

C726980 : MAJOR BIOTECHNOLOGY

KEY WORD:

VITELLOGENIN / LIPOPHOSPHOGLYCOPROTEIN / RED SNAPPER

PHOCHIT WINOTAPHAN : PURIFICATION AND CHARACTERIZATION OF VITELLOGENIN

IN RED SNAPPER, *Lutjanus argentimaculatus*

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Vitellogenin was purified from plasma and egg of red snapper, *Lutjanus argentimaculatus* treated with 17β -estradiol (500 $\mu\text{g}/\text{kg}$ bw) by the chromatography method on a hydroxylapatite column and subsequently a Sephacryl S-300 column with a yield of 96.92% and 63.07%, respectively. SDS-polyacrylamide gel electrophoresis of vitellogenin obtained from either plasma or egg showed 5 bands at 140, 108, 95, 90 and 77 kDa. Non-denaturing polyacrylamide gel electrophoresis showed 4 bands which stained positively with Coomassie Brilliant Blue R-250, Sudan Black B, periodic acid-Schiff's reagent and methyl green. The results suggested that the protein was a lipophosphoglycoprotein. The phosphorus content of purified plasma and egg vitellogenin rendered alkali-labile for the purpose of measurement has been found to be 0.13% and 0.11% respectively. An application of the immunodiffusion test, antibodies against vitellogenin showed precipitin lines with purified vitellogenin from both plasma and egg, egg extract, mature female plasma and plasma of red snapper treated with 17β -estradiol, but not with the male plasma of red snapper. The standard curve of the purified vitellogenin could be established by the ELISA technique which could be used for vitellogenin determination as well.

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