

# EXAMINATION OF DIARRHEAL STOOLS IN HAT YAI CITY, SOUTH THAILAND, FOR *ESCHERICHIA COLI* O157 AND OTHER DIARRHEAGENIC *ESCHERICHIA COLI* USING IMMUNOMAGNETIC SEPARATION AND PCR METHOD

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**Abstract.** A total of 493 stool samples from diarrheal patients in Songklanagarind Hospital, in southern Thailand, were examined for *Escherichia coli* O157 by the culture method combined with an immunomagnetic separation (IMS) technique. *E. coli* O157 was not found, although the IMS-based method could detect 10<sup>2</sup>-10<sup>3</sup> CFU of artificially inoculated O157/g of stool samples. Polymerase chain reaction was also used for the detection and identification of diarrheagenic *E. coli* from 530 stool samples. The target genes were *eae* for enteropathogenic *E. coli* (EPEC), *stx* for enterohemorrhagic *E. coli* (EHEC), *elt* and *est* for enterotoxigenic *E. coli* (ETEC), *ipaH* for enteroinvasive *E. coli* (EIEC), and *aggR* for enteroaggregative *E. coli* (EAggEC). Fifty-eight diarrheagenic *E. coli* strains were detected in 55 stool samples (10%) from 32 children and 23 adults. These included 31 EAggEC strains (5.8%), 13 ETEC strains (2.5%), 13 EPEC strains (2.5%), and one EIEC strain (0.2%). EHEC was not detected. The diarrheagenic *E. coli* strains were found mainly in children under 2 years of age (24 of 32 children). EAggEC strains and ETEC strains were susceptible to several antibiotics whereas the EPEC strains exhibited resistance to these antibiotics.

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