Sandybayev Nurlan, J Vaccines Vaccin 2014, 5:5
http://dx.doi.org/10.4172/2157-7560.S1.020

OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Vaccines & Vaccination
September 24-26, 2014 Valencia Convention Centre, Spain

Live vaccine for equine influenza on the base of cold-adapted recombinant strain A/HK/Otar/6:2/2010

Sandybayev Nurlan
Research Institute for Biological Safety Problems, Republic of Kazakhstan

A new strategy of vaccination for equine influenza (EI) has been developed in past years in the western countries, especially in North America. Live vaccines from attenuated strain influenza virus are produced for more natural stimulation of immune systems. Immune response caused by natural infection, as opposed to immunity stimulated by inactivated vaccines, is more adequate and longer because of stimulation cellular and humoral immune response. The method of classical genetic is used for construction of recombinant strain for a candidate in vaccines. As donor HA and NA are used strain A/equine/Otar/764/07(H3N8) equine influenza virus actual for Kazakhstan and thus high yield and cold-adapted strain A/Kong Hong/168/162/35 (H3N2) (phenotype ts+ and ca+). The basic scheme of receiving re-assortants provides the following selective passages of parental viruses at presence of sera. The recombinant strain A/HK/Otar/6:2/2010 having HA and NA genes from the virulent strain and the internal genes from vaccine strain is the result. Correspondence of genomic composition of re-assortant is confirmed by PCR and sequencing. Absence of pathogenicity and toxicity on embryonated chicken eggs and the laboratory models are shown. The stability of re-assortant genome is shown on more than 20 passages in the embryonated chicken eggs. Live cold-adapted vaccine for prophylactic of equine influenza is produced on the base of strain A/HK/Otar/6:2/2010 (phenotype ts+ and ca+). Vaccine safety for foals, pregnant mares and adult horses is shown. The rates of humoral and cellular immunity of horse immunized by vaccine are studied. Expressed protective of vaccine challengeafter of horses by the virulent strain A/horse/Otar/764/07(H3N8) are shown. Animals of the vaccine challenge are protected 100% from disease. On duration of immunity, the twofold vaccination is protected from disease within 12 months.

Biography

Sandybayv Nurlan received a PhD degree in Microbiology in 2007. He is the Deputy General Director of the Research Institute for Biological Safety Problems at the Ministry Education and Science of the Republic of Kazakhstan and the Principal Investigator for molecular biology of viruses at the Laboratory of Molecular Biology and Genetic Engineering. He has authored and co-authored more than 172 scientific articles and abstracts, 7 books, and holds 34 author's rights for his work on PCR methods, viral and bacterial strains, DNA and RNA sequencing and vaccine development.

gaukhar_1973@mail.ru