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Molecular detection and characterization of shiga toxogenic *Escherichia coli* associated with dairy product

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Raw, unpasteurized milk can carry dangerous bacteria such as *Salmonella*, *E. coli*, and *Listeria*, which are responsible for causing numerous foodborne illnesses. The objective of this study was molecular characterization of shiga toxogenic *E. coli* in raw milk collected from different Egyptian governorates by multiplex PCR. During the period of 25th May to 25th October 2012, a total of 320 bulk-tank milk samples were collected from 10 cow farms located in different Egyptian governorates. Bacteriological examination of milk samples revealed the presence of *E. coli* organisms in 65 samples (20.3%), serotyping of the *E. coli* isolates revealed, 35 strains (10.94%) O111, 15 strains (4.69%) O157: H7, 10 strains (3.13%) O128 and 5 strains (1.56%) O119.

Multiplex PCR for detection of shiga toxin type 2 and intimin genes revealed positive amplification of 255 bp fragment of shiga toxin type 2 gene and 384 bp fragment of intimin gene from all *E. coli* serovar O157: H7, while from serovar O111 were 25 (71.43%), 20 (57.14%) and from serovar O128 were 6 (60%), 8 (80%), respectively. The results of multiplex PCR assay are useful for identification of STEC possessing the *eaeA* and *stx2* genes.

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