

Multiplex detection of classical swine fever virus (CSFV) specific IgG, IgM and IgA antibodies in swine immunized with *Alphavirus* expressed antigens

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Classical swine fever virus (CSFV) is an enveloped positive-stranded RNA virus, a member of the *Pestivirus* genus of the family Flaviviridae. It is a causative agent of classical swine fever (CSF), a highly contagious disease, threatens swine production globally. The production of antibodies following immunization is important to suppress viral infections. The aim of this study was to detect changes in the serum antibody response following vaccination against CSFV with an *Alphavirus* expressed E2 subunit vaccine. E2 and Erns are known to induce virus-neutralizing antibodies and play an important role in protective immunity in the natural host. E2 and Erns genes have been fragmented into several pieces and expressed in *Escherichia coli*. Purified proteins were covalently coupled to Luminex MagPlex® polystyrene, carboxylated microsphere beads. The target antigens were assembled into a single multiplex and tested against sera immunized with *Alphavirus* expressed antigens. To determine changes in CSFV-specific IgG, IgM, and IgA overtime, animals were vaccinated with *Alphavirus* expressed E2 and Erns antigens and serum samples were collected at 0, 7, 14, 21, 28, 35, 42 and 49 days post-infection. The IgG, IgM and IgA response against CSFV antigens were determined by multiplex FMIA. The results were reported as mean fluorescence intensity (MFI) and MFI converted to positive per sample (S/P) ratio. The results show that vaccinated animals had CSFV-specific IgG, IgM, and IgA in serum. Antibody response to CSFV antigens were IgG>IgM>IgA. The results demonstrated that the simultaneous detection of IgG, IgM and IgA antibodies could be providing an improved diagnostic tool.

Biography

Mohammad M Hossain has completed his PhD from Osaka University, Japan. He has published more than 20 papers in reputed journals and has been working with Dr. Raymond R. R. Rowland. Recently, he has been involved in a collaborative research program between Kansas State University and ABADRU, USDA, Manhattan, Kansas.

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