

## CHAPTER II

### OBJECTIVES

#### 2.1 Rationale

RNA interference (RNAi) is a post-transcriptional gene silencing process whereby double-stranded RNA triggers the degradation of its homologous mRNA in a sequence-specific manner. In shrimp, RNAi was demonstrated to have an efficiency to inhibit target gene expression both viral and endogenous genes. Previously, RNAi component in shrimp such as Dicer, Argonaute, and Tudor staphylococcal nuclease (TSN) were identified (10, 37, 40, 42, 46). In *P.monodon*, partial sequence of dsRNA binding protein (dsRBP), Loquacious that associated with Dicer was founded. It is possible that PmLoqs are also involved in the RNAi mechanism. Therefore, silencing of PmLoqs may have an effect to RNAi pathway in shrimp.

#### 2.2 Hypothesis

DsRNA binding protein, Loquacious (Loqs) would function as one of the components in the RNAi pathway in shrimp. Therefore, suppression of PmLoqs may have an effect on RNAi efficiency in silencing of target gene expression.

#### 2.3 Objectives

To clone the full-length cDNA encoding the *Penaeus monodon* Loquacious (PmLoqs) and characterize the functions of the PmLoqs that involves in RNAi mechanism.