

Dedication

I dedicate this work to my late

Mother and Father

To my brothers and sisters and

person who had helped and

encouraged me

Acknowledgment

At the outset praise to Allah, the most gracious, most merciful, for health, strength and patience to finish this study

I would like to express my gratitude to the supervisor Dr. Humodi Ahmed Saeed, Dean College of Medical Laboratory Science for guidance and advice during this Study

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Abstract

This study was conducted in the Research Laboratory in Sudan University of Science and Technology. The study was carried out during the period from December 2009 to May 2010, to detect TEM, SHV and CTX-M genes in ESBLs-producing *Salmonella paratyphi B*. The *Salmonella paratyphi B* strains were obtained from the Research Laboratory. All strains were checked for purity by sub-culturing on nutrient agar and examined microscopically. Bacterial DNA was extracted from each isolate using boiling method. Multiplex PCR was adopted to detect these genes. The result revealed presence of *TEM* gene only in Eight of the isolates. It is concluded that, *TEM* gene is the commonest gene in *Salmonella paratyphi B* isolates. Further studies with large number of bacterial strains are required to validate the present results.

المستخلص

هذه الدراسة تُفذت في مختبر البحوث في جامعة السودان للعلوم والتكنولوجيا في الفترة من ديسمبر/ 2009 إلى مايو/ 2010، للكشف عن الجينات (*TEM* و *SHV* و *CTX-M*) في السلمونيلا نظير التيفية ب المنتجة لإنزيمات بيتالاكتام الممتدة الطيف.

تم الحصول على سلالات السلمونيلا نظير التيفية ب من مختبر البحوث بالجامعة والتأكد من نقوتها بإعادة تزرعها على الأجرار المغذي ومن ثم فحصها مجهريا. تم استخلاص الحمض النووي منقوص الأكسجين للسلالات باستعمال طريقة الغليان. استخدمت طريقة تفاعل البلمرة المتسلسل المتعدد الإرسال للكشف عن هذه الجينات. أظهرت النتيجة وجود الجين *TEM* في السلالات الثمانية. وخلصت الدراسة إلى أن الجين *TEM* هو الأكثر شيوعا في سلالات السلمونيلا نظير التيفية ب وان دراسات اضافية بعدها كثيرة من السلالات الباكتيرية مطلوبة لاثبات هذه النتيجة.

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