• 計畫中文名稱	豬環狀病毒第二型快速診斷技術之開發與研究		
• 計畫英文名稱	Development and Study of Rapid Diagnostic Techniques for PCV-2		
• 系統編號	PW9711-0347	• 研究性質	應用研究
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• 執行機構	台北醫學大學醫學系		
• 年度	97 年	• 研究經費	790 千元
• 研究領域	畜牧獸醫類		
• 研究人員	林時宜,梁有志		
• 中文關鍵字	--		
• 英文關鍵字	--		
• 中文摘要	豬環狀病毒第二型主要引起仔豬離乳後多系統消耗症(PMWS)，本病主要感染 5-12 週齡豬隻，臨床可見患豬呈現漸進性消瘦、蒼白、食慾減退、下痢及黃疸等症狀，近年來造成養豬業者重大之損失。由於豬環狀病毒第二型感染後會造成豬隻免疫系統功能降低，對於未來疫苗接種亦或是其他病原之二次感染有極大之影響，因此，對於田間疑似感染之豬隻，快速而準確的診斷技術是非常重要的。近年來由於分子生物技術的進步，許多快速增幅核酸之技術不斷被開發出來，由於恆溫環形核酸增幅法(Loop-mediated Isothermal Amplification, LAMP)只需簡單的設備(恆溫的水浴槽或加熱板)以及容易操作，非常適合於田間大規模的篩檢及現場的檢疫工作。因此本計畫擬採用恆溫環形核酸增幅之新技術開發豬環狀病毒第二型之快速診斷方法，期能對我國養豬農業及環狀病毒之防疫有所貢獻。		
• 英文摘要	Polymerase chain reaction (PCR) technique is a convenient method and has been invented to amplify specific nucleic acid sequences. In addition, the nucleic acid amplification techniques have greatly improved in recent molecular biology. However, the common PCR technique needs a well-equipped laboratory and specially designed thermal cycler to perform the following experiments. In the field, there is always no specific equipment and laboratory and becomes difficult to carry out disease diagnosis, and need more time to perform PCR. Recent research have developed several reliable and convenient techniques to detect virus nucleic acid by nucleic acid amplification method, such as isothermal amplification techniques that including nucleic acid sequence		

	bases amplification, strand displacement amplification, and loop-mediated isothermal amplification (LAMP). In particular, the LAMP technique needs less equipment and are more convenient to carry out compared to other techniques. In this plan, we will develop a method for rapid detection of the specific sequence of Procine Circo Virus Type 2 (PCV-2) nucleic acids using LAMP technique. After mixing the extracted nucleic acids with specific primers, the reaction will perform under the certain temperature and be visualized the results by electrophoresis in gel. The development in the detecting technique for PCV-2 by applying LAMP may profoundly help the establishment of rapid field diagnosis of PCV-2 and prevention of disease outbreak.