

Potensi fraksi etanol calophyllum nodusum sebagai antivirus dengue secara in vitro = The potency of ethanol fraction of calophyllum nodusum as antiviral to dengue virus in vitro

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Abstrak

ABSTRACT

Demam berdarah dengue DBD merupakan masalah kesehatan di dunia termasuk di Indonesia. DBD disebabkan oleh dengue virus DENV yang ditransmisikan melalui nyamuk. Manifestasi klinis infeksi DENV dapat berupa demam dengue, DBD dan dapat berlanjut menjadi dengue shock syndrome yang akan menyebabkan kematian. Hingga saat ini usaha preventif berupa vaksin dengue. Tata laksana kuratif hanya bersifat suportif. Calophyllum nodusum merupakan tanaman yang tumbuh di Indonesia memiliki efek sebagai anti mikroba. Potensi C. Nodusum sebagai antivirus DENV perlu diteliti. Penelitian antivirus DENV dilakukan dengan metode in-vitro menggunakan fraksi etanol ekstrak C. Nodusum, DENV-2 strain New Guinea C NGC dan sel Huh7it-1. Pengujian efek antivirus dengan menggunakan metode focus assay sedangkan uji sitotoksisitas terhadap sel menggunakan 3-4,5-dimethylthiazol-2-yl-2,5-diphenyltetrazolium bromide MTT assay. Nilai half inhibitory concentration IC50 ekstrak C. Nodusum sebesar 2,12 g/ml serta nilai half cytotoxic concentration CC50 sebesar 54,01 g/ml. Nilai indeks selektivitas adalah 25,48. Pada hasil focus assay tidak terlihat adanya perbedaan bermakna antara kelompok perlakuan dengan kontrol DMSO 0,1 p>0,01. C. Nodusum memiliki potensi sebagai kandidat antivirus DENV.

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ABSTRACT

Dengue hemorrhagic fever DHF is one of the world's health problem, as well in Indonesia. DHF caused by dengue virus DENV that transmitted by mosquito. Clinical manifestations of DENV infection is dengue fever, DBD and dengue shock syndrome that leads to death. Until now, the preventive method is using dengue vaccine. The curative method is still using supportive ways. Calophyllum nodusum is a plants that growth in Indonesia and also has anti microbial effect. The potency of C. nodusum as antiviral of DENV needs to be examined. This antiviral of DENV research use ethanol fraction from C. nodusum, DENV 2 New Guinea C NGC strain, Huh7it 1 cell with in vitro method. The antiviral effect examined by using focus assay method while cytotoxicity effect examined by using 3-4,5 dimethylthiazol 2-yl-2,5 diphenyltetrazolium bromide MTT assay method. The value of half inhibitory concentration IC50 from C. nodusum extract is 2,12 g/ml and the value of half cytotoxic concentration CC50 is 54,01 g/ml. the value of selectivity index is 25,48. In focus assay method shows that there is no significance difference between tested variable and DMSO 0,1 as control p 0,01. C. nodusum has potency as the candidate of DENV antiviral.