RINGKASAN

Galur sel (*cell line*)merupakan alternatif untuk mempelajari kondisi in vivo. Ketersediaan galur sel telah banyak dimanfaatkan untuk mengatasi banyak masalah fisiologis, seperti halnya keterbatasan akan hewan uji. Sementara itu galur sel dari ikan masih sangat terbatas, padahal galur tersebut sangat dibutuhkan.Oleh karena itu, perlu dilakukan penelitian sebagai langkah awal dalam pembuatan galur sel, dalam hal ini memanfaatkan jaringan limpa ikanNilem (*Osteochilus vittatus*) untuk pembuatan galur sel tersebut.Penelitian ini dilakukan untuk menentukan periode kultur primer dalam mencapai konfluensi sel, kelangsungan hidup sel dan karakter morfologinya. Hal yang sama dilakukan pula terhadap kultur sekunder (*sub-culture*).

Penelitian dilakukan secara eksperimental (RAL Faktorial).Faktor pertama yaitu jenis serum berupa serum ikan Nilem dan *Fetal Bovine Serum* (FBS).Faktor kedua berupa konsentrasi serum dalam medium yaitu 0%, 5%, 10%.dan 15%.Konfluensi sel, viabilitas dan kepadatan sel dianalisis secara statistik menggunakan ANOVA Two way (kultur primer) dan ANOVA One way (*sub-culture*) yang dilanjutkan dengan uji Post Hoc, sedangkan karakter morfologi dan proporsi masing-masing tipe sel dianalisis secara deskriptif.

Hasil penelitian menunjukkan konfluensi 90% dicapai dalam 7 hari untuk kultur primer dan 6 hari untuk*sub-culture*. sedangkan nilai viabilitasnya semua perlakuan layak untuk dikultur kembali (≥80%). Hasil kepadatan tertinggi pada kultur primer pada FBS 15%, sedangkan hasil *sub-culture*pada SI 15%. Hasil pengamatan morfologi sel kultur diperoleh 8 tipe sel dengan karakter berbeda, namun umumnya menyerupai sel darah diantaranya *reticulocytes*, *erythrocytes* dan *granular anucleate bodies*. Tipe sel yang mendominasi > 65% yaitu tipe sel A yang mirip dengan *granular anucleate bodies.*

Kata Kunci :kultur primer, limpa, nilem, serum, *sub-culture*

SUMMARY

Cell line has been serving as alternatives for in vivo studies. The availability of cell line has overcame many problems related to the physiologi cell requiremant as well as limitation number of animal model. The fish-origin cell line is still limited, therefore research to develop fish origin cell line is necessary. This study was conducted to determine the period of primary culture needed to achieve confluence, the survival of cell and morphological character of cell from primary and secondary culture.

The research was conducted experimentally using factorial completely randomized design. The first factor was the serum type consisted of fish serum and Fetal Bovine Serum. The second factor was the serum concentration consisted of control (without serum), 5%, 10% and 15%. Four replicates were provided for each treatment. The cell confluence, cell viability, and cell density were analyzed using two ways ANOVA (primary culture) and one way ANOVA (secondary culture), followed by Post Hoc test for cell confluence and cell desity. Cell morphology was describe and the proportion of each cell type was determinate.

The results showed that 90% confluence was achieved in 7 days for the primary culture and 6 days for the secondary culture. The cell viability of all experimental groupswere ≥ 80% indicating a good culture condition. The highest cell density was observed in primary culture supplemented with 15% Fetal Bovine Serum and in secondary culture supplemented with 15% fish serum. There were 8 different types of cell observed in the primary culture with morphological features similar to the reticulocyte, erythrocyte and granulocyte anucleated bodys. The culture was dominated by granulocyte anucleated bodys (>60%).

Key words :primary culture, spleen, nilem, serum, sub-culture