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

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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 Brazillia as the irchest countries in plant diversities but the irchest country in the world In natural product If marine organisms are also put Into account. Based on these fact 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 structurally characterized based on spectroscopic data. In the first study, cytotoxic bloassay with mouse LI210 leukemia cells in vitro. On the cytotoxic activity, bloassay in vitro was conducted by using L 1210 leukemia cells which Is reproduced at Pusat ApllkasI Isotop dan RadiasI BATAN, Jakarta. This bloassay used LI 210 leukemia cells (were grown on Eagle's MEM medium), dimetilsulfoksida, NaHCOa, glutamines, feotalserum, and triphan 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 pg/ml), the aethylcetate fraction showed cytotoxic activity in vitro bioassay using LI 210 leukemia cells line (IC50 12,37 pg/ml). In the seconds study, isolation of cytotoxic compound from aethylcetate fraction. The cytotoxic compounds was identification the by using ultraviolet-visible (UV-Vis) spectra data, Fourier transform infra red 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 LI 210 leukemia cultured cells . From the aethylacetate fraction was isolated two cytotoxic compounds. The compounds showed cytotoxic activity in vitro bioassay using LI 210 leukemia cells line, the first compound showed IC 50 6,63 pg/ml and the second compound showed IC50 4, 78 pg/ml. Based on infrared, ultraviolet, proton nuclear magnetic resonance and mass spectra data, indicated that the first compound was benzaldehyd dimethylamine, and the second one was flavonoid glycoside.