M03: Pathotyping of Swine *Escherichia coli* Strains

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*Escherichia coli* can exist as harmless commensals in the intestinal tracts of animals while others can be pathogenic. Pathogenic forms of *E. coli* can cause a variety of diarrhoeal diseases in hosts due to the presence of specific colonisation factors, virulence factors and pathogenicity-associated genes. In this study, a total of 527 presumptive *E. coli* were obtained from swine farms located in two states in Malaysia. Pathotyping targeting of the *VT, LT1, LT2, ST* and *eaeA* genes, which are associated with three pathotypes (*ETEC, EPEC* and *EHEC*), was performed and the prevalence of serogroup O157 *E. coli* was investigated. Out of 527 isolates, 357 (67.7%) were confirmed to be *E. coli* by PCR and ten isolates were verocytotoxin (*VT*) -positive but negative for *eae* (attaching and effacing) gene. All VTEC (verocytotoxin-producing *E. coli*) isolates were non O157. All VTEC were isolated from swab samples (nasal, rectal and tongue). Five of them were isolated from healthy pigs while another five were from unhealthy pigs. No significant correlation was found between the health conditions of pigs and the presence of the *VT* gene (*p > 0.05*). This report indicates that *eae*-negative VTEC was the most common *E. coli* pathotype isolated from local swine samples. *Eae* negative VTEC were thought to be less virulent than classical HEC, which possesses the *eae* gene. Although the VTEC isolates did not possess *eae* gene which is needed for the expression of full virulence, its presence should not be overlooked, as *eae*-negative VTEC has been reported to cause diseases worldwide.

M04: Blood, Faecal and Water-Borne *Salmonella* Typhi Exhibit High Clonality but Vary in Motility and Biofilm Forming Ability

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*Salmonella* Typhi (*S. Typhi*) exhibits unique characteristics as an intracellular human pathogen. It is incapable of infecting other living organisms, yet able to cause both acute and chronic infections displaying various disease manifestations, and is able to transform the human host into an asymptomatic carrier with periodical dissemination via urine and faeces. The principal factors underlying the unique lifestyle of motility and the biofilm forming ability of *S. Typhi* remain largely unknown and are therefore the main objective of this study. To do so, swim and swarm motility was performed with 0.25% and 0.5% agar concentration respectively; while biofilm formation was determined by growing the bacterial strains for 48 hours in 96-well microtitre plates. Out of 60 *S. Typhi* strains, all showed swarming ability with small, smooth, flat colonies on the agar surface that remained at the inoculation point. Only two strains were non-motile in the swim plate assay. Three swimming patterns of *Salmonella* Typhi were observed for swim assay: featureless (96.7%), bull’s eye (1.8%) and vortex (1.8%). The majority of strains (21; 38.2%) were found to be weak biofilm producers while 20 (33.3%) strains did not form any biofilm. Twelve and seven strains were moderate and strong biofilm producers, respectively. A high degree of variation was observed in swimming and swarming motility. No distinct correlation between motility and biofilm forming capability