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Development of subunit vaccine against hydropericardium syndrome using adenoviral recombinant proteins

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Hydropericardium syndrome (HPS) is a disease of poultry that is caused by fowl adenovirus-4. Inactivated liver homogenate from diseased birds is still the choice of vaccine in some countries which disseminates numerous pathogens along with inactivated virus. Moreover incomplete attenuation or inactivation, reversion to virulence and the oncogenic potential/genetic instability of the adenoviruses have prevented their use in routine vaccines. To address this issue an effort is made to develop a subunit vaccine. For this purpose 100K, penton base and short fiber proteins of HPS virus was expressed in Escherichia coli and used and subunit vaccine in broilers. Immunogenecity of the recombinant proteins and challenge protection test against pathogenic virus demonstrated the ability of recombinant penton base protein to confer 90% protection. Results suggest that the recombinant penton base protein is a candidate for subunit vaccine against HPS.

Biography

Muhammad Ali A. Shah is a Veterinary Pathologist and Biotechnologist, graduated from Faculty of Veterinary Sciences, University of Agriculture Faisalabad, Pakistan in 2000. He did his M.Sc. (Hons.) Pathology from Department of Pathology, University of Veterinary and Animal Sciences, Lahore, Pakistan in 2002. He enrolled his Ph.D. (Biotechnology) with National Institute for Biotechnology and Genetic Engineering (NIBGE) Faisalabad, Pakistan. He is working in Animal Sciences Division, Nuclear Institute of Agriculture and Biology (NIAB) Faisalabad, Pakistan. During 2009, he worked in Department of Pathobiology and Veterinary Sciences, University of Connecticut, Storrs, CT. USA as a visiting scholar for six months. In recent years he focused on the Recombinant DNA Technology for Vaccine Development, he worked for expression of viral genes in prokaryotic system and got success.

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