



2nd Global Conference on Agriculture

Berlin, Germany

09-11 Dec 2022

Genetic Characterization of *Escherichia Coli* O157: H7 Isolated From Meat in Tlemcen “Algeria”

Barka Mohammed Salih*, Cherif-Anntar Asma

Institute of applied sciences and techniques, Tlemcen University, Algeria

Abstract

In this study, we were interested in search of *E. coli* O157: H7, Shiga-toxin producing (STEC) in 230 samples of meat from different market located in Tlemcen city, Algeria. After enrichment and use of selective agents (Sorbitol Mac Conkey medium added with MUG supplement) that are intended to curb the growth of the annex flora, we have isolated 5 strains from meat.

These strains presented the main characteristics of *E. coli* O157: H7, non sorbitol fermenting and negative β -Dglucuronidase, were biochemically tested for confirmation by the API 20E, and subjected to slide agglutination with the *E. coli* Latex kit O157:H7

Genetic characterization revealed that all strains possess the genes *stx2* and *ehxA* hemolysin, one strain does not possess the *eae* gene for intimin but instead it is the only strain that has the gene *stx1*.

The study of the resistance of the strains to antibiotics disclosed they are sensitive to all antibiotics tested, ampicillin (10 μ g), chloramphenicol (30 μ g), gentamycin (10 μ g), colistin 10 μ g, flumequin (30 μ g), enrofloxacin (5 μ g), nitrofurantoin (300 μ g), cephalotin (30 μ g), sulfamethoxazole-trimethoprim (1.25/23.75 μ g), nalidixic acid (30 μ g), norfloxacin (10 μ g), ofloxacin (5 μ g), kanamycin (30 μ g), neomycin (30 μ g), ceftiofur (30 μ g) and tetracycline (30 μ g). Isolates were classed as sensitive or resistant to each antibiotic according to the Clinical and Laboratories Standards Institute guidelines (NCCLS, 2003). *E. coli* strain ATCC 25922 was used for quality control.

Keywords: *E. coli* O157: H7, meat, *stx1*, *stx2*, antibiotics