

**IDENTIFICATION OF MOVABLE COLISTIN RESISTANT (*mcr*) GENE IN  
*Escherichia coli* ISOLATED FROM COMMERCIAL BROILERS, SRI  
LANKA**

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Colistin is considered as a last resort of antimicrobial against Gram-negative infection in human. Resistance to colistin in human was reported as a global issue and plasmid born mobile colistin resistant gene (*mcr*) became a significant threat to both human and animal in the recent past. The *mcr-1* was reported in different organisms suggesting a horizontal transmission in different bacterial species. Although colistin is banned in Sri Lanka, no information was published or found on colistin resistance either in human or livestock. Therefore, the objective of the study was to identify *mcr-1* in *E. coli* isolated from commercial poultry which was accepted as the indicator organism on antimicrobial resistance surveillance. *E. coli* were isolated from commercial broilers and identification was done by conventional bacteriological methods. Antimicrobial susceptibility testing was done by disk at diffusion test and samples were screened into *mcr-1* by conventional PCR test as described previously. All isolates were not shown a clear zone and phenotypic resistance had been observed in disk at diffusion test. Importantly, *mcr-1* was not identified in the isolates tested in the study. Although the exact reason is not known, lack of colistin usage in the field and absence of *mcr-1* may be considered as a possible reason for the explanation. In conclusion, no genetic evidence was found in the study for presence of colistin resistance in commercial broiler. Further, extensive studies are required with all *mcr* variants to exclude the risk of emerging colistin resistance in poultry in Sri Lanka.

**Keywords:** Colistin resistance, Gram-negative infection, PCR, Phenotypic and genotypic resistance