Detection of diarrheagenic *Escherichia coli* isolated using molecular approaches.

**ABSTRACT**

Escherichia coli strains are among the major bacterial causes of diarrheal illness. There are now seven classes of diarrheagenic *E. coli* (DEC), namely enteropathogenic *E. coli* (EPEC), enterohaemorrhagic *E. coli* (EHEC), enteroinvasive *E. coli* (EIEC), enterotoxigenic *E. coli* (ETEC), enteroaggregative *E. coli* (EAEC), diarrhea-associated hemolytic *E. coli* (DHEC) and Cytolethal Distending Toxin (CDT)-producing *E. coli*. Due to the need for costly and labor-intensive diagnostic procedures, identification of DEC is difficult at standard laboratories. Therefore, Polymerase Chain Reaction (PCR) or dot blot has been used for genetic detection of DEC of 25 *E. coli* isolates from different sources. Amplification of eae (277 bp), bfp (266 bp), stx1 (154 bp), EAST (94 bp), stx2 (698 bp) and elt (450 bp) genes of a single product in separate reactions was produced. PCR showed ability to amplify and detected genes of the most common important categories of diarrheagenic *E. coli* isolates of different sources, it is possible implementation of this technique to diagnosis water, foodborne outbreaks related to *E. coli*. Dots blot and sequence analysis used to confirm the results of PCR.

**Keyword:** Cytolethal distending toxins; Diarrheagenic *E. coli*; Diarrheal illness; Enteroinvasive *E. coli*; *Escherichia coli*. 