

Effects of sugar cane extract on Pseudorabies virus challenge of pigs

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摘要

Abstract

This experiment aimed to evaluate the efficacy of sugar cane extract (SCE) on the modulation of porcine immunity against pseudorabies virus (PrV) infection. Twelve-week-old experimental pigs were fed with SCE (500 mg/kg of body weight per day) for 3 days and challenged with PrV (2×10^5 TCID₅₀) on the second day. Pigs that were only challenged with PrV and without SCE-treatment served as controls. The leukocyte functional assays were performed on the 7th and 14th day post-PrV challenge. Our results showed a significant enhancement ($P < 0.05$) of natural killer cytotoxicity, lymphocyte proliferation, phagocytic function of monocytes, and interferon-gamma (IFN-gamma) production of CD4(+) and gamma delta T cells in the SCE-treated pigs compared with the controls. In addition, SCE administration reduced the severity of clinical signs and brain lesion in the course of disease in PrV-challenged pigs. SCE-treated pigs showed a 12% growth enhancement compared with untreated controls. SCE administration had an immunostimulating effect on porcine immunity that may subsequently enhance protective activities against PrV infection which may be extensively applied in field for the prevention of infections.