

Immunomodulatory Potential of Ingredient of PHYTOCEE® in Broilers : *Withania somnifera* (Ashwagandha)

OBJECTIVE

To investigate the oxidative stress amelioration effect of aqueous *Withania somnifera* root (WSR) extract in broiler chicks experimentally infected with *Escherichia coli* O78 @ 107 CFU/0.5 ml intraperitoneally.

MATERIALS AND METHODS

A total of 120 one-day-old chicks were divided into 2 groups viz. Group A and B containing 60 birds each. The birds of group B were supplemented with 20% aqueous WSR root extract. The birds of group A were provided drinking water without any supplementation. After 7 days of age, the birds of both the groups were further divided into 2 subgroups (Group A into A1 and A2, Group B into B1 and B2) of 25 and 35 birds, respectively. All the chicks of groups A2 and B2 were injected with *E. coli* O78 @ 1 X 107 CFU/0.5 ml intraperitoneally, whereas chicks of group A1 and B1 were injected with 0.5 ml sterile normal saline solution intraperitoneally. The immune parameters viz. antibody titers and lymphocyte proliferation were evaluated.

RESULTS

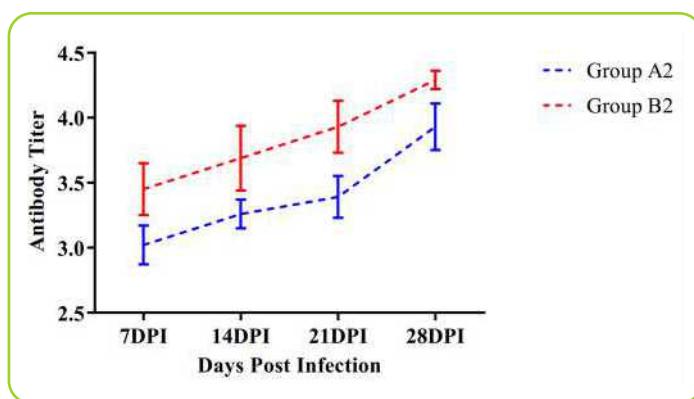


Figure 1 : Mean reciprocal log10 antibody titer against *E. coli* infection in all the infected groups

DPI, Days post infection

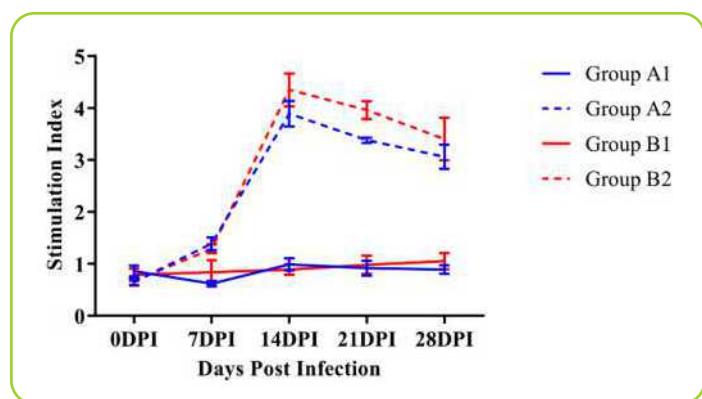


Figure 2 : Mean stimulation index of antigen-driven lymphocyte proliferation responses of broiler chickens in different experimental groups

DPI, Days post infection

CONCLUSIONS

This study results inferred that supplementation of 20% WSR extract enhanced the humoral and cellular immune responses suggesting its protective effect on limiting the pathology of *E. coli* infection in broiler chickens.

Reference:

Kumari M, Gupta R P, Lather D, et al. Ameliorating effect of *Withania somnifera* root extract in *Escherichia coli*-infected broilers. Poult sci. 2020;99(4):1875-87.