豬第二型環狀病毒抗原決定位及其免疫學研究

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摘要

豬第二型環狀病毒是一種小型無封套病毒，具有單鏈環狀 DNA 基因組，是豬環狀病毒相關疾病的病原體。豬第二型環狀病毒對環境條件具有很強的抵抗力，它會影響豬肉產業生產。因此，商品化豬環狀病毒疫苗常用來降低豬群中的豬第二型環狀病毒感染壓力。本研究目的在探討豬第二型環狀病毒的抗原決定位及其與豬第二型環狀病毒感染豬群免疫的關係。為了辨識豬第二型環狀病毒的蛋白質，在本研究中生產很多單株抗體，並使用這些單株抗體和其他抗體來標識殼鞘蛋白質和其他病毒蛋白質，以確定病毒感染細胞和類病毒樣顆粒中的結構性抗原決定位。在本試驗中還發現了抗原決定位與環狀病毒感染豬群中豬抗體反應之間的關係。研究結果顯示，在接種或未接種疫苗的同一豬群中，每種抗病毒蛋白質的免疫球蛋白 G 的曲線都不同。

The epitopes of porcine circovirus type 2 and their immunological study

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Abstract

Porcine circovirus type 2 (PCV2) is a small, non-enveloped virus with a single-stranded circular DNA genome and the causative agent of porcine circovirus-associated disease. PCV2 is highly resistant to environmental conditions and it impacts pork production. Therefore, there has been used of commercial PCV2 vaccines have to reduce PCV2 infectious pressure in swine herds. This study aimed to explore the epitopes of PCV2 and its relation to PCV2-infected herd immunity. To recognize the proteins of PCV2, monoclonal antibodies (mAbs) were generated in this work. This study also used these mAbs and other antibodies to detect the capsid protein and other viral proteins to determine conformational epitopes in PCV2 virus-infected cells and the virus-like particle. The relationship between the epitopes and porcine antibody responses in the PCV2-infected herd was also discovered in this experiment. This research demonstrated that each anti-viral protein IgG had a different curve of the profile in the same herd with or without vaccination.