

PRODUCTION VITELLOGENIN ANTIBODIES FROM SERUM AND YOLK  
PROTEIN OF CHICKEN AS AN INDICATOR SUBSTRATE FOR DETECTING  
PRODUCTION OF NON CHOLESTEROL YOLK PROTEIN FROM CLONING  
VITELLOGENIN GEN ON *ESCHERICHIA COLI*

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Eggs are foodstuff which have high nutrient value, cause they have proteins which complete their amino acid that make them to be a better food for grow and healthy of general creature. Eggs also delicious to eat. Of course there are a good reason why the demand of eggs increase conform of times, especially buy fower and senses of eat which hight nutrient value are higher at this moment.

To increase the suply of hight demand, producted of eggs by keeping the layers of chicken - that have been doing now may not acceptable. Many problems start beginning from preproduced to during producing to be inhibit the suplay of hight demand. Advances of science and technology were able to help people to solving the problems. Discovered DNA as genetic material by Osward Avery (1943), to rise a new technology in biology. The technology was named biotechnology which genetic enggengering was it's a back bone. By the genetic enggengering, scientifics were able to exchange genetic material from individu to individu in the diffrence spesieses. Now why we don't do anything to exchange genetic material which encode eggs protein, especially yolk protein from hens to simple organism as like as bacteria ?

According to the idea above, this expriment would like to see the expression of gen vitellogenin from liver cells of hen, which was laying caused by effect of estrogens administration. The type of expression was a protein in the serum of blood which was detected by spectrophotometry and the electroforeces examination. The protein from treated animals were compared by the protein from untreated animals and yolk protein. Distinction between them in electroforesis, indicated the diffrence of expression caused by estrogen, and that means one of them wasa protein of vitellogenin. Further, the protein was made to antigen, and the antigen was introduced to rabbit for producing antibodi. The antibodi will be used as a bioindicator to production of yolk protein from *Escherichtia coli* that has been clonined by vitellogenin gen. In other hand mRNA which has been produced by the reseach of Suryanic (1999) will be reverse transcribed to copy DNA (cDNA) and then the cDNA will be cloned in *Escherichia coli* which carried expressive plasmid as a vector. Proteins will be produced by the clone to be challenged by antibody of vitellogenin.

Lodish et al (1986) said that dozens of substances produced within the body bring about differential; gene expression. The largest group of substance is the hormones. One of them is estrogens. Estrogens cause liver cells to increase in number and size and to secrete protein. Yolk protein normally formed in female liver and transported through the serum to the oviduct and from there into the egg. Yolk proteins were sinthetized on the based of encode of vitllogenin gene. The rate of transcription of this gene increases dramatically in cells of estrogen-treated youg chicks compared to untreated animals. Acumulation vitellogenin mRNA well known and the half-life of about 24 hours. After acute withdrawal of estrogens, the vitellogenin mRNA concentration falls abruptly, indicating a half-life of less than 3 hours. So by administrasion of estrogen hormonal, chickren will production vitellogenin protein in it's serum and yolk protein and from them vitellogenin would be isolated

The result of this reseach are :

1. After injected to the abbit, the protein vitellogenin gave responsibility to production of antibodi.

2. According to ELISA examination, the titers of that antibody was 1.385

