GENETIC STABILITY ANALYSIS OF THE GENE FRAGMENT ENCODING THE ENVELOPE PROTEIN OF DENGUE VIRUS SEROTYPE 3 ISOLATES INSTITUTE OF TROPICAL DISEASE

Nur Rusdiana

ABSTRACT

Dengue virus (DENV) is a single stranded RNA virus that circulates in the body of primate and causes DHF in human. Dengue virus have four serotypes (DENV-1, DENV-2, DENV-3, DENV-4) and the most causes severate disease is DENV-3. Dengue virus spread by mosquito *Aedes aegypti* as a vector. The envelope plays an important role in interaction between virus and host among all of Dengue virus component. The function of envelope is to induce humoral immune response. Recently, Dengue vaccine is still in the development stage. The aim of the research is to analyze the genetic stability of the gene fragment encoding the envelope protein 10\(^{th}\), 20\(^{th}\) and 30\(^{th}\) passage compared to the original isolates (zero passage) DENV-3 of ITD. Observational method through several steps like RNA extraction of Dengue virus 10\(^{th}\), 20\(^{th}\) and 30\(^{th}\) passage, cDNA synthesis, cDNA amplification, cDNA electrophoresis, cDNA purification, Big Dye labeling, DNA sequence and homology by used bioedit Clustal W programme. The result showed, sequencing of the gene fragment encoding envelope protein of DENV-3 at 10\(^{th}\), 20\(^{th}\) and 30\(^{th}\) passage and original isolates (zero passage) showed nucleotide variations with a marked presence of insertion, deletion and replacement of nucleotide composition.

**Key words:** DENV-3, envelope, genetic stability.