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Development of a competitive ELISA based on M2e protein as a DIVA tool for avian influenza virus

Noor Haliza Hasan[1,4], Jagoda Ignjatovic[2], Simson Tarigan[3], Anne Peaston[1] and Farhid Hemmatzadeh[1]
[1]The University of Adelaide, Australia
[2]The University of Melbourne, Australia
[3]Indonesian Research Center for Veterinary Sciences, Indonesia
[4]University Malaysia Sabah, Malaysia

As a part of highly pathogenic avian influenza virus (HPAIV) surveillance strategy, extracellular domain of M2 (M2e) protein is currently explored as positive antigen marker in differentiating antibodies of infected chickens from those which have been vaccinated (DIVA). This study opted to identify the potential of four monoclonal antibodies (mAb) generated through hybridoma technique against the H5N1 M2e peptide for the development of an M2e-based competitive ELISA (M2e c-ELISA). All four mAbs were tested against the sera obtained from chickens experimentally exposed to H5N1 and which were positive for M2e antibodies. Results showed that M2e antibody positive chicken sera compete effectively (90% - 93%) against all three mAbs for binding to the M2e protein. Development of a c-ELISA based on these mAbs could be useful as an alternative diagnostic test for DIVA application in H5N1 surveillance.

Biography

Noor Haliza Hasan is a PhD student in Veterinary Sciences at the School of Animal & Veterinary Sciences, The University of Adelaide, Australia. She is currently working on the development of recombinant phage displayed antibodies and antigenic mapping of the M2e protein of avian influenza virus. Attached to the University Malaysia Sabah, Malaysia, she is planning to focus her future research on looking into zoonotic diseases and animal reservoir.

nhalizahasan@gmail.com

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