



Cairo University  
Faculty of Veterinary Medicine



**Studies on the presence of Chicken B-cell  
marker 6 (*ChB6*) gene in some native Egyptian  
chicken breeds and the resistance to the  
Marek's disease virus**

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**Thesis Title: Studies on the presence of Chicken B-cell marker 6 (*ChB6*) gene in some native Egyptian chicken breeds and the resistance to the Marek's disease virus.**

**Abstract**

Breeds (Elmandra, Gimmizah, Sinai, Dandarawi, Anshase, Fayoumi, Golden Montazah , Matrouh, Beheri, Dokki) ,SPF Lohmann, **High** line, Bovans and **Rhode island** tested by PCR for the presence of resistant gene for marek's disease (CHB6) in Egypt and revealed that positive for 10 out of 14 breeds (Gimmizah, Sinai, Dandarawi, Fayoumi, Golden Montazah , Matrouh, Beheri, Dokki) also in SPF Lohmann and High line while negative for **Bovans**, Elmandra, Anshase and **Roodiland**). The purified positive PCR products were subjected to sequence and Phylogenetic analysis. Positive breeds containing CHB6 gene were experimentally infected by 0.5 ml of  $10^3$  PFU of MDV via subcutaneous route under the skin on the back of the neck in one day old unvaccinated chicks. Spleen samples were collected at 20<sup>th</sup>, 25<sup>th</sup>, 30<sup>th</sup>, 35<sup>th</sup> and 40<sup>th</sup> weeks revealed negative for the presence of challenged MDV by PCR in those mentioned 10 breeds and positive in Bovans breed. Transmission electron microscope (TEM) is used to confirm MDV infection in Bovans group which demonstrated tumors.

Histopathological pictures of brain, sciatic nerve, proventriculus, liver, spleen and kidney confirmed the negativity and positivity of the tested breeds for resistance to MDV infection.

Indeed, the study reports the existence of *ChB6* gene which found high related to the resistance to develop tumors in MDV-challenged 10 native breeds in Egypt.

**(Key Words:** ChB6 gene – Egyptian breeds – Marek's disease – Sequencing – Phylogenetic tree – TEM – Histopathology – PCR - Challenge test).





# DEDICATION

*Dedication To;*

*My beloved father whom I carry his name proudly,  
My great mother the secret of my power and success,  
My beloved brother  
My beloved sister,*

*Special Dedication To;*

*My husband Osama for faithful efforts & encouragement,  
My Lovely daughters (Maryam, Malak, Menna & Mi),  
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