

CHAPTER VI

CONCLUSION

1. *ERα* full length mRNA at size of 2,512 bp from liver of greenback mullet (*Liza subviridis*) was determined, it contained 5' and 3'UTR at size 114 and 535 bp, respectively and included ORF at size 1,863 bp which encoded 620 amino acid residues of *ERα* deduced sequence with molecular weight at 67.55 kDa which contained A/B, C, D, E and F domain from N to C-terminus, respectively.
2. *ERα* mRNA at 3 different sizes was expressed in liver of *Liza subviridis*.
3. *ERβ* full length mRNA at size of 2,098 bp from liver of greenback mullet (*Liza subviridis*) was determined, it contained 5' and 3' UTR at size 177 and 490 bp, respectively and included ORF at size 1,431 bp which encoded 476 amino acid residues of *ERβ* deduced sequence with molecular weight at 52.36 kDa which contained A/B, C, D and N-terminus of E domain but lack F domain and C-terminus of E domain.
4. *ERβ* mRNA at 3 different sizes was expressed in liver of *Liza subviridis*.
5. *chg-L* full length (ORF) at size 1,260 bp from liver of greenback mullet (*Liza subviridis*) was isolated, it encoded 419 amino acid residues of *Chg-L* deduced sequence with molecular weight at 46.09 kDa which contained proline-rich region and zona pellucida (ZP) domain at size 52 and 261 amino acid residues which included 1 conserved N-glycosylation site, respectively.
6. *chg L* mRNA transcript at 2 different sizes with different in length of 3' UTR but same length in ORF was expressed in liver of *Liza subviridis*.
7. 5' upstream region of *chg-L* at size 1,424 bp was determined from muscle of *L. subviridis*, it contained 3 half-site EREs (GGTCA at nucleotide position -326 and -956, and TGACC at nucleotide position -1189).
8. *chg-H* partial cDNA sequence from liver of greenback mullet (*Liza subviridis*) was determined, it encoded 310 amino acid residues of *Chg-H* deduced sequence which included 275 amino acid residues of ZP domain.

9. *chg H* mRNA transcript at 2 different sizes with different in length of 3' UTR but same length in ORF was expressed in liver of *Liza subviridis*.
10. *vtg-1* full length ORF at size 4,653 bp was determined from liver of greenback mullet (*Liza subviridis*), it encoded 1,550 amino acid residues of Vtg-1 deduced sequence with molecular weight at 170.5 kDa which contained lipoprotein N-terminal domain (LPD_N), lipovitellin-phosvitin complex; beta-sheet shell regions, and von Willebrand factor type D domain (VWD) arranged from N to C-terminus, respectively.
11. 96% of *vtg-3* cDNA sequence was determined from liver of greenback mullet (*Liza subviridis*), it contained lipoprotein N-terminal domain (LPD_N) and lipovitellin-phosvitin complex; beta-sheet shell regions arranged from N to C-terminus, respectively.
12. Estrogen response of *chg L* > *chg H* > *vtg 3*, respectively in liver of male and/or juvenile *L. subviridis*. *chg-L* mRNA expression level in liver of male and/or juvenile *L. subviridis* is most efficiency biomarker for xenoestrogen contamination in seawater of this species in this study.