

Purification of immunoglobulin IgY from chicken egg yolk

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Recently chicken egg yolk has been considered as an ideal alternative antibody source. The production for antibody in eggs and the extraction of specific antibody from egg yolk are increasingly attracting the interest of the scientific community. Although some of the separated egg yolk components which are water, lipoprotein and protein are already commercialized, the separation efforts are limited to a pure component.

IgY has particularly a equivalent function with IgG which is in serum. This study was carried out to separate and analyze IgY from chicken egg. To perform this experiment, egg yolk powder diluted with cold water was centrifuged after adjusting the pH to 5.0. 0.01% carrageenan was added to reduce the lipid. The supernatant was filtered through a Whatman no. 1 filter paper. The concentrated sample was loaded onto a column equilibrated with 20 mM phosphate buffer at pH 7.0 and eluted with phosphate buffer and 1M NaCl. IgY was analytically separated by using ion exchange, gel filtration and high pressure liquid chromatography. By changing the amount of egg yolk powder, eluted height of peaks were quantitatively changed.