INTISARI

Banyak studi telah dikembangkan untuk memperoleh senyawa antikanker dari bahan alam. Tanaman mimba (*Azadirachta indica* A. Juss) secara empiris dikenal sebagai tanaman obat alami untuk mengobati berbagai penyakit. Berdasarkan penelitian yang telah dilakukan sebelumnya diketahui bahwa daun mimba memiliki efek sitotoksisitas terhadap sel SiHa. Penelitian ini bertujuan untuk mengetahui fraksi protein mana diantara fraksi protein daun mimba hasil pengendapan dengan amonium sulfat 30%, 60% dan 100% jenuh yang berefek lebih sitotoksik terhadap sel SiHa.

Penelitian ini termasuk penelitian eksperimental murni dengan rancangan acak lengkap pola searah. Uji sitotoksisitas dilakukan dengan memberi perlakuan sel SiHa dengan fraksi protein daun mimba diperoleh dari hasil pengendapan dengan garam amonium sulfat 30%, 60% dan 100% jenuh. Metode uji sitotoksisitas yang digunakan adalah metode MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide). Data yang diperoleh berupa persen kematian sel dan harga LC_{50} dihitung dengan analisis statistik probit dan Anova satu arah.

Hasil penelitian menunjukkan bahwa fraksi protein daun mimba bersifat sitotoksik terhadap sel SiHa. Harga LC_{50} yang diperoleh dari fraksi protein daun mimba hasil pengendapan dengan amonium sulfat 30%, 60% dan 100% jenuh berturut-turut adalah sebesar 1,72 µg/ml; 0,04 µg/ml; dan 32,56 µg/ml. Dengan demikian, dapat disimpulkan bahwa fraksi protein 60% berefek paling sitotoksik terhadap sel SiHa dan fraksi protein 30% dan 60% diperkirakan memiliki aktivitas sebagai antikanker.

Kata kunci: daun mimba, sel SiHa, sitotoksisitas, LC_{50}.

ABSTRACT

A lot of studies have been done to get new compound having anticancer activity. Neem (*Azadirachta indica* A. Juss) were used as natural medicine plant for many diseases. Previous research showed that the neem leaves had cytotoxic effect to SiHa cells. This research is aimed to identify which protein fraction of 30%, 60% and 100% saturated by ammonium sulphate to have cytotoxic effect to SiHa cells.

The study was pure experimental research with random complete and one way design. SiHa cells were incubated with protein fraction of neem leaves were obtained by precipitation with ammonium sulphate salt in concentration of 30%, 60% and 100%. The cytotoxicity effect was determined using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide) method.. Data were collected by counting the percentage of cell death and the LC_{50} value were analyzed using probit statistic analysis and one way Anova.

The result indicated that protein fraction of neem leaves had cytotoxic effect to SiHa cells. The LC_{50} value obtained from protein fraction of 30%, 60% and 100% saturated by ammonium sulphate are 1,72 µg/ml; 0,04 µg/ml; dan 32,56 µg/ml respectively. In conclusion, protein fraction of 60% ammonium sulphate possess highest cytotoxic effect to SiHa cells and protein fraction of 30% and 60% ammonium sulphate might have anticancer activity.

Keyword: neem leaves, SiHa cell, citotoxicity, LC_{50}.