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Lists of abbreviations

Ab: Antibody

Ag: Antigen.

AVIS: Advanced Veterinary Information System.

BHK: Baby hamster kidney.

CFT: Complement fixation test.

IP: Intervaccination period.

CPE: Cytopathic effects .

CRE: cis-acting replication element.

EITB: ElectroImmunotransfer blot assay.

ELISA: Enzyme linked immunosorbant assay**.**

EU FMD: European Commission for the control of Foot-and-Mouth disease**.**

FAO: Food and agriculture organization.

FMD: Foot and mouth disease.

FMDV: Foot and mouth disease virus.

HBSS: Hank's balanced salt solution

HTST: High temperature-short time.

IBRS: Instituto Biologico Rim Suino.

IRES: Internal ribosome entry site.

LPBE: liquid phase blocking sandwich ELISA.

L^{pro}: leader proteinase.

MAb: Monoclonal antibody.

MEM: Minimal Essential Medium.

NCR: Non-Coding Region.

NSP: Non-Structural Proteins.

OD: optical density.

OIE: Office International des Epizooties.

OP: esophageal-pharyngeal fluid.

ORF: Open reading frame.

PI: Percentage inhibition.

PKs: Pseudoknots.

RGD: Argenin-glycin-aspartic.

RNA: Riboneuclic acid.

RT-PCR: Reverse transcription polymerase chain reaction.

SAT: South African Territories**.**

SNT: Serum neutralization test.

SP: Structural proteins.

SPCE: Solid phase competitive ELISA.

ssRNA: Single stranded RNA**.**

SVDV: Swine vesicular disease virus

TAS: Thai Agricultural Standard.

TCID: Tissue culture infective dose.

TCP: Transmission control protocol.

UHT: Ultra heat treatment.

UTR: Untranslated region.

VIA: Virus infection associated antigen.

VNT: Virus neutralization test.

VP1: Virus proteins.

WRL: World reference laboratory.

6-Summary

Foot and mouth disease is one of the most important viral diseases affecting cattle, buffaloes and cloven-hoofed animals. It causes severe economic losses due to high morbidity, loss in meat and milk yields and their secondary complications.

So the disease becomes in the spotlight of the international and local levels in many countries to control and prevent its spread depending on early diagnosis of the disease, vaccination and strict quarantine measures in addition to good animal care.

The causative agent of FMD is a picornavirus of the genus Aphthovirus belonging to family Picornaviridae. The FMDV transmitted via inhalation, ingestion, and direct contact with infected animals.

FMD is prevalent in many parts of Australia, Asia, Europe and Africa, including Egypt.

Diagnosis of Foot and mouth disease depends on isolation and serological detection of virus antigen. Therefore the current study aims to conduct a Serological survey in addition to isolation and identification of the virus in cattle and buffaloes at different areas in Menofeia governorate.

The Applied tests have shown the following:

1- By using serum neutralization test for detection of FMDV serotypes O and A antibodies in cattle and buffaloes sera, a Serological examination of 230 serum samples obtained from 134 cattle and 96 buffaloes at different localities in Menofeia governorate.

It was found that the total positive sera for FMDV serotype O were 146 from 230 examined sera from which 99 (67.8%) and 47 (32.2%) were detected in cattle and buffaloes respectively. While it was found that the total positive sera for FMDV serotype A were 167 from 230 examined sera from which 114(68.3%) and 47 (31.4%) were detected in cattle and buffaloes respectively.

2- By using liquid phase blocking ELISA for detection of FMDV serotypes O and A antibodies in cattle and buffaloes sera, 230 serum samples obtained from 134 cattle and 47 buffaloes at different localities in Menofeia governorate.

It was found that the total positive sera for FMDV serotype O were 191 from 230 examined sera from which 117(61.2%) and 74 (38.7%) were detected in cattle and buffaloes respectively. While It was found that the total positive sera for FMDV serotype A were 178 from 230 examined sera from which 120 (67.4%) and 58 (32.6%) were detected in cattle and buffaloes respectively.

3- By using PrioCHEKIT FMD-ELISA for detection of non-structural protein antibodies against FMDV 230 serum samples obtained from 134cattle and 47 buffaloes at different localities in Menofeia governorate.

It was found that out of 73 positive sera 48(65.8%) and 25(34.2%) were positive for the presence of non-structural protein antibodies against FMDV detected in cattle and buffaloes sera respectively. Also screening of sera of cattle and buffaloes of one, two and three years old for non-structural protein antibodies of FMDV, The positive Ratios depending on the age ranged from 25.8% at one year, 32% at two years

and 34.7% at three years

4- Traials for Isolation of suspected FMDV from Buffy coat, epithelial tissue, OPF and saliva collected from infected cattle and buffaloes at different localities in Menofeia governorate by three blind serial passages on BHK21 cell culture. It was found that 11 samples induced cytopathic effect after 24-48 hours

5- By using Indirect sandwich Enzyme Linked Immunosorbent Assay (ELISA) for Identification and serotyping of field isolates of suspected FMDV showed that type A and O were detected in the examined samples by percentage of 9 out of 11 and 5 out of 11 respectively.