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ASSESSMENT OF THE RISK OF CONTAMINATION WITH BVD VIRUS IN PREPARATION OF VETERINARY RABIES VACCINE

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The absence of contamination is necessary for all veterinary vaccine. However, the quality control does not always imply that vaccines are not contaminated. One of the prominent vaccine contaminations is the presence of a small amount of bovine viral diarrhea virus (BVDV) which can infect vaccinated animals. In case of preparation of rabies vaccine, the target animals dogs, and cattle especially in a high-risk environment. The contamination is sometimes inevitable since the vaccine is prepared in animal cultured cells that required fetal calf serum (FCS) as well as bovine serum albumin (BSA). Therefore, a constant quality control is required during all steps of vaccine preparation to determine the contamination with BVD virus. We, therefore, carried out *in vitro* experiments to determine the BVDV using both PCR and ELISA techniques. Samples of tissue culture cells of five different batches containing fetal calf serum were collected. Randomly, samples of BSA and FCS used for vaccine preparation were collected as well. A nested PCR carried out using specific primers for BVDV. An inactivated BVD virus was used as the positive control. The ELISA test was performed using an IDEXX BVDV Ag/serum plus kit. Fortunately, neither of RT-PCR or ELISA test results was positive with BVD virus during all steps of vaccine preparation. This could be because of both recruiting high-quality reagents and serums for tissue culture and inactivation of rabies virus with beta-propiolactone as a recommended agent for viral inactivation. Based on the results of our experiments, we concluded that a rabies vaccine preparation in our facility is safe enough for use in cattle as well as other animals.

BIOGRAPHY

Masoud Ghorbani has received his Doctor of Veterinary Medicine degree from the University of Tehran in 1985 and moved to Ottawa, Ontario, Canada in 1990. He enrolled in his PhD, program at the Department of Biochemistry at the University of Ottawa and was graduated with a PhD degree. He has extensive experience on developing innovative peptide and DNA vaccines against HIV and influenza viruses in animal models including mice, ferrets, and monkeys while he was appointed as a Senior Research Scientist at the Variation Biotechnologies Inc. in Ottawa, Ontario, Canada. He has also worked at the Department of Molecular Biology and Microbiology, Case Western Reserve University, Cleveland, Ohio, USA (2003-2004) as well as Children's Hospital of Eastern Ontario, Ottawa, Canada (CHEO) (2000-2003) as a Senior Research Associate. In 2008, he returned back to Tehran and started working at Pasteur Institute of Iran as an Assistant Professor. His current projects are mainly focused on quality control of rabies vaccine production as well as the development of new version of an oral vaccine for the use in animals.

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