

//

//

(.)

E.coli

stx2 stx1

stx2

EC-broth

ml

Intimin

STEC

(100mg/ml)

94-KDa

Stomacher

µg

(.)

eae

)

EC-broth

(% %)

STEC

o

(.)

DNA

PCR

PCR

(.)

stx2 stx1

(.)

% /

Escherichia coli EDL933

PCR

DNA

PCR

PCR

E.coli

PCR

eae

(.)

STEC

Kirby-bauer
()

TSB

SPSS

P-value

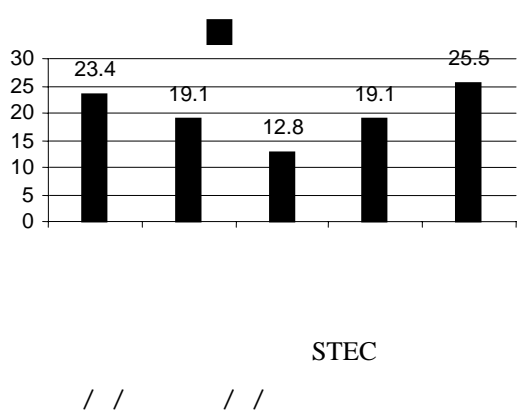
NCCLS

E.coli ATCC25222

(bp) PCR

(5'-3')

CAGTTAATGTGGTGGCGAG	
CTGCTAATAGTTCTGCGCTC	<i>stx1</i>
CTTCGGTATCCTATTCCCGG	
GGATGCATCTCTGGTCATG	<i>stx2</i>
TGCGGCACAACAGGCGGCA	
CGGTCGCCGCACCAGGATC	<i>eae</i>



(% /)

PCR

STEC

(%)

(% /)

(% /)

STEC

STEC

% / (/)

% / (/)

% /

%

% /

STEC

/ /

/ /

% /

%

% /

%

STEC

%

%

%

%

% /

% /

% /

%

%

%

PCR

STEC

% /

% /

% /

%

%

()

PCR

STEC

PCR

%

PCR

%

%

PCR

(%)

(% /)

stx₂

PCR

(% /)

stx₁ stx₂

eae stx₂

STEC

eae STEC

STEC

STEC

STEC

% /

()

()

E.coli O157:H7

STEC

STEC

% ,

% /

()

% /

()

%

()

E.coli O157:H7

STEC

(% /)

STEC

% , PCR

()

(% /)

()

(% /)

% /

STEC

STEC

STEC

STEC

(%)

stx2

()

(%) *stx2*

STEC

()

()

)

%

stx2

% / STEC

eae

()

eae

%

%

%

STEC

()

REFERENCES

1. Karmali MA. Infection by Verocytotoxin-producing Escherichia coli. Clin Microbiol Rev 1989;2:15-38.
2. Ostroff SM, Griffin PM, Tauxe RV, Shipman LD, Greene KD, Wells JG, et al. A statewide outbreak of Escherichia coli O157:H7 infections in Washington State. Am J Epidemiol 1990;132:239-47.
3. Tarr PI. Escherichia coli O157:H7 clinical diagnostic and epidemiological aspects of human infection. Clin Infect Dis 1995;20:1-8.
4. Louie M, de Azavedo JCS, Handelsman MYC. Expression and characterization of the eaeA gene product of Escherichia coli serotype O157:H7. Infect Immun 1993;61:4085-92.
5. Armstrong GL, Hollingsworth J, Morris JG. Emerging foodborne pathogens: Escherichia coli O157:H7 as a model of entry of a new pathogen into the food supply of the developed world. Epidemiol Rev 1996;18:29-51.
6. Doyle MP, Schoeni JL. Isolation of Escherichia coli O157:H7 from retail fresh meats and poultry. Appl Environ Microbiol 1987;53:2394-6.
7. Samadpour M, Ongerth JE, Liston J, Tran N, Nguyen D, Whittam TS, et al. Occurrence of shiga-like toxin-producing Escherichia coli in retail fresh seafood, beef, lamb, pork, and poultry from grocery stores in Seattle, Washington. Appl Environ Microbiol 1994;60:1038-40.
8. Sagara H. Treatment of enterohemorrhagic Escherichia coli O157 in human. Proc Jpn Soc Antimicrob Anim 2000;21:31-6.
9. Olsvik O, Strockbine NA. PCR detection of heat-stable, heat-labile, and shiga-like toxin genes in Escherichia coli. In: Persing DH, Smith TF, Tenover, FC, White TJ, eds. Diagnostic Molecular Microbiology: Principles and Applications. Washington, DC: ASM Press. 1993. pp:271-6.

