

**Genotypic heterogenicity among  
Carbapenem susceptible and Non-susceptible  
Acinetobacter baumannii in a multicenter study**

**Thesis**

Submitted for the fulfillment of  
The Master degree (M.Sc.) in  
**Clinical & Chemical pathology**

**presented by**

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**Faculty of Medicine  
Cairo University  
2008**

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# Acknowledgment

*First of all, I would like to state my gratefulness and gratitude to **Allah** who floods his believers with blessings, faith and patience, to enable them to go on in life and continue their work.*

*I would like to express my gratitude to Professor Dr. **SOHAIR FATHY HELAL**, Professor of clinical & chemical pathology, Faculty of Medicine, Cairo University, for her unlimited guidance and fruitful discussion.*

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# List of abbreviations

## Abbreviation



# Abstract

Members of the genus *Acinetobacter* are considered among the important microorganisms incriminated in causing nosocomial infections. This genus is faced with many problems, one of them is its natural ability for acquiring drug resistance genes and virulence factors, with the appearance of *Acinetobacter* spp. showing resistance to the carbapenems, particularly imipenem.

The aim of this work is to establish phenotypic methods for identification of *A.baumannii* in routine work, study the genomic diversity among carbapenem susceptible and non-susceptible *A.baumannii* by a molecular technique namely (rep-PCR) & to demonstrate its usefulness in source tracing of nosocomial outbreaks due to *A.baumannii*.

Results showed the high percentage of imipenem-resistance among *Acinetobacter* spp. (62%) & the presence of a predominant clone in Cairo university hospitals detected by Rep-PCR technique.

## **Keywords :**

*Acinetobacter* spp.  
Nosocomial outbreaks  
Drug resistance genes  
Imipenem-resistance  
Rep-PCR technique

**التنوع الجيني بين ميكروب اسينيتوباكتر بومانيي  
الحساسية و الغير حساسة للكاربابينيم  
فى دراسة فى مراكز متعددة**

رسالة مقدمة من  
الطبيبة/ ريم مصطفى محمد احمد  
بكالوريوس طب و جراحة

توطئة للحصول علي درجة الماجستير

في

الباثولوجيا الاكلينيكية و الكيميائية  
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