

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

يُزَفِّ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ يَعْلَمُ مَا تَعْمَلُونَ حَبِّرٌ

صدق الله العظيم

سورة المجادلة الآية 11

Dedication



To my parents

***To my husband and
sons***

***To my brothers, sisters
and Friends***

Acknowledgment

First of all thanks to ALLAH for giving me strength to complete this study

Great thanks to my supervisor Dr. Humodi Ahmed Saeed, Dean, College of Medical Laboratory Sciences, Sudan University of Science and Technology.

Also great thanks to Dr. Mogahid Mohamed El Hassan and all staff members in the Research Laboratory for their help.

Abstract

This study was carried out in Research Laboratory of Sudan University of Science and Technology during the period between December 2009 to May 2010, to detect extended spectrum beta-lactamase genes in *Enterobacter sakazakii*

Six bacterial strains were obtained from Research Lab. DNA was extracted from each strain using boiling method. Purity of DNA was conducted by run the extract on 1.5% agarose gel. Multiplex PCR technique was adopted to detect *bla* TEM, *bla* SHV and *bla* CTXM genes.

This study showed that 6 strains (100%) of *Enterobacter sakazakii* were positive for *bla* TEM gene and the other genes were not detected.

.The study concluded that TEM gene is responsible for ESPL in *E. sakazakii* strains

الخلاصة

اجريت هذه الدراسة في مختبر الابحاث بجامعة السودان للعلوم والتكنولوجيا في الفترة من ديسمبر 2009 الى مايو 2010 للكشف عن جينات البيتا لاكتاميزمنتدة الطيف في الامعائية السكاراكية. تم الحصول على ست سلالات من مختبر الابحاث. تم استخلاص الحمض النووي من البكتيريا بطريقة الغليان ثم أختبار نقاوة الحمض النووي بأسعمال 1.5% من الأجار الهلامي. أستعمل تفاعل البلمرى التسلسلي متعدد الأرسال للكشف عن جينات البيتا لاكتاميز وهي CTXM, bla SHV, blaTEM . أظهرت النتائج أن الست سلالات (100%) موجبة لجينات blaTEM فى الامعائية السكاراكية ولم يتم التعرف على باقى الجينات. خلصت الدراسة بأن جينات bla TEM هي المسئولة عن إفراز إنزيمات البيتا لاكتاميزمنتدة الطيف في الإمعائية السكاراكية .

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