CHAPTER V

CONCLUSIONS

1. A total of 158 primer pairs were designed and used for RT-PCR analysis of gene homologues in ovaries and testes of *P. monodon* and 111 of which were successfully amplified.

2. Nine gene homologues only expressed in ovaries but not testes of *P. monodon* broodstock where homologues of *ovarian lipoprotein receptor* and *female sterile* were restrictively expressed in ovaries but not other tissues. Sixty-four gene homologues were preferentially expressed in ovaries than testes of *P. monodon*.

3. The full length cDNA of *female sterile*, *adipose differentiation related protein*, *ATP/GTP binding protein*, *3-oxoacid CoA transferase*, *asparaginyl tRNA synthetase*, *aspatase amino transferase*, *dolichyl diphosphooligosaccharide protein glycotransferase*, *nuclear autoantigenic sperm protein*, *endothelial cell growth factor I*, and *ATP/GTP binding protein* were identified and first reported. In addition, a mojor protein of the *ovarian lipoprotein receptor* ORF was also isolated.

4. SSCP analysis of the amplified cDNA revealed polymorphism of *ovarian lipoprotein receptor*, *nuclear autoantigenic sperm protein*, *tetraspaninD 107* and *asparaginyl tRNA synthetase*. Additional isoforms of *asparaginyl tRNA synthetase* were found in developed ovaries reflecting its importance for vitellogenesis.

5. 5-HT significantly elevated the transcription levels of *female sterile*, *nuclear autoantigenic sperm protein*, *ovarian lipoprotein receptor*, *dolichyl diphosphooligosaccharide protein transferase*, *aspartate amino transferase* and *3-oxoacid CoA transferase* ($P < 0.05$) in ovaries of juvenile *P. monodon*.