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Effects of pidotimod soluble powder and immune enhancement of Newcastle disease vaccine in chickens

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Pidotimod (PDM) represents a new class of biological response modifiers. It enhances immunological activity of both innate and adaptive immune systems. *In vivo* studies in animals and humans have demonstrated that PDM has immunoprotective activities. The aim of this study was to prepare PDM soluble powder and to investigate the immune enhancement properties of PDM in chickens vaccinated with Newcastle disease virus (NDV). The chickens were averagely divided into six groups, except black control group, which was vaccinated with NDV. At the same time of the vaccination, the chickens in three PDM groups were given water with PDM for five days, with the PDM at low, medium and high concentrations (0.25 g/L, 0.5 g/L, 1 g/L), respectively. The control drug group was treated with 0.2 ml/PDM dose via drinking water, in vaccination and black control groups, with equal volume saline, once a day for five successive days. On days 14, 21 and 28 after the vaccination, the growth performance, the lymphocyte proliferation, serum antibody titer, the CD4/CD8 cell ratios, interleukin-2 (IL-2) and interferon-gamma (IFN- γ) were measured. PDM at suitable doses (0.5 g/L) could significantly promote growth performance, lymphocyte proliferation, enhance serum antibody titer, CD4/CD8 cell ratios and improve serum IL-2 and IFN- γ concentrations. It indicated that PDM could significantly improve the immune efficacy of Newcastle disease vaccine using doses of 0.5 g/L, these results are consistent with the drug acting as an immunopotentiator.

Biography

Zhihui Hao has completed her PhD from China Agricultural University and Post-doctoral studies from Lanzhou Institute of Husbandry and Pharmaceutical Sciences of CAAS. She has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member in journals of repute.

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