Janyabhorn Phetkhong 2010: Cloning and Sequencing of α- *Amylase* gene from Black Tiger Prawn (*Penaeus monodon*). Master of Science (Genetic Engineering), Major Field: Genetic Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Associated Professor Lertluk Ngernsiri, Ph.D. 85 pages.

α-Amylase is a major enzyme for digestion starch and glycogen in animals. In this study, α *–amylase* (*PmAmy*) isolated from Black tiger shrimp (*Penaeus monodon*) was cloned and sequenced using Rapid Amplification of cDNA Ends (RACE) technique. The length of obtained *PmAmy* comprised of 1647 bp including a 1539 bp open reading frame, encoding a dedued protein with 512 amino acids rescidues. The calculated molecular weight and pI of *PmAmy* was 56.90 kDa and 5.04 respectively. The dedued protein contains 9 conserved domains including FEW, GFAGVQVSP, DAVINH, NYGD, LNDLN, GFRIDPSKH, EVID, FIDNHD and GYTRAMSSY. The sequence was BLAST with that of *Litopenaeus vanamei* and showed 95.31% identity. Tissues expression of the gene was investigated by RT-PCR. We found that the highest expression level was in hepatopancreas and the expression levels were moderated in foregut, midgut, hindgut and heart. *PmAmy* was also expressed in eyestalk and gills at the least level.

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