

Abstract:

Colibacillosis is one of the main diseases of industrial poultry due to the plenty of economic losses. Today, because of the antibiotic resistance of the bacteria, Different technologies are used which one of the best methods is egg yolk antibody (IgY) to prevent and treat the diseases. The purpose of this study was to Evaluate the Antibacterial Activity of egg yolk (IgY) against Escherichia coli, to prevent of yolk sac infection.

Methods: For this purpose, several infected herds with yolk sac were sampled and Escherichia coli were isolated. Then the bacterial acuity was determined in exposure to serum. After confirmation of bacteria serum function, the hens which were immunized with bacteria killed by formalin. IgY Escherichia antibody was successfully detected in the laying hen's serum by indirect elisa. Then IgY was purified from yolk with polyethylene glycol (PEG) 6000 and was evaluated after dialysis. The purified product was evaluated with protein measurement method to be insured that the produced product contains protein (IgY); then to evaluate the modality of purified protein, we used the SDS PAGE method. Therefore, the presence of this antibody in the purified product, was confirmed. Indirect Elisa was used in order to evaluate the efficiency of this antibody, Then, the effect of this antibody was tested on one-day-old chick.

Results: the findings indicated that vaccination of laying hens with the bacteria killed by formaline cause an increase in antibody titre in serum and egg yolk; indirect Elisa confirmed that the Concentrations of ≥ 78 ng of IgY in each aliphatic wells can react with antigen. It was revealed that the purified antibody is effective on prevention of Colibacillosis and it can be an appropriate alternative for using of antibiotics.

Key words: Egg yolk immunoglobulin (IgY), Escherichia, indirect elisa, dodecyl sulfate- Polyacrylamide gel electrophoresis PAGE, colibacillosis



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**Evaluation of purified IgY of hyper-immunized hen egg yolks against
Pathogenic E.coli in Broiler chickens in vitro and in vivo**

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