Potensi Fraksi Air Calophyllum nodosum terhadap Inhibisi Replikasi Virus Dengue Serotipe 2 secara In Vitro = The Potential of Calophyllum nodosum Water Fraction to Inhibit Dengue Virus Serotype 2 Replication In Vitro

Risa Jaehan, author

Abstrak

ABSTRAK
Infeksi virus dengue DENV masih menjadi masalah serius baik di dunia maupun di Indonesia. Spektrum klinis dengue yang terdiri atas demam berdarah dengue DBD dan sindrom syok dengue SSD menyebabkan kematian. Terapi definitif belum tersedia saat ini, sehingga masih mengandalkan terapi suportif. Berbagai tanaman sebagai antivirus telah banyak dieksplorasi. Salah satu tanaman diketahui memiliki efek antivirus berasal genus Calophyllum. Penelitian ini bertujuan untuk menganalisis potensi inhibisi replikasi virus dengue serotipe 2 oleh fraksi air Calophyllum nodosum pada sel Huh7it. Dua metode yang digunakan antara lain MTT 3- 4, 5-dimethylthiazolyl-2 -2, 5-diphenyltetrazolium bromide assay dan focus assay. MTT assay menilai viabilitas sel pada sel yang tidak terinfeksi, sedangkan focus assay menilai titer virus yang menggambarkan hambatan infektivitas DENV. Hasil menunjukkan antara perlakuan dan kontrol pada kelompok viabilitas tidak berbeda bermakna dengan nilai half cytotoxic concentration CC50 2729 g/mL, sedangkan perbedaan bermakna ditemukan pada kelompok infektivitas dengan nilai half inhibitory concentration IC50 10,87 g/mL. Indeks Selektivitas IS yang didapatkan sebesar 251,06. Fraksi air Calophyllum nodosum berpotensi menghambat replikasi DENV-2 secara in vitro.
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ABSTRACT
Infection by Dengue virus DENV is still a serious problem around the world including in Indonesia. Clinical Dengue spectrum from bleeding dengue fever to dengue shock syndrome lead to mortality. Definitive therapy is not available so that the treatment still relies on supportive therapy. Various herbs as antiviral have been widely explored. Calophyllum genus is known to have an antiviral effect. This study aims to analyze and assess inhibition potential of dengue virus serotype 2 replication by Calophyllum nodosum water fraction in Huh7it cell. Two methods were used including MTT 3 4, 5 dimethylthiazolyl 2 2, 5 diphenyltetrazolium bromide assay and focus assay. MTT assay was to assess uninfected cell viability, whereas focus assay aims to assess virus titer which describes DENV infectivity. The results showed viability group did not has a significant difference with half cytotoxic concentration CC50 2729 g mL, whereas infectivity group was significantly different with half inhibitory concentration CC50 10,87 g mL. The selectivity index was 251,06. Calophyllum nodosum water fraction is potential to inhibit DENV 2 replication in vitro.