CHAPTER VI

CONCLUSION

1. The eleven monoclonal antibodies specific to VTG obtained from this experiment were grouped into 6 categories according to their binding capabilities.

1.1 Several group of monoclonal antibodies bound to both native and denatured antigens (VTG-319, 149, 64, 90, 183, 144, 231, 483, 496) while one group of them (VTG-313, 530) bound to only native antigens

1.2 In Western blot analysis of ovarian extract and female serum separated by PAGE, 4 groups of monoclonal antibodies specific to vitellin and vitellogenin while one group of them (VTG-319, 149) bound to vitellin specific protein (109 kDa)

1.3 In immunohistochemical staining of the oocytes, 2 groups of monoclonal antibodies (group of VTG-313, 530 and group of VTG-183, 144, 483) cross-reacted to all stages of vitellogenic cells. Isotype and sub-isotype of the monoclonal antibodies belonged to the IgG_1 isotype only one of them (VTG-319) belonged to the IgG_2 isotype.

2. The eleven antibodies were specific to both native and denatured forms of ZRP in blood serum of mature female mullets. ZRP can be grouped into 4 categories according to their binding capabilities to different stages of antigens and all monoclonal antibodies belong to the IgG_1 isotype.

2.1 The group of ZRP-9, 30, 72, 109, 110, 168, 125, 102, 113 monoclonal antibodies can bound to both native and denatured antigens. The group of ZRP-21,124 can bound to only denatured antigens can not bind to native antigen in serum.

2.2 In Western blot analysis of ZRP extract and female serum separated by PAGE, one group (ZRP 30, 72, 109) can bind all 68, 60, and 48 kDa major proteins, the group of ZRP-102, 113 can bind 68 and 48 kDa and the group of ZRP-68, 110, 125 can bind 68 and 60 kDa major proteins.

2.3 In immunohistochemical staining of the oocytes, all groups were showing strong immunoreactivities.

3. VTG and ZRP syntheses in juvenile mullets injected with estradiol were determined. The result indicated that the levels of VTG and ZRP were significantly increased in responding to the increase level of E2. This indicates that detection of VTG and ZRP in Greenback Mullet using antibodies is an effective method for determining xenoestrogenic effect in water.