

## **High Occurrence of ST13 Clade C in Extraintestinal Pathogenic *Escherichia coli* (ExPEC) Isolated from Humans and Companion Animals in Sri Lanka**

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*Escherichia coli* (*E. coli*) sequence type 131 (ST131) is a globally disseminated multidrug-resistant clone. ST131 comprises three clades named A, B, and C. Clade A consists of the O16:H5 serotype, while B and C, which differ from each other by the *fimH* allele, consist of the O25:H4 serotype. Clade C contains three subclades named C0, C1 (non-M27 & M27), and C2. The clades and subclades of ST131 exhibit variations in antimicrobial resistance profiles and geographical distribution. The aim of this study was to identify the clades and subclades of *E. coli* ST131 isolated from extraintestinal infections in humans and dogs in Kandy and Batticaloa Districts of Sri Lanka, and to determine the variation in antimicrobial profiles and biofilm-forming ability. A total of 133 *E. coli* isolates collected from 117 humans and 16 dogs with urinary tract infections, endometritis, or septicemia were confirmed as ST131 by polymerase chain reaction (PCR) and used for the study. Multiplex PCR was performed using the primer sequences and PCR conditions described previously to assign the isolates to clades and subclades. The antimicrobial resistance patterns of the isolates were also determined for 16 antimicrobials following the guidelines of the European Committee on Antimicrobial Susceptibility Testing (EUCAST). The biofilm-forming ability of ST131 isolates was assessed by their ability to produce dark black colonies on Congo red agar medium. The results of antimicrobial susceptibility testing (AST) and biofilm formation were compared with 82 non-ST131 *E. coli* isolates from humans and dogs in the same locations. The overall antimicrobial resistance score of the isolates by summing the number of antibiotics to which an organism is resistant. PCR-based subclading revealed that 126 (94.7%) of the isolates belonged to ST131-clade C, with 59 (44.3%) in clade C2, 37 (27.8%) in clade C0, 21 (15.7%) in clade C1 (non-M27), and 9 (6.7%) in clade C1 (M27). Two isolates were unclassified, and five isolates belonged to clade B. ST131 clade C isolates showed significantly higher resistance ( $p = 0.001$ ) to ciprofloxacin (66.7%