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Synergistic effect of antibacterial peptide with virus vaccine on the immunity of pig against PCV

Xiao-Ping Wan, Guang-Ming Bai, Xiao Yang, Yong-Shuai Tian, Hong-Ning Wang, Rong Gao

Key Laboratory for Bio-Resource and Eco-Environment of Ministry Education,
Key Laboratory for Animal Disease Prevention and Food Safety of Sichuan Province, Life Science College, Sichuan University, China

For sake of exploring a novel way to enhance the immunity of pig against virus infection, The experiment was carried out to immunize the thirty 6-week piglets with inactivated PCV and attenuated Hog cholera vaccine intramuscularly, and then they were orally fed with recombinant antibacterial peptides (ABP) expressed by *Saccharomyces cerevisiae,* which was mixed with feed at the ratio of 300 ppm for 5 weeks after the vaccination. The blood was collected to detect the changes of specific antibody by ELISA on 20, 22 and 24 weeks post vaccination, and to evaluate the expression level of IL-10, CD4 and CD8 gene by quantitative RT-PCR; the amount of PCV in blood was also assayed by real time PCR. The results were found that, compared with those of control piglets, the amount of specific antibody to CSFV and PCV increased significantly in the sera of piglets fed with ABP ($P<0.05$). Although the expression levels of CD8 gene was not obviously different with those of the control group, the expression level of CD4 significantly elevated in the immune cell from the treated piglets. Meanwhile, the IL-10 level markedly decreased in the treated pigs in comparison with that of the control. Furthermore, the amount of PCV was also significantly lowered in the treated piglets from 20 to 24 weeks after inoculation ($P<0.01$), implying the enhancement of virus clearance in the treated pig. These suggest that oral administration of ABP is probably an easy inspiring method to promote the immunity of pig against virus infection.

Biography

Xiao Yang is studying for her Ph.D at the age of 26 years in the college of Life Science, Sichuan University. She has published more than 6 papers in the field of animal genetics and immunology. She will graduate from Sichuan University next year, and try to continue her career as a postdoctoral student.