**口蹄疫疫苗試製與初步成果**

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**摘要**

 口蹄疫疫苗目前仰賴進口，但世界各大生產廠目前僅剩俄羅斯仍生產我國防疫所需知O/Taiwan/97疫苗，餘皆無生產。由於疫苗株的選擇須根據疫苗配對試驗結果，而世界上主要的疫苗株除O/Taiwan/97疫苗，目前僅O1/Campos稍可符合。為免將來我國無疫苗可使用之窘境，須儘速針對口蹄疫疫苗生產進行研發。我們根據國外文獻及其他國家疫苗生產流程與經驗，於實驗室內進行口蹄疫疫苗試生產。口蹄疫疫苗生產最重要的部分便是BHK細胞懸浮生產，目前我們已成功將BHK 21細胞懸浮培養於實驗室設備中，培養力價可達1.2x 106/ml。也已完成口蹄疫病毒O/Taiwan/97株的馴化，病毒力價可達1.27 x 107 TCID50/ml。而口蹄疫疫苗抗原純化與定量上，我們使用超濃縮純化去除口蹄疫病毒非結構蛋白，再以分光光電比色計確認抗原含量，抗原含量約3.15 μg/ml。此外，也使用國外口蹄疫疫苗常使用之油性佐劑ISA201與純化抗原混合後，免疫8頭豬隻進行效力試驗前試驗，結果顯示，免疫後4週中和抗體幾何平均力價可達34.896倍，而免疫兩次後目前非結構蛋白抗體皆呈陰性。

**The trial of FMD vaccine**

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**Abstract**

We have uesd FMD vaccine for FMD control in Taiwan. However, the major producers of FMD vaccine don’t produce the O/Taiwan/97 strain vaccine except the Russia company. According to the vaccine-matching test, the O1/Campos vaccine was selected and combined with O/Taiwan/97 vaccine for FMD control. We need to study the manufacture of FMD vaccine to response the shortage of FMD O/Taiwan/97 vaccine supply. According to the reference of FMD vaccine and the process of FMD manufacture in the major producers of FMD vaccine, we try to produce FMD vaccine in laboratory equipment. The BHK 21 cell was successfully adapted in suspension culture, the amount of cell density was 1.2 x 106/ml. The O/Taiwan/97 strain was also adapted to the suspension BHK cell, the virus titer was determined at 1.27 x 107 TCID50/ml. We use the ultrafiltration to remove the non-structure protein of FMD virus, and use the spectrophotometer to check the concentration of FMDV. The concentration of purified FMDV antigen was measured at 3.15ug/ml. We mix the oil adjuvant ISA 201 with purified FMDV antigen to make up the home-made of FMD vaccine, and immunized 8 pigs for the potency testing of neutralizing serum test. After 4 weeks of the immunization, the geometric mean of neutralizing antibody titer is 34.896, no any NSP antibody was detected at the second immunization.