



**Cairo University**  
**Faculty of Veterinary Medicine**  
**Department of Microbiology**

## **Bacteriological and Molecular Studies on *Listeria monocytogenes* Isolated from Rabbits**

A Thesis Presented  
By

**Mahmoud Kamel Abdel-Fattah Kamel**  
(B.V.Sc., Fac. Vet. Med., Cairo University, 2010)  
For the Master Degree  
In Veterinary Medical Sciences, Microbiology

**Under the supervision of**

**Prof. Dr. Khaled Farouk Mohamed**  
Professor of Microbiology Department  
Faculty of Veterinary Medicine  
Cairo University

**Dr. Sherif Abdel-monium Omar**  
Lecturer of Microbiology Department  
Faculty of Veterinary Medicine  
Cairo University

**Prof. Dr. Soad Abd El-Aziz Abd El-Wanis**  
Chief Researcher of Poultry Diseases  
Reference Laboratory for veterinary Quality Control on Poultry  
Production, Animal Health Research Institute, Dokki, Giza

**Cairo University**  
**Faculty of Veterinary Medicine, Microbiology**  
**(Bacteriology, Immunology and Mycology)**  
**(2015)**



## **Supervision sheet**

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**Department of Microbiology**

<b>Name</b>	Mahmoud Kamel Abdel-Fattah Kamel
<b>Nationality</b>	Egyptian
<b>Birth date</b>	20/6/1987
<b>Place of birth</b>	Giza
<b>Department</b>	Microbiology, Mycology And Immunology
<b>Degree</b>	Master
<b>Title</b>	Bacteriological And Molecular Studies on <i>Listeria monocytogenes</i> Isolated from Rabbits.

## **Abstract**

*Listeria monocytogenes* represent one of the most important pathogens that cause destructive economical losses in rabbit production, which also had gain public health concern as it can cause listeriosis in human. Due to the recent outbreaks, recalls and deaths associated with *Listeria monocytogenes* in rabbit farms affecting the rabbit production in Egypt. The objectives of the present study were to isolate, identificate *L. monocytogenes* using bacteriological examination and confirm the results by PCR and then detection of virulence genes (*prfA*, *inlA*, *inlB* and *hlyA*) in the isolated strains. One hundred samples were collected from diseased and apparently health rabbits. Out of 100 teseted samples, 32 samples were positive for *L. monocytogenes* by bacteriological examination, while 54 samples were positive using PCR. Where the best site for isolation of *L. monocytogenes* was from ear swabs (38.8%) then Liver (21.4%) but not detected in bone marrow using both techniques.

Virulence gene in the 54 positive *L. monocytogenes* isolates were detected using selected 4 sets of primers for *inlA*, *inlB*, *hlyA* and *prfA* genes , 26 samples were positive for *inlA* , 32 samples were positive for *inlB* , 31 samples were positive for *hlyA* and 27 samples

were positive for *prfA* by using PCR. Based on the study, PCR technique is more sensitive and rapid comparing to traditional bacteriological methods. In addition that virulence genes studies obtain accurate and specific identification and differentiation among *Listeria spp.* advanced studies should be applied to improve the efficiency of PCR technique for virulence study by complete gene sequence.

**Key words:** *Listeria monomcytogenes*, Rabbit, isolation , 16sRNA, chromogenic media , and Virulance genes.

*This thesis*  
*Is*  
*Dedicated*  
*To*  
*Kamel & Hoda,*  
*Mohammed*  
*&*  
*My little sister Mona*





## *Acknowledgment*

*In the name of Allah, the Most Gracious and the Most Merciful Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this thesis.*

*I would like to express my deep appreciation and sincere gratitude to **Prof.Dr. Khaled Farouk El-Amry** Professor of Microbiology Faculty of Veterinary Medicine, Cairo University, under whose supervision, guidance and criticism this work was carried out. I heartily thank him very much for his support and tender that Does not end.*

*And a greatfull thanks for **Dr. Sherif Abdel-monium Omar** Lecturer of Microbiology Department Faculty of Veterinary Medicine Cairo University for his supervision on this thesis*

*I express my sincere gratitude to his suggestions and advice given to me and the kind help for offering me much of his precious time and giving me the chance to carry out this work by **Dr.Soad Abdel-Aziz Nasf** Chief Researcher of Poultry Diseases Reference Laboratory for veterinary Quality Control on Poultry Production, Animal Health Research Institute, for her support, and great help in this study.*

*A very Special thanks to all of **Dr. Sara Abdel mawgood, Dr. Hend karam, Dr.Ahmed Erfan, Dr. Ahmed Samy and Dr. Amany Adel** for great help me through this work to achieve the final headlines of this work, I give my sincere acknowledge to **Dr.Abdel hafez Samir** For giving me hand whenever needed.*

*I am highly indebted to all staff members and all my friends of the RLQP,Animal Health Research Institute, for their kind help during the study.Iam greatly indebted to all and appreciate their continuous support, enthusiastic help, and good advices.*

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