

口蹄疫非結構蛋白抗體 Luminex 檢測法之研發

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摘要

口蹄疫 (FMD) 係偶蹄類動物之高度傳染性疾病，在臨床症狀上，常造成感染動物之腳、蹄球、口腔、鼻、乳頭等部位出現水疱。為了研發一套具準確及敏感性的區別口蹄疫免疫與感染抗體的測試方法，本實驗室建立 Luminex 口蹄疫非結構蛋白抗體檢測法。目前以 805 支豬血清樣品進行口蹄疫非結構蛋白抗體之標準化確效試驗，結果顯示該檢測法之敏感性可達 100 %，而特異性可達 97.5~100 %，且與 ELISA 套組比較結果一致性可高達 90 % 以上。另與免疫色層分析測試片及 ELISA 等口蹄疫非結構蛋白抗體檢測法的比較分析結果，也呈顯著的正相關，故 Luminex 法可用於檢測口蹄疫非結構蛋白抗體。

Development of Luminex assay for detecting the antibodies against foot-and-mouth disease virus non-structural protein

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Abstract

Foot-and-mouth disease (FMD) is a highly contagious disease of cloven-hoofed animals. Animals infected by FMD virus (FMDV) showed vesicles on the feet, heel bulb, oral cavity, nose and teats. To develop a method with accurate and high sensitivity for the differentiating between the antibodies against FMDV derived from vaccination and those from infection, a Luminex assay was established for the detection of antibodies against non-structural protein of FMDV in our laboratory. A total of 805 pig sera were used for the evaluation of the Luminex assay. The results showed that the sensitivity of the assay was 100 % and the specificity of the assay was 97.5 % ~ 100 %. The agreement between the results from Luminex assay and those from the commercially available ELISAs was up to 90 %. Furthermore, the test results of Luminex assay had a significant correlation with those generated by chromatographic strip and ELISAs. The results revealed that the Luminex assay can be used for the detection of antibodies against NSPs of FMDV.