

CHAPTER V

CONCLUSION

1. The haemocyte cDNA libraries from normal and *Vibrio harveyi* infected shrimp were constructed. The normal and infected libraries contained 1.4×10^6 and 2.5×10^5 clones, respectively.
2. Three hundreds and eight clones out of 615 sequenced clones from the normal library and 215 clones out of 447 sequenced clones from infected library matched with the previously deposited database in the GenBank.
3. Five hundreds and thirty-two matched EST clones of both libraries represent 288 different proteins.
4. The match EST clones of both libraries were classified into 6 broad functional categories. The group of gene expression, regulation and protein synthesis group was the largest category whereas the group of cell division/ DNA synthesis, repair and replication were the smallest group.
5. One hundred and fifteen clones representing 34 different genes were putative immune genes.
6. In the defense and homeostasis group, the antimicrobial peptide/ protein was the most abundant, containing ALF, lysozyme and penaeidin. Other immune genes are the genes of clotting system, proPO system and HSP.
7. ALF was greatly increased in the infected library, suggesting that this molecule plays a major role in the defense mechanism.
8. Six different protein genes contained complete ORF including ALFs, penaeidins, SPIs, crustins, HSP 10 and cytosolic SOD.
9. The examination of expression level of 8 immune genes by semi-quantitative RT-PCR showed that the expression level of ALF, HSP 90 and lysozyme were significantly increased whereas the expression level of penaeidin and

crustin were significantly decreased after *V. harveyi* injection. No change in the expression level of SPI, porPO and HSP 70 was observed.