



Cairo University  
Faculty of Veterinary Medicine  
Department of Virology



# **Isolation and Molecular Characterization of LSDV From Some Egyptian Governorates in Year 2017**

A Thesis Submitted by

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**For The Master Degree in Veterinary Medical Sciences  
(Virology)**

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# *Dedication*

*I dedicate this work to my  
Mother, Father and my lovely  
Roqaya, For all the support they  
lovely offered Also my brother  
Eng. Karim, both sisters Aml &  
Amany, My father-in-law and  
My mother-in-law for their  
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throughout this study.*





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**Abstract**

In this study LSDV was isolated from cattle with history of vaccination showing LSD signs to confirm LSD viral infection. Nodular samples were collected from cattle showing signs of LSD and Molecular detection of LSDV with conventional PCR was applied using G protein-coupled receptor (G-PCR) gene primer which revealed 93 positive samples out of 130 samples results for LSDV. Modern Isolation of LSDV was started on (CAM) and MDBK Cell culture was applied; Morphological identification was confirmed by using Transmission Electron Microscopy (TEM) also antigenic identification by using Virus Neutralization Test (VNT), and also serological identification was carried out by SNT using reference antisera. Genetic characterization was conducted on (G-PCR) gene segment of these isolates, ensuing that 4 samples were positive for LSDV. Sequencing of those 4 positive isolates revealed identity of LSDV by targeting (GPCR) gene which confirm that there is no genetic changes in LSDV, and phylogenetic analysis of LSDV at summer 2017 revealed that recent isolates has no genetic difference compared by other isolates from Egypt or Africa during previous few years. The study reports the circulation of LSD in cattle population in year 2017.

**Key words:** LSDV, MDBK, CAM, EM, SNT, SPV, PCR, Egypt.



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