ABSTRACT

NURIDA DESSALMA SYAHRANIA. The Influence of Serum and or DNase in Dissociation Medium on the Number and Viability of Giant Gouramy (Osphronemus gouramy Lac.) Spermatogonia. Under direction of ITA DJUWITA and IRMA ANDRIANI

ABSTRACT

Dissociation is the first step to obtain a sufficient number of spermatogonia as donor cells for transplantation. Dissociation techniques is performed by mechanical and enzymatic methods to accelerate the separation of cells and tissue. This study was aimed to determine the effect of serum and or DNase in the dissociation medium on the number and viability of spermatogonia. Testes were taken from giant gouramy (500-800 gram body of weight) with gonad weight ± 20 mg. Dissociation was performed using four different media that were PBS containing: (1) 0.5% trypsin, (2) 0.5% trypsin+5% serum, (3) 0.5% trypsin+10 IU/µL DNase, and (4) 0.5% trypsin+5% serum+10 IU/µL DNase, with total volume of 500 µL. The number of spermatogonia was calculated every hour during five hours dissociation using hemocytometer, and the percentage of viability were calculated based on Trypan Blue staining method. Quantitive datas were analyzed using General Linier Model analysis (GLM) and continued by Duncan’s test if there was a significant difference. The addition of serum in the dissociation medium did not significantly affect on the number of spermatogonia, but significantly increased the viability percentage of spermatogonia. The addition of DNase or combination of serum and DNase could produce the highest number and percentage viability of spermatogonia, the number of viable spermatogonia significantly increased after three hours of DNase addition and two hours for the combination of serum and DNase.

Keywords: dissociation, DNase, giant gouramy, serum, and spermatogonia.