

INTISARI

Daun Mimba (*Azadirachta indica* A. Juss) telah lama dikenal oleh masyarakat Indonesia sebagai obat tradisional. Dari penelitian yang telah dilakukan sebelumnya diketahui bahwa daun mimba memiliki sitotoksitas terhadap sel Raji. Penelitian ini bertujuan untuk mengetahui sitotoksitas fraksi protein daun mimba (*Azadirachta indica* A. Juss) yang diendapkan dengan amonium sulfat 30%, 60%, dan 100% jenuh terhadap kultur sel Raji.

Penelitian ini termasuk penelitian eksperimental dengan rancangan acak lengkap pola satu arah. Protein daun mimba diendapkan dengan penambahan amonium sulfat dalam kuantitas yang berbeda-beda sehingga didapat fraksi protein dalam berbagai konsentrasi. Uji sitotoksitas dilakukan dengan metode MTT (3-(4,5-dimetil-tiazol-2-il)-2,5-dipheniltetrazolium bromide). Hasil uji dianalisis secara statistik dan harga LC_{50} dihitung menggunakan analisis probit. Data MTT selanjutnya dianalisis dengan *one way anova*.

Hasil uji sitotoksitas menunjukkan bahwa fraksi protein daun mimba menunjukkan sitotoksitas terhadap kultur sel Raji. Harga LC_{50} pada fraksi protein hasil pengendapan dengan 30% dan 60% amonium sulfat jenuh adalah 15,3 $\mu\text{g/ml}$ dan 24,0 $\mu\text{g/ml}$. Nilai LC_{50} tersebut menunjukkan bahwa fraksi 30% protein daun mimba memiliki potensi untuk dikembangkan menjadi senyawa antikanker.

Kata Kunci : daun mimba, sitotoksitas, sel Raji, fraksi protein

ABSTRACT

Neem leaves (*Azadirachta indica* A. Juss) have been recognized by Indonesian society as traditional medicine. Previous research showed that protein fraction neem leaves had cytotoxic activity against Raji cells. This research aim to investigate the cytotoxic activity of protein fraction of neem leaves (*Azadirachta indica* A. Juss) which were precipitated using ammonium sulphate in concentration of 30%, 60%, and 100% to Raji cell lines.

This research is experimental research with the complete random design one way pattern. Protein of neem leaves which were precipitated with the addition of ammonium sulphate in various final concentrations of 30%, 60% and 100%. The cytotoxic activity was determined using MTT method. Data were analyzed statistically and the value of LC_{50} was determined by probit analysis. MTT data then analyzed by one way anova.

The result of indicate that the faction of protein of neem leaves show the cytotoxic activity Raji cells lines. LC_{50} of protein fraction of 30% and 60% ammonium sulphate are 15,3 $\mu\text{g/ml}$ and 24,0 $\mu\text{g/ml}$ respectively. Therefore, the result of this experiment suggested that proteins in fraction of 30% (sulphate saturated) might have anticancer potency.

Keyword : mimba leaves, cytotoxic activity, Raji cells, protein fraction