

# 水疱性口炎之標準診斷方法

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## 摘要

水疱性口炎(VS)之臨床症狀與口蹄疫(FMD)及豬水疱病(SVD)等頗為相似，常造成臨床診斷上難以有效地區別。試驗依據世界動物衛生組織 (Office International Des Epizooties; OIE) 陸生動物診斷試驗及疫苗手冊 (Manual of Diagnostic Tests and Vaccines for Terrestrial Animals) 建立 VS 病毒競爭型 (Competitive) 及間接型 (Indirect) ELISA 抗體檢測方法。試驗主要係針對 VS 之新澤西型 (New Jersey; NJ) 及印第安納型 (Indiana; IND) 二種血清型病毒基因組上具有特徵性的病毒表面蛋白如核衣殼蛋白 Nucleocapsid protein (N) 或封套醣蛋白 Glycoprotein (GP) 等高度免疫原性之抗原決定位進行分析。在試驗過程中建立具功能性之重組蛋白抗原，開發一套製程穩定且操作標準化之簡便、安定、敏感、特異性及兼具安全性之快速檢驗試劑方法，結果顯示分析敏感性可達  $10^{-3.0}$  倍及特異性可達 90.0 % 以上，且不會與口蹄疫抗血清產生非特異性反應，將可應用於牛及馬血清樣品之抗體檢測，以建立臨床水疱性疾病之血清學區別診斷方法。

# **Standard diagnostic test of vesicular stomatitis**

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## **Abstract**

There are three vesicular diseases of pigs which are difficult to differentiate clinically: vesicular stomatitis, foot-and-mouth disease, and swine vesicular disease. However, the envelope glycoprotein (GP) and nucleocapsid protein (N) of vesicular stomatitis virus (VSV) serotypes of New Jersey and Indiana can be used as a differentiated tool based on these proteins possessing a characteristic of high immunogenicity of the antigenic domain on their recombinant proteins. The study aimed to develop both competitive and indirect ELISAs for the detection of antibodies against VSV according to the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals published by OIE in 2012. Overall, both competitive and indirect ELISAs for antibody detections had been established based on experimental elements, such as convenience, stability, sensitivity, specificity and safety, etc. After testing the VSV antibodies in both infected bovine and horse sera, the analysis sensitivity and specificity had reached  $10^{-3.0}$  fold and up to 90.0%, respectively. The results indicated that the ELISAs can be used to detect anti-VSV antibody in the serum samples and do not cross-react with anti-FMDV antibody, so that would be used as a serological differential tool for vesicular diseases.