شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

بالرسالة صفحات
لم ترد بالأصل

Cairo University
Faculty of veterinary Medicine

Assessment of Vector HVT-F Vaccine in one-day-old Chicks using Different Vaccination Programs and Quantification of Genome Load in Feathers and Immune Organs

A thesis submitted by

Rania Aly Mohamed Aly Abu Zaid

(B.V.Sc, Cairo University, 2004 ; M.V.Sc, Cairo University, 2011)

For the Degree of the PHD in Veterinary Medical Sciences (Virology)

Under Supervision of

Pro. Dr. Ahmed A. El-Sanousi
Professor of Virology
Faculty of Veterinary Medicine
Cairo University

Pro. Dr. Hussein Ali Hussein
Professor of Virology
Vice-Dean for Graduate studies and Research
Faculty of Veterinary Medicine
Cairo University

Pro. Dr. Susan Sayed El-Mahdy
Chief Researcher -Technical manager
Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo
CLEVB

Pro. Dr. Nasser Abbas Sherif
Chief Researcher
Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo
CLEVB

2020

Cairo University
Faculty of veterinary medicine
Department of Virology

Supervision sheet

Prof. Dr. Ahmed Abdel-Ghani El-Sanousi.
Professor of Virology - Faculty of Veterinary Medicine- Cairo University.

Prof. Dr. Hussein Ali Hussein.
Professor of Virology - Vice-Dean for Graduate studies and Research - Faculty of Veterinary Medicine - Cairo University.

Prof. Dr. Susan Sayed El-Mahdy.
Chief Researcher - Technical manager- Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo (CLEVB).

Prof. Dr. Nasser Abbas Sherif.
Chief Researcher- Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo (CLEVB).

Department of Virology

Name : Rania Aly Mohamed Aly Abu Zaid.

Nationality : Egyptian.

Degree : PHD Degree in Veterinary Science.

Specialization : Virology.

Supervisors:

1. Pro. Dr. Ahmed Abdel-Ghani El-Sanousi.
2. Prof. Dr. Hussein Aly Hussein.
3. Prof. Dr. Susan Sayed El-Mahdy.
4. Prof. Dr. Nasser Abbas Sherif.

Title of the thesis: Assessment of Vector HVT-F Vaccine in one-day-old Chicks using Different Vaccination Programs and Quantification of Genome Load in Feathers and Immune Organs.

Abstract

The Aim of this study was to evaluate the efficacy of rHVT-F vaccine according to quality control procedure in 1-day old broiler chicks (Identity, Sterility, Titration, Safety and Potency) and monitoring the comparative efficacy of several vaccination programs by prime -Boost strategy with live and inactivated ND vaccines and detect their effect on humoral and cell mediated immunity(CMI); The protection % post challenge with vvNDV genotype VII at 20 and 28 day old chicks post vaccination and the virus shedding was detected by RT-PCR assay. Recombinant rHVT-F followed by Live vaccine induced higher humoral, CMA, protection % and also reduced virus shedding compared to other program based on using rHVT-F followed by Inactivated or rHVT –F vaccine alone. Quantification of genome load in different immune organs [Bursa of Fabricious (B.F.), Thymus, Cecal tonsils (C.T.), Spleen and Feather follicle epithelium (FFE)] samples were taken weekly intervals for real time qPCR testing using primer specific to rHVT-F (Biomune) vaccine. Results revealed that positive amplification signals with comparable ct values in B.F. and Thymus samples peaked at 1st week then declined gradually while the signals were detected only at 2nd week in spleen , F.F. showed peak at 2nd week and still detected till 6th w. Easy sampling procedure of F.F.E. make it a sample of choice to study vaccine take. Viral load in lymphoid organ as well as NDV specific humoral immune response is considered a good parameter to be considered in vaccine induced protection. Vaccination quality control and assurance of vaccine uptake are also important for assessment of the efficacy of Recombinant vaccines.

Key words: rHVT, B.F, challenge, vvNDV, genotype VII, F protein, RT-PCR.

DEDICATION

Special Dedecated to :

The soul of my beloved father , A Great and Kind Dad , for Faithful effort and encouragement to believe in My self.

The soul of my beloved Mother , A Strong and Gentle Mom , who tought me to trust in Allah and believe in Hard work.

With All respect , Apperciation and Admiration

Acknowledgement

*First of all, I wish to express my deepest prayerful thanks to the merciful "**Allah**" who is always giving me everything I need for life and patience to achieve and complete this work.*

*I would like to express my gratitude and appreciation to **Prof. Dr. Ahmed El-Sanousi**, Professor of virology, faculty of veterinary Medicine, Cairo University, for his kind valuable supervision, kind advice, valuable directions in all steps and encouragement until the completion of this work. All thanks and appreciation.*

*My deepest gratefulness, appreciation and respect to **Prof. Dr. Hussein Aly Hussein**, Professor of virology, Vice-Dean for graduate studies and research, faculty of veterinary Medicine, Cairo University for his supervision, Advice, continuous help and issuing this work in the best possible scientific form. Also great thanks to him for long time that he gave to me to complete this work.*

*It is pleasure to record my deep appreciation to **Prof. Dr. Susan El-Mahdy**, Chief Researcher and Technical manager, Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo, for her supervision, her help and continuous encouragement as well as great efforts to supply facilities to accomplish this work.*

*I have pleasure to ensure my gratitude to **Prof. Dr. Nasser Abbas ,** Chief Researcher, Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo, for her his supervision, support, encouragement and Advice to finish my work.*

*I express my sincere gratitude to **Prof. Dr. Samir Abd El-Moaz,** Chief Researcher, Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo, for his kind support and supply facilities to achieve my work, Also Great thanks for my colleague **Dr. Ahlam A. Mourad** for valuable help.*

I wish to express my deep gratitude to ***Prof. Dr. Amal Ismail,*** *Chief Researcher, Central Laboratory for Evaluation of Veterinary Biologics, Abbasia, Cairo, for her valuable help and continuous stimulating advice.*

My deepest gratefulness and sincere gratitude to ***Prof. Dr. Abdel-Hakim Ali,*** *Chief Researcher, for kindness and faithful efforts to supply all facilities needed to finish this work when he was a Head of the central Lab for Evaluation of Veterinary Biologics, Abbasia, Cairo, All thanks and Appreciation.*

My great thanks to my friends and colleagues who supported and encouraged me to withstand all the difficulties I faced, and to all member stuff (Doctors, Technicians and Workers) at Central Lab for Evaluation of Veterinary Biologics (CLEVB).

My cardinal greetings to all of my Family members for their endless support and encouragement, So my great thanks and appreciation to my great Father and Mother who taught me since childhood to keep learning, and to my dear brothers, Mohamed and Amr and to my lovely sister Rasha, her husband Bassam and my sister in law Amira and Wafaa for their great help and sacrifice to finish my work , All thanks, appreciation and respect.

Finally, MY little angles: Nour, Nada, Farida, Aly, Malak and Mohamed, I wish to help all of you in your PHD later with my love and care.