

ABSTRACT**RESISTANCE TO LINCOSAMIDES BY INACTIVATION AMONG ENVIRONMENTAL ENTEROCOCCUS**

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The aim of this study was to determine the mechanism of lincosamide resistance of *Enterococcus faecium* ADU1 strain. Transferability of lincosamide resistance was also tested. Lincosamide inactivation of this strain was determined by Gots' test. Presence of lincosamide inactivation genes *linA*, *linB*, *lnu(C)* and *lnu(D)* genes in ADU1 strain was tested and this strain was found positive for *linB*. Transferability of inactivation gene to *Enterococcus faecalis* JH2-2 strain was investigated by conjugation. Analysis of transconjugant's PFGE profile indicated a plasmidic transfer of resistance. Inverse PCR method was used to determine the genetic environment of *linB* gene. Sequence analysis of amplicon obtained by inverse PCR indicated that *linB* gene was carried on a previously described plasmid, pEF418. Using specific primers for pEF418E amplicons were obtained and sequence analysis confirmed that ADU1 carries pEF418.

Lincosamide inactivation genes were reported previously only in strains isolated from human and animal samples. To the best of our knowledge for the first time we showed presence of a lincosamides inactivation gene in an environmental sample. As a result presence of nucleotidyl transferases gene in environmental isolates was confirmed with our study. The fact that this gene is carried on a transferable plasmid indicates the possibility of quick dissemination of this gene in the environment.

Key words: *E. faecium*, *E. faecalis*, lincosamides, macrolides, streptogramins, *linA*, *linB*, *lnu(C)*, *lnu(D)*, antibiotic resistance