Efek antiviral dari ekstrak swietenia mahagoni terhadap replikasi virus dengue = The antiviral effect of the swietenia mahagoni against dengue viral replication

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Abstrak

[Infeksi dengue (DENV) merupakan salah satu masalah global yang masih dialami hingga saat ini. Diperkirakan 50 hingga 100 juta orang di dunia positif mengalami infeksi dengue.Hingga saat ini, tatalaksana infeksi dengue hanyalah berupa terapi suportif dan belum ditemukan pengobatan dan vaksin dengue. Swietenia Mahagoni sudah dikenal dan digunakan sejak dahulu sebagai tanaman obat. Kandungan flavonoid pada tanaman ini diperkirakan memiliki efek antiviral. Untuk itu penelitian ini dilakukan untuk melihat potensi antiviral terhadap DENV dari ekstrak S. Mahagoni. Pada penelitian ini digunakan beberapa konsentrasi yakni 640 μg/mL, 320 μg/mL, 160 μg/mL, 80 μg/mL, 40 μg/mL, 20 μg/mL, 10 μg/mL dan kontrol negatif adalah DMSO. Untuk menentukan hambatan infektivitas dapat digunakan metode Focus Assay sehingga dapat diperoleh nilai Inhibitory Concentration (IC50). Selain itu, untuk dilihat viabilitas sel dengan metode MTT assay sehingga diperoleh nilai Cytotoxic Concentration (CC50). Selain itu ditentukan juga nilai indeks selektivitas yang diperoleh dari perbandingan CC50 dan IC50. Berdasarkan hasil IC50, CC50 dan SI yakni 68,97 μg/mL, 434,46 μg/mL dan 6,29, dapat dikatakan bahwa S. Mahagoni memiliki efek antiviral sehingga dapat digunakan sebagai antiviral dengue dimasa mendatang.;Dengue infection (DENV) still becomes as global burden. It is estimated 50 to 100 million people are positively infected by DENV. The recent management of this disease has not been found yet, with the lack finding of medicine and vaccine, the main management takes on supportive care. Swietenia mahagoni has been used as the herbal medicine since long time ago. The flavonoid extract on that plant is believed to have antiviral effect. This experiment was conducted to evaluate the antiviral DENV potential of S. mahagoni extract. In this experiment, the concentration was made on various concentration, from 640 μg/ml, 320 μg/mL, 160 μg/mL, 80 μg/mL, 40 μg/mL, 20 μg/mL, 10 μg/mL, and DMSO as negative control. Focus assay was used to determine the infectivity inhibition which results of IC50 (inhibitory concentration), and MTT Assay was used to determine the cell viability which results of CC50 (cytotoxic concentration). Selectivity index was also resulted by divided the value of CC50 with IC50. The results of IC50, CC50, and SI of S. mahagoni was 68,97 μg/mL, 433,46 μg/ml, and 6,29 μg/ml respectively, S. Mahagoni has antiviral effect and could be consider to

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