

# 102 年度臺日技術合作計畫：重組豬瘟病毒製備技術研習

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## 摘要

豬瘟 (Classical swine fever; Hog cholera)，是由豬瘟病毒所引起之高傳染性與高致死性疾病，一旦爆發疫情常造成畜主之嚴重損失。台灣自 1950 年代開始使用弱毒株兔化豬瘟病毒 (Lapinization Philippine Coronel, LPC) 免疫，在 2006 年前一直有零星的爆發。根據基因分析，發現豬瘟病毒株在 1996 年後由 2.1 亞型取代過去的 3.4 亞型。為了更深入探討不同基因型病毒對於豬隻之影響，需要建立重組豬瘟病毒技術。因此向北海道大學 Dr.Sakoda 實驗室研習重組豬瘟病毒製備技術，本次研修之重點項目，包括有體外重組 RNA 轉錄，重組 RNA 的細胞轉染作用及重組豬瘟病毒篩選。期望未來能夠進一步利用重組豬瘟病毒技術，探討不同基因型別豬瘟病毒致病機轉。

# **2013 Technical Cooperation Project between Taiwan & Japan- Study of Recombinant Classical Swine Fever Virus Technology**

Yu-Ju Lin

## **Abstract**

Classical swine fever (CSF) is a highly contagious viral disease of pigs. It has a high mortality rate and results in severe economic losses in Taiwan. The attenuated lapinized Philippine Coronel (LPC) vaccines have been used to protect pigs from CSF virus infection since 1950; however, sporadic outbreaks were still observed until 2006. In addition, phylogenetic studies show that the viral strains of CSF isolated from the field after 1996 were grouped as genotype 2.1 instead of genotype 3.4, indicating evolution constantly occurred in this virus. To investigate the gene elements of CSF virus that may increase virulence in pigs, reverse genetic technologies was studied in Dr. Sakoda's laboratory at Hokkaido University. The session included in vitro RNA transcription, transfection of porcine cells and virus rescue. The long term goal of the project is to study the pathogenesis of various genotypes of CSF virus with this learned recombinant reverse genetics techniques in the future.