

Molecular differentiation between *Shigella* and *Escherichia coli* using PCR Technique

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Abstract: Objectives: To Show molecular differential between two bacteria.

Methods: Multiplex polymerase chain reaction (PCR) detection of target four genes were used to differentiate *E.coli* from *Shigella* depends on: *uidA*, *lacZ*, *lacY* (coding for lactose permease), and *cyd* (coding for cytochrome bd complex) genes.

Result: PCR fragments of the predicted size (147,264,393,463bp respectively) were observed only for *E. coli* strains, but not for relatives as close as *Shigella* sp.

Conclusions: Lactose permease is found in only in *E.coli* but not in *Shigella* species that are so related to *Escherichia*.

Keywords : Multiplex PCR, *Shigella*, *E coli*, *uid A*, *lac Z*, *lac Y*, *cyd*.

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