Penentuan kandungan annonaceous acetogenin pada daun sirsak menggunakan metode spektrofotometri gugus lakton = Determination of content of annonaceous acetogenin on soursop leaves using spectrophotometric method of lactone group

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Abstrak

Senyawa bioaktif Annonaceous acetogenin yang berasal dari tanaman sirsak (Annona muricata) ditemukan memiliki sifat sitotoksik dan antitumor secara spesifik terhadap beberapa jenis kanker, di antaranya adalah kanker usus, payudara, paru-paru, pankreas, dan ginjal. Acetogenin yang diperoleh dari proses ekstraksi daun sirsak, kemudian dianalisis secara kualitatif (TLC, BST, FTIR) dan kuantitatif (Spektrofotometri UV-Vis). Hasil ekstraksi terbagi menjadi lima fraksi yang diberi nama F001, F002, F003, F0004, F005, dan diduga bahwa F005 mengandung acetogenin. F005 kemudian diisolasi dan terpisah ke dalam 13 bagian dengan bagian 6-9 mengandung acetogenin.
Analisis kuantitatif dilakukan dengan menghitung kandungan gugus lakton acetogenin, menggunakan senyawa standar andrographolida. Penggunaan andrographolida sebagai senyawa standar dikarenakan senyawa murni acetogenin sulit didapat, dan andrographolida memiliki gugus lakton yang hampir sama dengan acetogenin, selain itu pada daun sirsak hanya acetogenin yang memiliki gugus lakton sehingga penentuan berdasarkan gugus lakton dapat dilakukan.
Berdasarkan analisis kualitatif, hasil ekstraksi dan isolasi positif mengandung senyawa aktif acetogenin dan dari hasil analisis kualitatif diketahui F005 mengandung acetogenin paling banyak dibandingkan dengan hasil isolasi. Besarnya kandungan acetogenin pada F005 adalah 14.2% sedangkan untuk hasil isolasi berkisar antara 7% - 12%.
.....Bioactive substance annonaceous acetogenin which is originated/derived from soursop plant (Annona muricata) has been found to posses specific cytotoxic and anti-tumor properties to several cancers including colon, pancreatic, lung, and breast cancers. The acatogenin extracted from sousop leaves was analyzed qualitatively using TLC, BST, FTIR and quantititavely using UV-Vis spectrophotometry. The extracts were divided into 5 (five) fractions and F005 fraction was found to contain acetogenin. The F005 was isolated, producing 13 bottles in which bottles 6 to 9 contained acetogenin.
Quantitaive analysis was performed by measuring acetogenin lactone group using standard andrographolida compound. The use of this standard compound was due to the difficulty in finding pure acetogenin compound, and by the fact that andrographolida compound have similar lactone group with that of acetogenin, In addition, in soursop leaves there was only acetogenin which had lactone group so that the determination based on lacton group could be carried out.
On the basis of qualitative analysis, the result of extraction and isolation were positively confirmed to contain the active acetogenin ingredient, while the quantitative analysis showed that F005 produced more acetogenin than the isolation.