

Production of anti-lipase IgY and study on weight loss of mice ⁽¹⁾

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Abstract

The objective of this study was to evaluate the body weight control efficiency of the immunoglobulin in chicken yolk (IgY) specifically against lipase. This antibody was raised by intramuscular immunization to 10 White Leghorn hens with lipase as antigen and the ELISA method was used to analyze the antibody content of the immunized egg. The titer of specific IgY against lipase increased from the third week after the first immunization. The content of total IgY was 143.8 ± 18 mg/yolk, with the average concentration of specific IgY of $7.6 \text{ mg} \pm 0.4 \text{ mg/yolk}$ in the eggs from 3 to 20 wks after immunization. The investigation on body weight control efficiency of specific IgY indicated that this anti-lipase IgY was able to prevent obesity induced by a high-fat diet in mice. Our results suggested that anti-lipase IgY may be a good candidate as a natural dietary supplement which reduces intestinal absorption of extra dietary fat by inhibiting pancreatic lipase activity.

Key words: IgY, Lipase, Body weight control.

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