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Storage stability of anti-*Salmonella typhimurium* immunoglobulin Y in immunized quail egg

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Chicken egg yolk antibodies (IgYs) have been extensively used for immunotherapy and immunodiagnostic purposes. Oral immunotherapy with specific IgYs has been established as an efficient alternative to traditional antibiotic therapy in human and animals. Storing immunized eggs in refrigerator for a period of time could provide an inexpensive and convenient source of large volumes of specific antibodies. The aim of this study was to investigate the storage stability of anti-*Salmonella typhimurium* IgYs in immunized quail egg yolks at 4°C over a period of more than six months. *Salmonella* spp. free female Japanese quails (*Coturnix japonica*) were intramuscularly immunized with *Salmonella typhimurium* whole bacterial suspension (1.0×10^9 CFU/mL) emulsified with Freund adjuvants. During a period of 10 days after final immunization, eggs from each group were collected, randomized and stored at 4°C over a period of 200 days. Egg yolk IgY titer and specificity were determined using ELISA technique. *S. typhimurium* specific IgY antibodies were detected in immunized quails and were significantly higher than the control group which confirmed the immunization procedure. Eggs from immunized quails can be collected and stored in 4°C refrigerator over a period of two months without any concern about the antibody degradation. After 80 days of storage, although lower antibody titer was obtained in comparison to the first of study, anti- *S. Typhimurium* IgY level remained stable up to the six months without more significant declining. This trend will provide economical sources of polyclonal antibodies through reducing the number of immunized animals, management expenses and housing costs.

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