

## **Immunoprotection of chickens against *Eimeria acervulina* by recombinant $\alpha$ -tubulin protein**

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### **Abstract**

Tubulins are heterodimeric molecules responsible for the polymerization of microtubules in apicomplexan parasites. The  $\alpha$ -tubulin, a subcellular structural protein of *Eimeria acervulina*, was cloned and expressed in *Escherichia coli* as an  $\alpha$ -tubulin-GST fusion protein. Immunogenicity of the recombinant protein was studied in chickens by subcutaneous injection of 50, 100, or 150  $\mu$ g of the protein with or without Freund's adjuvant. Immunization with 150  $\mu$ g  $\alpha$ -tubulin-GST protein in combination with Freund's adjuvant conferred partial protection against *E. acervulina* oocyst challenge, as shown by a 36% reduction in oocyst shedding, a marked decrease in intestinal lesion score and a significant increase in body weight gain in comparison with the nonimmunized controls. The results suggest that  $\alpha$ -tubulin protein may be used as an effective vaccine antigen for the control of *Eimeria* infection.

### **Keywords**

Body Weight Gain Coccidiosis Sporulated Oocyst Lymphocyte Proliferation Assay Duodenal Lesion

These keywords were added by machine and not by the authors. This process is experimental and the keywords may be updated as the learning algorithm improves.