

# **Frequency of CTX-M (broad-spectrum beta-lactamase enzyme production gene) in clinical strains of E.coli causing urinary tract infections isolated patients referred to public hospitals in Rasht March to August 2009**

seyedeh atefe alavi\*,

**Abstract** Escherichia Coli is one of the most common pathogens associated with nosocomial infection. Increasing use of beta Lactam Antibiotics in treatment of bacterial infections resulted in increments of drug resistance of such bacteria that is caused due to the production of Blactamase enzymes. The beta lactamase - producing bacteria especially E.coli which is resistant to beta lactam antibiotics may pose great risks for patients. This study was conducted to determine the prevalence of CTX B-lactamase in E.coli isolates collected hospitals in Rasht, Iran. In this study, 150 urine samples were collected Heshmat and Razi hospitals in Rasht. The samples were cultured on EMB agar and incubated at 37oC for 24 hours. E.coli isolates were detected in 50 samples using standard bio chemical tests. ESBL production was determined by combination disk method. Then, the susceptibility of isolates towards antibiotics was determined by standard disk diffusion method. The presence of CTX gene was determined applying PCR. 50 samples identified as Ecoli23 (46%) were ESBLs producing strains. PCR showed that 23 isolates 21(41%) contained CTX gene. Our study showed high frequency of CTX gene in ESBL producing isolates. This indicates the role of enzyme in resistance to beta lactam containing antibiotics. This issue poses a serious harm to public and all necessary actions should be taken to prevent and control this problem. **Keywords:** Escherichia Coli, ESBL, antimicrobial, resistant, blaCTX

---

**Keywords : Keywords: Escherichia Coli, ESBL, antimicrobial, resistant, blaCTX**

[Islamic Azad University, Rasht Branch - Thesis Database](#)  
[دانشگاه آزاد اسلامی، واحد رشت - سامانه بانک اطلاعات پایان نامه ها](#)