

## PE14) Efficacy of *Hermetia illucens* Peptide Extract for Potentiating Vaccination Against the Avian Influenza in Broiler

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### 1. Introduction

Avian Influenza (AI) is one of the greatest concerns in the poultry industry because it is highly contagious and causes significant poultry mortality(Shortridge et al., 1998). Thus, effective vaccines are needed to increase the poultry immunity against avian influenza. To our knowledge, there is limited information on the use of *Hermetia illucens* peptide extract as an avian influenza vaccine in broiler chickens. We investigated the effects of avian influenza (H9N2) vaccine on Hemagglutination Inhibition (HI) titer in broiler chickens fed *Hermetia illucens* peptide extract for 3 weeks.

### 2. Materials and Methods

Forty-eight 21-day-old broiler chicks were divided into 4 groups (n=4 with 3 replicates per group): control, 0.1%, 0.5%, and 1% feed additives. All broilers (n=48) were subcutaneously vaccinated via the lateral thorax and the HI titer was measured. Diet and water were supplied *ad libitum* during the experiment. All data were analyzed by the SAS GLM procedure and one-way analysis of variance. The means of all groups were compared by the Tukey's test and the statistical significance was set at a probability level of  $P<0.05$ .

### 3. 결과 및 고찰

After 6 weeks, broilers in the 0.1% feed additive added group had similar HI titer to that of control. The 0.5% feed additive added group showed the most effective protective effects ( $P<0.05$ ), followed by the 1% feed additive added group. In conclusion, 0.5% and 1% *Hermetia illucens* peptide feed additive added diet before or after H9N2 vaccination improved HI titer in broilers.

### 4. References

Shortridge, K. F., Zhou, N. N., Guan, Y., Gao, P., Ito, T., Kawaoka, Y., Kodihalli, S., Krauss, S., Markwell, D., Murti, K. G., Norwood, M., Senne, D., Sims, L., Takada, A., Webster, R. G., 1998, Characterization of avian H5N1 influenza viruses from poultry in Hong Kong, *Virology*, 252, 331-42.

### 감사의 글

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