

Antiproliferative Activity of the *Eupatorium riparium* Reg. Leaves Wasbenzine Extract : *In vitro* Study on HeLa Cell Line

Aktivitas Antiproliferatif Ekstrak Wasbensin Daun *Eupatorium riparium* Reg. : Studi *In Vitro* Pada HeLa Cell line

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Abstract

Eupatorium riparium Reg. is medicinally important plant, native of Mexico and the west Indies, introduced in Java long ago. This plant has a history of use for traditional medicine of various cultures world wide and is commonly used to treat hypertension, systole heart failure, diuretics, anticancer, antifungal and bacterial diseases. Study on the HeLa cell line was arranged for a month. This study was aimed to investigate the possible antiproliverative activity of wasbenzine extract of *E. riparium* leaves against human cervical cancer (HeLa) cell line. Antiproliferative activity was measured by cell proliferation reagents WST-1, and test for 1, 2, and 4h after incubated for 72h, at 37°C with 5%CO₂. The result showed that the wasbenzine extract of *E. riparium* leaves possessed potential antiproliferative activity against HeLa cell lines with IC₅₀ values of 102.69 µg/ml (1h), 198.67 µg/ml (2h), respectively. Further study is suggested to understand anticancer mechanism on HeLa cell line.

Keywords: *Eupatorium riparium* Reg, antiproliferative, HeLa, WST-1

Abstrak

Eupatorium riparium Reg. adalah tumbuhan obat penting asli dari Mexico dan India Barat, yang masuk ke tanah Jawa sejak tahun 1800. Tumbuhan ini mempunyai catatan sejarah digunakan untuk obat tradisional dalam berbagai kultur budaya bangsa secara luas di seluruh dunia dan biasa digunakan untuk obat hipertensi, gagal jantung, diuretik, antikanker, antifungi, dan penyakit yang disebabkan oleh bakteri. Studi pada HeLa cell line ini dilakukan selama satu bulan. Selanjutnya, studi ini bertujuan meneliti aktivitas antiproliferatif ekstrak wasbensin daun *E. riparium* terhadap kanker servik manusia Hela cell line. Aktivitas antiproliferatif diuji menggunakan reagen proliferaatif sel WST-1 dengan waktu 1, 2, dan 4 jam setelah diinkubasi selama 72 jam pada suhu 37°C dan 5%CO₂. Hasil penelitian menunjukkan bahwa ekstrak wasbensin daun *E. riparium* mempunyai aktivitas proliferaatif yang potensial terhadap HeLa cell line dengan nilai IC₅₀ berikut 102.69 µg/ml (1 jam), 198.67 µg/ml (2 jam). Saran selanjutnya, penelitian lanjutan perlu dilakukan untuk mengetahui mekanisme antikanker HeLa cell line.

Kata kunci: *Eupatorium riparium* Reg, antiproliferatif, HeLa, WST-1