PRIMARY CELL CULTURE OF ZEBRA FISH (*Danio rerio*) AS MATERIAL FOR DEVELOPING AVIAN INFLUENZA VACCINES

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ABSTRACT

Aims of this study to analyze development of growth from zebrafish primary cell cultures (Danio rerio), analyze infection and the growth rate of the reverse genetic avian influenza H5N1 virus in zebrafish primary cell culture. Primary cells culture derived from zebrafish in the head cell and body cells. Zebrafish are used on average 3-5 cm in size in the juvenile stage. The virus used in this study was the reverse genetic avian influenza H5N1 virus obtained from the laboratory stock of the Professor Nidom Foundation Laboratory. $TCID_{50}$ was tested and the result was 3.1623 x 10^7 / mL, then the virus was developed by inoculating into primary cell culture. After that, testing of Microtechnic Hemagglutinin (HA). Samples that showed positive results on the HA test then performed RNA extraction and confirmed by One Step Reverse Transcriptase Polymerase Chain Reaction (RT-PCR). The results of this study convey that there is an alternative development of new cell sources which leads to halal aspects of the production of avian influenza H5N1 vaccines. This can be seen from the presence of cytopathogenic effects (CPE) in primary cell cultures and also can be seen from HA titers in viral harvest samples from the head and body cells zebrafish that shows the same result of HA titers is 2^8. Then the samples are confirm by testing with PCR using the HA forward Primer (5 'AGCAAAAGCAGGGGTTCAATCTGTCTAAAATGG 3') and reverse HA Primer (5 'AGTAGAAACAAGGGTGTTTTTTAACTAATCTG 3') where the PCR results are positive.

Key words: Zebrafish, Primary Cell Culture, Avian Influenza, H5N1, Reverse Genetic