Evaluasi aktivitas penghambatan angiotensin converting enzyme oleh ekstrak etanol dari serbuk herba suruhan (Peperomia Pellucida (L.) kunth yang diiradiasi sinar gamma = Angiotensin converting enzyme inhibitory activity evaluation of ethanol extract from gamma ray irradiated suruhan (Peperomia Pellucida (L.) kunth herb powder / Mubarika Sekarsari Yusuf

Mubarika Sekarsari Yusuf, author

Abstrak

ABSTRAK
Peperomia pellucida (L.) Kunth telah diketahui memiliki aktivitas antihipertensi secara in-vitro melalui penghambatan angiotensin converting enzyme (ACE) dan berpotensi sebagai bahan baku obat herbal dimana dalam proses penyimpanannya pengawetan merupakan faktor krusial. Iradiasi sinar gamma merupakan metode yang efektif untuk pengawetan serbuk herba. Tujuan dari penelitian ini yaitu untuk mengevaluasi pengaruh iradiasi sinar gamma (0; 2,5; 5; 7.5; dan 10 kGy) serbuk simplisia herba suruhan terhadap aktivitas penghambatan ACE ekstrak etanolnya menggunakan substrat 3-Hidroksibutiril-Glisil-Glisil-Glisin (3HB-GGG) dari ACE Kit - WST test kit dengan microplate reader, serta menganalisis profil KLT dari masing-masing ekstrak etanol menggunakan lempeng silika gel 60 F254 dan fase gerak diklormetana:metanol (92:8). Hasil uji menunjukkan bahwa dosis 5 kGy efektif digunakan karena menghasilkan penurunan aktivitas penghambatan ACE terkecil dibandingkan sampel iradiasi lainnya. Selain hasil uji aktivitas penghambatan ACE, iradiasi sinar gamma ditemukan tidak mempengaruhi profil KLT dari masing-masing ekstrak etanol selama dua bulan penyimpanan, sehingga iradiasi sinar gamma dapat dimanfaatkan untuk metode pengawetan serbuk herba.
<hr>
ABSTRACT
Peperomia pellucida (L.) Kunth has been known for its in-vitro antihypertensive activity through inhibition of angiotensin converting enzyme (ACE) and is potential of being raw material for herbal medicine, where during its storage process, preservation is a crucial factor. Gamma ray irradiation is an effective method for preservation of herb powders. The purpose of this research is to evaluate the effect of gamma ray irradiation (0; 2,5; 5; 7,5; and 10 kGy) of the herb powder against the ACE inhibitory acitivity of its ethanol extracts using 3-Hydroxybutyryl-Glysil-Glysil-Glysil (3HB-GGG) as the substrate from the ACE kit – WST test kit using a microplate reader and also analyzing their TLC profiles using silica gel 60 F254 plates and dichlormethane:methanol (92:8) as the mobile phase. Results showed that the 5 kGy dose was effective for use because it resulted in the smallest decrease of ACE inhibitory activity compared to other irradiated samples. Besides the ACE inhibitory activity assay results, it was found that gamma ray irradiation didn’t effect TLC profiles of each ethanol extracts from the herb powders which were stored for two months, therefore gamma ray irradiation can be used for the preservation of the herb powder.