

Isolasi dan penentuan struktur senyawa sitotoksik daun gendarusa (*Justicia gendarussa* Burm F.) terhadap sel leukemia L1210 in vitro

Harfia Mudahar, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20235932&lokasi=lokal>

Abstrak

Natural products play an important role as medicinal and pharmaceutical agent, not only in the form of purified isolates and extractive, but also as lead for synthetic optimization. Indonesia, with more than 30,000 plant species, take the second place in the world after Brazil as the richest countries in plant diversities but the richest country in the world. In natural product, if marine organisms are also put into account. Based on these facts, natural product study especially in herbal medicines should become an important research in Indonesia. The aim was to study cytotoxic activity of chemical compounds from methanol extracts of *Justicia gendarussa* Burm f. leaves and the isolation and identification of cytotoxic compounds from *J. gendarussa* Burm f. leaves. The structure was characterized based on spectroscopic data. In the first study, cytotoxic bioassay with mouse L1210 leukemia cells in vitro. On the cytotoxic activity, bioassay in vitro was conducted by using L1210 leukemia cells which is reproduced at Pusat Aplikasi Isotop dan Radiasi BATAN, Jakarta. This bioassay used L1210 leukemia cells (were grown on Eagle's MEM medium), dimethylsulfoxide, NaHCO₃, glutamines, fetal serum, and tripan blue. The data obtained was analyzed by using Fujimoto's method. The crude extracts from the first study showed cytotoxic activity in vitro bioassay using L1210 leukemia cells line (IC₅₀ 12,37 µg/ml), the ethylacetate fraction showed cytotoxic activity in vitro bioassay using L1210 leukemia cells line (IC₅₀ 12,37 µg/ml). In the second study, isolation of cytotoxic compound from ethylacetate fraction. The cytotoxic compounds were identified by using ultraviolet-visible (UV-Vis) spectra data, Fourier transform infrared spectrometry, and LC-MS to obtain mass spectra data and proton nuclear magnetic resonance spectra. The conclusion, the *J. gendarussa* Burm f. extracts showed cytotoxic activity in vitro bioassay using L1210 leukemia cultured cells. From the ethylacetate fraction was isolated two cytotoxic compounds. The compounds showed cytotoxic activity in vitro bioassay using L1210 leukemia cells line, the first compound showed IC₅₀ 6,63 µg/ml and the second compound showed IC₅₀ 4,78 µg/ml. Based on infrared, ultraviolet, proton nuclear magnetic resonance and mass spectra data, indicated that the first compound was benzaldehyde dimethylamine, and the second one was flavonoid glycoside.