出席 2010 年世界豬病年會心得報告與
豬瘟病毒 E2 醣蛋白之抗原性分析

豬瘟研究組
張家宜　副研究員

摘要

世界豬病年會 (International Pig Veterinary Society; IPVS) 為兩年舉辦一次之國際重要豬隻學術研討會議，今年第二十一屆在加拿大溫哥華舉辦。本屆 IPVS 共接受一千多篇來自世界各國的學術論文發表，涵蓋豬隻健康、生產與管理、食品安全與動物福利等重要議題。本屆 IPVS 會議的重點主題為豬環狀病毒 (Porcine Circovirus; PCV)、豬生殖與呼吸綜合症 (Porcine Reproductive and Respiratory Syndrome; PRRS) 與豬流行性感冒 (Swine Influenza; SI)。藉由本次會議安排的技術參訪行程，造訪加拿大卑詩省之獸醫診斷實驗室，以深入瞭解國外診斷實驗室的作業流程，將可供作我國豬隻疾病診斷之參考依據。本次與會進行口頭報告之題目為：豬瘟病毒 E2 醣蛋白之抗原性分析。藉由分析不同基因型豬瘟病毒 E2 醣蛋白與單株抗體之作用結果顯示，E2 醣蛋白之 D 與 A domain 為抗原性相似區，而 B 與 C domain 的抗原性則在不同病毒株之間有差異存在，其中雙硫鍵與胺基酸 ^{771}LLFD^{774} 為維持 B、C domain 的抗原性所必須，而 ^{713}E 與 ^{729}D 為維持野外株病毒抗原特異性之胺基酸，^{705}D 與 ^{761}K 則為 LPC 疫苗株病毒抗原特異性之胺基酸。

21st International Pig Veterinary Society (IPVS) Congress / Analysis of antigenicity among various subgroups of E2 glycoprotein of CSFV

Chia-yi Chang
Associate Researcher, Division of Hog Cholera research

Abstract

International pig veterinary society (IPVS) is a prestigious international congress held every two years. The 21st IPVS congress, held in Vancouver, Canada, had included 263 oral presentations and 873 posters on the issues of pig health, production and management, food safety and animal welfare. The theme topics of this meeting were porcine circovirus diseases, porcine reproductive and respiratory syndrome and swine influenza. There was also a technical tour to the diagnostic labs and the level 3 microbiological facility of the Animal Health Center, British Columbia. My oral presentation was on the: Antigenic analysis among various subgroups of E2 glycoprotein of classical swine fever virus (CSFV). Our study displayed the differences in antigenicity of E2 between vaccine and field strains of CSFV by their variable reaction patterns between expressed proteins and monoclonal antibodies. The D/A domains of various CSFVs were relatively conserved, while the B/C domains were responsible for antigen specificity among various CSFVs, in which the disulfide bond and motif ^{771}LLFD^{774} were essential for maintaining the structural integrity of its conformational recognition. Our study further demonstrated that residues ^{713}E and ^{729}D were critical for antigenic specificity of Taiwan field strain 94.4/IL/94/TWN, while residues ^{705}D and ^{761}K were specific for the LPC/AHRI vaccine strain.