.

**Results:** These isolates were retrieved from three samples received in our laboratory in 2015 and 2016, amongst a total of 13 samples collected from five commercial farms. Two isolates were recovered from samples of kits fed with a commercial diet medicated with colistin, yet, one isolate was from a rabbit not exposed to colistin. All isolates were multidrug-resistant and presented colistin minimal inhibitory concentrations ranging from 4 to 8 µg/mL. They belonged to different clonal lineages and *mcr-1* was carried in IncHI2/ST2 (clones ST1589 in farm I and ST206 in farm II) or IncHI2/ST4 (clone ST1431 in farm II) plasmids, non-transferable by conjugation assays.

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