ABSTRACT

Background: *Cancer is one of the disease that cause a large number of death in the world. Burkitt's lymphoma is a type of malignancy with the fastest growth rate than others. Burkitt's lymphoma that is happened in oral cavity can cause alveolar bone defect and tooth mobility. Treatment of Burkitt's lymphoma using chemotherapy has side effect such as, xerostomia, mucositis, dysphagia and also bleeding. The alternative treatment by using Ant-nest plant (Myrmecodia pendens Merr.& Perry) is choosen because of minimal side effect. This plant is known as source of phytochemicals like flavonoid, tanin, saponin, triterpenoid and tokoferol, they have role as anticancer, antibacterial, antioxidant and so on. Hexane fraction of M. pendens is used to inhibit cell growth of Burkitt's lymphoma.*

Objective: *The research is aimed to test cytotoxic potential of hexane fraction from M. pendens against Burkitt's lymphoma.*

Method: *This was a purely laboratory experimental in vitro by various concentrations of hexane fraction from M. pendens, 15.625, 31.25, 62.5, 125, 250, 500 and 1000 µg/mL against Burkitt's lymphoma which was already exposed by Eipstein-Barr virus. This cytotoxicity test used MTT Assay method to obtain viability of Burkitt's lymphoma that is used to determine the value of IC_{50} of hexane fraction from M. pendens.*

Result: *The result showed that hexane fraction of M. pendens does not show cytotoxic activity against Burkitt's lymphoma because there was no dose-dependent phenomenon between concentration of hexane fraction and the Burkitt's lymphoma death percentage.*

Conclusion: *It can be concluded that hexane fraction of M. pendens does not have cytotoxic potential against Burkitt's lymphoma in vitro.*

Keywords: *Burkitt's lymphoma, cytotoxicity test, hexane fraction, Myrmecodia pendens Merr.& Perry.*

INTISARI

Latar Belakang: Keganasan (kanker) adalah salah satu penyakit yang menyebabkan kematian dalam jumlah besar di dunia. *Burkitt's lymphoma* merupakan jenis keganasan dengan laju pertumbuhan paling cepat dibandingkan yang lain. *Burkitt's lymphoma* yang terjadi di dalam rongga mulut dapat menyebabkan kerusakan tulang alveolar dan mobilitas gigi. Terapi *Burkitt's lymphoma* dengan kemoterapi menimbulkan efek samping seperti *xerostomia, mucositis,* gangguan pengecapan serta perdarahan. Terapi alternatif menggunakan tanaman sarang semut (*Myrmecodia pendens Merr. & Perry*) dipilih sebagai pengobatan kanker dengan efek samping minimal. Tanaman *M. pendens* diketahui kaya akan fitokimia antara lain flavonoid, tanin, saponin, triterpenoid dan tokoferol yang berpotensi sebagai antikanker, antibakteri, antioksidan dan lain-lain. Fraksi heksan tanaman *M. pendens* digunakan untuk menghambat pertumbuhan sel *Burkitt's lymphoma*.

Tujuan: Untuk menguji potensi sitotoksik fraksi heksan tanaman *Myrmecodia pendens Merr.& Perry* terhadap sel *Burkitt's lymphoma*.

Metode: Penelitian eksperimental laboratoris murni *in vitro* dengan perlakuan berbagai konsentrasi fraksi heksan tanaman *M. pendens* terdiri dari konsentrasi 15.625, 31.25, 62.5, 125, 250, 500 dan 1000 µg/mL terhadap kultur sel *Burkitt's lymphoma* yang telah terpapar virus *Eipstein-Barr.* Uji sitotoksisitas menggunakan metode MTT *Assay* untuk memperoleh viabilitas sel *Burkitt's lymphoma* yang digunakan dalam penentuan nilai IC_{50} fraksi heksan tanaman *M. pendens.*

Hasil : Penelitian ini menunjukkan bahwa fraksi heksan tanaman *M. pendens* tidak mempunyai potensi sitotoksik terhadap sel *Burkitt's lymphoma* karena persentase kematian sel *Burkitt's lymphoma* tidak menunjukkan fenomena *dose-dependent* terhadap berbagai konsentrasi fraksi heksan tanaman *M. pendens*. Hal ini dapat terjadi karena adanya kesalahan dalam prosedur penelitian.

Kesimpulan : Fraksi heksan tanaman *M. pendens* tidak mempunyai potensi sitotoksik terhadap sel *Burkitt's lymphoma in vitro.*

Kata Kunci : sel *Burkitt's lymphoma,* uji sitotoksisitas, fraksi heksan, *Myrmecodia pendens Merr.& Perry*