Expression of Capsid Proteins and Replication Proteins of Waterfowl Circoviruses in Baculovirus System and Application in Serological Surveillance

Adviser: Student: Yoe-Wae Lin Date: 2007/5/17

Waterfowl circovirus is emerging infectious agents of geese and ducks. These viruses could invade lymphoid tissues and lead to immunosuppression that increases the chance of infecting other diseases (1). Waterfowls infected by circoviruses exhibited clinical signs including feather disorder, poor body condition and loss of body weight. Polymerase chain reaction (PCR) (2), dot blot hybridization, and in situ hybridization have been used to detect the viral DNA, and electron microscope can directly observe virion present in the tissue of infected birds. There is no in vitro culture system for waterfowl circovirus, and thus we developed a Western blot assay to detect the antigen and antibody of the waterfowl circovirus. The study uses baculovirus expression system to produce recombinant replication protein (Rep) and capsid protein (Cap) of waterfowl circovirus to establish Western blot system for serological diagnosis of waterfowl circoviruses (3).

Reference: