

## **Evaluation of acetylcholinesterase source from fish, *Tor tambroides* for detection of carbamate**

### **Abstract**

Acetylcholinesterase (AChE) from the brain tissue of local freshwater fish, was isolated through affinity purification. Acetylthiocholine iodide (ATCi) was preferable synthetic substrate to purified AChE with highest maximal velocity ( $V$ ) and lowest biomolecular constant ( $K$ ) at 113.60 U/mg and 0.0689 mM, respectively, with highest catalytic efficiency ratio ( $V/K$ ) of 1648.77. The optimum pH was 7.5 with sodium phosphate buffer as medium, while optimal temperature was in the range of 25 to 35 °C. Bendiocarp, carbofuran, carbaryl, methomyl and propoxur significantly lowered the AChE activity greater than 50%, and the IC value was estimated at inhibitor concentration of 0.0758, 0.0643, 0.0555, 0.0817 and 0.0538 ppm, respectively.