

# 乾燥兔化豬瘟疫苗及豬瘟 E2 次單位疫苗誘發免疫反應之不同機制探討

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## 摘要

豬瘟病毒對免疫細胞具有特殊之親和性，造成白血球減少症及淋巴細胞之流失，因此免疫系統之傷害是該疾病最重要的致病機制。而一般免疫反應中特異性免疫反應對疾病的防禦極為重要。特異性免疫反應是由 B、T 淋巴細胞負責體液性及細胞性免疫反應，B 淋巴細胞辨識外來抗原之後，會分泌特異性抗體以中和外來抗原；T 淋巴細胞則包括 CD4+ 與 CD8+ T 淋巴細胞等則分別負責調控其他的免疫細胞作用及被感染細胞的毒殺作用等。本計畫對乾燥兔化豬瘟疫苗及豬瘟 E2 次單位疫苗誘發免疫反應之不同機制進行探討。結果發現注射疫苗後，監測各組體溫正常，精神、食慾狀況良好，並無精神不振之情形。另分析各組血液學發現各組織白血球及紅血球分佈並無顯著的差異。而檢測中和抗體力價，約略 14 天後有抗體產生，至 23 天後抗體呈陽性結果；而分析周邊血液單核球（Peripheral blood mononuclear cell；PBMC）中不同淋巴球細胞次族群之變化情形，發現 CD 4、CD 8、IgM、macrophage 在各組之間比例並無顯著差異；另檢測血液中 Interferon- $\gamma$ （IFN- $\gamma$ ）濃度，各組之間也無顯著差異。

# **Comparison of the Immune Response of Pigs Vaccinated with Frozen Dried Lapinized Hog Cholera Vaccine and E2 Subunit Vaccine**

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## **Abstract**

Classical swine fever virus is the most important pathogen for damaging the immune system for its high affinity to the immune cell, resulting in leucopenia, and lymphocytopenia. The humoral and cellular immune responses triggered by B and T lymphocytes respectively are extremely important ways against virus infection. As for B lymphocytes mediated immune response, the specific antibodies are produced while the foreign antigens are recognized. And T lymphocytes including CD4+ and CD8+ T lymphocytes are responsible for the infection of cells producing cytotoxicity to kill the infected cells and regulating the other immune cells as well. The project is aimed to compare the immune response effects of pigs vaccinated with the frozen dried lapinized hog cholera vaccine and the E2 subunit vaccine. The results showed that there was no significant difference in clinical observation, including body temperature, appetite and spiritual. The results of blood exams, such as white blood cells and red blood cells distribution were similar among groups. We observed that the neutralizing antibody against hog cholera virus began to appear on 14<sup>th</sup> day, and showed all positive on 23<sup>rd</sup> day post vaccination in both the frozen dried lapinized hog cholera and E2 subunit groups. In addition to the similar ratio of CD4, CD8, IgM, and interferon- $\gamma$  (IFN- $\gamma$ ) concentrations in the blood, no differences revealed in the results of analysis of peripheral blood mononuclear cells (PBMC) and other components in the blood as compared the control and vaccinated groups.