GENETIC STABILITY ANALYSIS OF THE GENE FRAGMENT ENCODING THE NON STRUCTURAL 1 (NS1) OF DENGUE VIRUS SEROTYPE 3 ISOLATES INSTITUTE OF TROPICAL DISEASE (ITD)

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ABSTRACT

Dengue virus (DENV) is a single stranded RNA virus that circulates in the body of primate and causes DHF to human. Dengue virus have four serotypes (DENV-1, DENV-2, DENV-3, DENV-4) and the most causes severage disease is DENV-3. Dengue virus spread by mosquito *Aedes aegypti* as a vector. The function of *non structural 1* protein is to induce cellular immune response and virus replication process. Recently, Dengue vaccine is still in the development stage. The aim of this research was to analyze the genetic stability of the gene fragment encoding the NS1 protein 10th, 20th and 30th passage compared to the original isolates (zero passage) Dengue virus serotype 3 ITD. This research method through several stages like RNA extraction of Dengue virus 10th, 20th and 30th passage, cDNA synthesis, cDNA amplification, cDNA electrophoresis, cDNA purification, Big Dye labelling, DNA sequence and homology analyzed by used BioEdit Clustal W programme. The results showed, sequencing of the gene fragment encoding NS1 protein of DENV-3 at 10th, 20th and 30th passage and original isolates (zero passage) showed nucleotide variations at positions around 1-60 initial and 20 last nucleotides with a marked presence of insertion, deletion and replacement of nucleotide composition.

Key words: DENV, NS1, genetic stability.