Development of a PCR primer and a marker band for detection of E. coli from various sources based on arbitrary primer set.

ABSTRACT

Although, PCR methods aimed on the detection of genes associated with the pathogenicity of Escherichia coli have been reported, tests allowing the direct identification of this serotype are rare. In this study the Random Amplified Polymorphic DNA (RAPD) fingerprinting technique allowed genetic diversity assessment of 25 E. coli isolates of various sources. A highly significant finding from the DNA fingerprinting is the display of a predominant band at a size of 308 bp when arbitrary OPAE-10 primer was used. After sequencing this fragment primer called secD was designed to be used as PCR primer. secD primer pairs was highly specific to detect all isolates including E. coli O157: H7.

Keyword: Random amplified polymorphic DNA (RAPD); Uropathogenic E. coli (UPEC); Neonatal meningitis-associated E. coli (MNEC); University Putra Malaysia (UPM); Primer; Sequence.