Efek Sitotoksik Ekstrak Etanol Daun Plectranthus scutellarioides terhadap Sel Kanker HeLa = The Cytotoxic Effect of Ethanol Extract of Plectranthus scutellarioides Leaf on HeLa Cancer Cell Line

Phoniex Angellia, author

Abstrak

Latar Belakang: Kanker serviks menjadi salah satu kanker penyebab mortalitas tertinggi bagi perempuan. Terapi konvensional kanker serviks memiliki biaya yang tinggi, kesulitan akses terhadap fasilitas, dan berbagai efek samping sehingga mendorong pencarian bahan alternatif terapi kanker serviks. Iler (Plectranthus scutellarioides) merupakan tanaman obat tradisional yang mudah ditemukan dan dikenal oleh masyarakat Indonesia. Iler memiliki kandungan senyawa anti-kanker yang tinggi dan telah teruji menurunkan risiko infeksi Human Papilloma Virus. Penelitian ini ingin menguji efek sitotoksik ekstrak etanol daun iler terhadap sel kanker serviks HeLa.
Metode Penelitian: Penelitian ini bersifat eksperimental in-vitro. Daun iler diekstrak dengan maserasi etanol, lalu diencerkan menjadi tujuh serial konsentrasi (3.125ppm, 6.25ppm, 12.5ppm, 25ppm, 50 pm, 100ppm, 200ppm). Perlakuan terhadap kultur sel HeLa terbagi menjadi satu kelompok kontrol negatif, tujuh kelompok konsentrasi ekstrak, dan tujuh kelompok kontrol positif doksorubisin dengan konsentrasi serial yang sama. Dilakukan tiga pengulangan untuk setiap kelompok. Uji MTT terhadap hasil perlakuan memperoleh nilai absorbansi yang menggambarkan inhibisi sel HeLa. Persentase inhibisi digunakan untuk mencari IC50 serta dibandingkan antar kelompok perlakuan untuk menilai perbedaan inhibisi yang bermakna antara kelompok ekstrak dan doksorubisin.
Hasil: Nilai IC50 pemberian ekstrak etanol daun iler terhadap sel HeLa adalah 182,578Î¼g/ml. Terdapat perbedaan inhibisi yang signifikan antara kelompok konsentrasi ekstrak 100 ppm dengan doksorubisin 100 ppm (p=0.003).
Kesimpulan: Ekstrak etanol daun iler memiliki sitotoksisitas moderat terhadap sel HeLa dengan IC50 sebesar 182,578Î¼g/ml dan perbedaan inhibisi yang bermakna terhadap kontrol positif.
.....Introduction: Cervical cancer has become one of the leading death causes for women. Conventional cervical cancer therapies are expensive, difficult to obtain, with numerous side effects, prompting the search of an alternative medicine. Iler (Plectranthus scutellarioides) is a traditional medicinal plant that is well-known among Indonesian people. Iler contains a high concentration of anti-cancer compounds and has been studied for its ability to reduce Human Papillomavirus infection risk. This study aims to determine the cytotoxic effect of ethanolic extract of iler leaf on the HeLa cervical cancer cell line.
Methods: In this in-vitro experimental study, iler leaf was extracted using ethanolic maceration and then diluted into seven serial concentrations (3.125ppm, 6.25ppm, 12.5ppm, 25ppm, 50 pm, 100ppm, 200ppm). The treatments given to HeLa cells were divided into one negative control group, seven extract concentration groups, and seven doxorubicin positive control groups. Three samples were used for each group. The MTT assay revealed the absorbance value that indicated HeLa cell inhibition. The inhibition percentage was used to calculate the IC50 value and compared between the extract and doxorubicin intervention groups to see if there was any significance in the difference in HeLa cell inhibition.
Results: The IC50 value of the ethanolic extract of iler leaf on HeLa cells is 182,578Î¼g/ml. There is a

significant inhibition difference between extract group and doxorubicin group in 100 ppm concentration (p=0.003).
Conclusion: Ethanolic extract has a moderate cytotoxicity for HeLa cells with IC50 value of 182,578Î¼g/ml, despite a significant difference compared with the positive control.