

Morphological Characteristic and Isolation of Germ Cell : A Preliminary Study for The Germ Cell Transplantation of Celebes Rainbow (*Marosatherina ladigesii*)

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ABSTRACT

The recent study were attempting to develop germ cell transplantation as a tool to preserve and propagate male germ-plasm from endangered fish species, as well as to produce surrogate broodstock of commercially valuable fish. Germ cell identification and gonada dissociation were the first necessary steps in germ cell transplantation. Female and male germ cells were characterized histologically. For germ cell dissociation, freshly isolated gonad of adult were minced gently in medium with different enzyme. Medium A contained 0.5% trypsin and medium B contained 0.1% collagenase then incubated for 2 hours to get monodisperse cell suspension. Parameters observed were the diameter of both female and male germ cells of Celebes rainbow the abundance of spermatogonia and oogonia, the viability of spermatogonia and oogonia after dissociation. The viability was analyzed using trypan blue exclusion dye. Histological analysis showed that testes and ovarium of adult Celebes rainbow (± 5 cm) examined were still containing germ cell at all the stages of development. Spermatogonia mostly located close to the basement membrane of the germinal epithelium. The average number of spermatogonia observed in medium B was higher than in medium A ($P < 0.05$), meanwhile the viability of spermatogonia between medium A and B were not significantly different ($P > 0.05$). Key words : morphological characteristics, dissociation, viability, Celebes rainbow, transplantation.

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