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Field evaluation of sheep pox vaccine in cattle, sheep and goat

BY

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Abstract

Sheep pox, goat pox and lumpy skin are serious diseases that cause a huge economic loss in Egypt. Sheep pox, goat pox, and lumpy skin are endemic diseases since their discovery in Egypt. Despite cross-protection between genus Capripox viruses, vaccination with living attenuated homologous and heterologous vaccines is the only effective way to control these diseases in Egypt. Although, the regular and prompt vaccination against Capripox virus diseases in Egypt, problems of vaccination failure and short duration of protection can occur. In this study, heterologous attenuated sheep pox vaccine was evaluated in cattle and goat, also, homologous Neethling vaccine and sheep pox vaccine were evaluated in cattle and sheep, respectively. All tested vaccines were evaluated for humoral and cellular immunity using ELISA, IFN-γ, lysozymes, and nitric oxide production in serum at the field conditions.

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CaPVs	Capripox viruses
ChPV	Chordopoxvirinae
dpi	day post infection
ELISA	Enzyme linked immunosorbent Assay
GPV	goat pox virus
GTP	Goat pox
ICAM	Intercellular Adhesion Molecule
IFN gamma	Interferon gamma
IL	Interleukin
iNOS	Inducible nitric oxide synthase
KS-1	Kenian sheep strain 1
LSDV	lumpy skin disease virus
MDBK	Madin darby bovine kidney cell
NO	Nitric oxide
PCR	Polymerase Chain Reaction
PV	Post-vaccination
RCT	Randomized Control Trial
RFLP	Restriction Fragment Length Polymorphism
RVFV	Rift Valley Fever virus
SCID	Severe Combined Immunodeficiency
SGP	Sheep goat pox
SPP	Sheep pox
SPSS	.Statistical Package for Social Sciences
SPV	sheep pox virus
STAT 3	Signal Transducer and Activator of Transcription 3
TCR signaling	T Cell Receptor Signaling
TGF	Transforming growth factor
β2M	the normalizing beta 2-microglobulin (β2M) housekeeping gene