CHAPTER V

CONCLUSION

1. High expression level of Mn-SOD was found in gill, heart, haemocyte, hepatopancreas, muscle and digestive tract while the highest level of AK was found in gill, followed by heart, haemocyte, hepatopamcreas, muscle, and digestive tract, respectively.

2. Four novel variants of Mn-SOD were found whereas no polymorphism of AK was observed.

3. The expression of Mn-SOD gene in both haemocytes and gills of *P. monodon* clearly responds to oxidative, osmotic, and handling stress. Therefore, it has potential to apply as biomarker of stress in *P.monodon*.

4. The expression levels of HSP70 and HSP90 genes were repressed during oxidative, osmotic, and handling stress. These results are in contrast with the results reported in other studies. More investigation is needed to clarify the contradictory result.

5. The level of AK gene expression in gill reduced during osmotic stress while up regulation of AK gene is observed in the haemocytes of handling stressed shrimps.

6. The expression of DAD-1 genes detected in gill of *P.monodon* was not induced by osmotic stress but repressed by oxidative and handling stresses.

7. TPx gene was not induced by osmotic stress. The expression levels of TPx were decreased in haemocyte shrimps exposed to oxidative and handling stresses while it is raised in the gill of oxidative stressed shrimps. Therefore, it can be used as biomarker in the gill of *P.monodon* for oxidative stress.