

## Protein identification of vitellogenin in river catfish (*Hemibagrus nemurus*)

### ABSTRACT

Mass production of fish broodstock with high quality eggs requires the knowledge on the chemical composition and physiochemical properties of vitellogenin (Vtg) during ovulation. Vtg is an egg yolk precursor phospholipoglycoprotein, and has been analysed to evaluate the reproductive conditions and determine the spawning period in captive and wild fish. In this study, Vtg was induced in male *H. nemurus* through three intramuscular injections of 17-estradiol (E2). The Vtg was purified from the serum using gel filtration chromatography and the purified protein was reduced via SDS-PAGE. One major polypeptide corresponding to 130 kDa was observed. Vtg identification was done using peptide mass fingerprint (PMF) from the trypsin digestion of male *H. nemurus* Vtg induced with E2. The sequence homology of *H. nemurus* AYLAGAAADVLEVGVR matched the Vtg of other fish species when analysed using MALDI-TOF. Vtg was confirmed by MASCOT at 95% significant level. The potential protein that controls the reproductive process and oocyte development isolated from this study was discussed to understand the structure and function of Vtg.

**Keyword:** Vitellogenin; Chromatography; *Hemibagrus nemurus*; River catfish; MALDI-TOF