-
10. Heuvelink AE, van de Kar NC, Meis JF, Monnens LA, Melchers WJ. Characterization of verocytotoxin-producing *Escherichia coli* O157 isolates from patients with haemolytic uraemic syndrome in Western Europe. *Epidemiol Infect* 1995;115:1–14.
 11. National Committee for Clinical Laboratory Standards (NCCLS). Performance standards for antimicrobial disc-A5. Villanova, Pa.USA. National Committee for Clinical Laboratory Standards. 1993.
 12. Kumar SH, Otta SK, Karunasagar I. Detection of shiga –toxicogenic *Escherichia coli* (STEC) in fresh seafood and meat marketed in Mangalore, India by PCR. *J Microbiol* 2001;33:334-8.
 13. Khan AS, Yamasaki TS. Prevalence and genetic profiling of virulence determinants of non-O157 Shiga toxin producing *Escherichia coli* isolated from cattle, beef and human cases in Calcutta, India. *Emerg Infect Dis* 2002; 8:54-62.
 14. Adwan GM and Adwan KM. Isolation of shiga toxicogenic *Escherichia coli* from raw beef in Palestine. *Int J Food Microbiol* 2004;97:81-4.
 15. Boel J, Aabo S, Mariager B. Prevalence of *Escherichia coli* O157 in meat in Denmark. Abstr V129/II in VTEC97 3rd International Symposium and Workshop on shiga toxin (vero toxin)-producing *Escherichia coli* infection, Baltimore, MD, USA 1997.
 16. Fantelli K, Stephan R. Prevalence and characterization of shiga-toxin producing *Escherichia coli* and *listeria mono cytogenes* strains isolated from minced meat in Switzerland. *Int J Food Microbiol* 2001;70:63-9.
 17. Chinen I, Tanaro JD, Miliwebsky E, Lound LH, Chillemi G, Ledri S, et al. Isolation and characterization of *Escherichia coli* O157:H7 from retail meats in Argentina. *J Food Prot* 2001;64:1346-51.
 18. Salmanzadeh AS, Habibi E, Jaffari F, and Zali MR. Molecular epidemiology of *Escherichia coli* diarrhoea in children in Tehran. *Ann Trop Paediat* 2005;25:35-9.
 19. Dontorou C, Papadopoulou C, Filioussis G, Economou V, Apostolou I, Zakkas G, et al. Isolation of *Escherichia coli* O157:H7 from foods in Greece. *Int J Food Microbiol* 2003;82:273-9.
 20. Khan A, Das SC, Ramamurthy T. Antibiotic Resistance, Virulence Gene, and Molecular Profiles of Shiga Toxin-Producing *Escherichia coli* Isolates from Diverse Sources in Calcutta, India. *J Clin Microbiol* 2002;40(6):2009-15.
 21. Mandel GL, Bennet JE, Dolin R (eds). Principle and practice of infection disease. 6th ed. New York, Churchill Livingstone 2005. pp:2655-60.
 22. Mora A, Blanco JE, Blanco M, Alonso MP, Dhahi G, Echeita A, et al. Antimicrobial resistance of Shiga toxin (verotoxin)-producing *Escherichia coli* O157:H7 and non-O157 strains isolated from humans, cattle, sheep and food in Spain. *Res Microbiol* 2005;156(7):793-806.
 23. Zhao S, White DG, Beilei Ge. Identification and Characterization of Integron-Mediated Antibiotic Resistance among Shiga Toxin-Producing *Escherichia coli* Isolates. *Appl Environ Microbiol* 2001; 67(4): 1558–64.

-
24. Schroeder CM, Zhao C, Roy CD. Antimicrobial Resistance of Escherichia coli O157 Isolated from Humans, Cattle, Swine, and Food. *Appl Environ Microbiol.* 2002; 68(2): 576–81.