

Extraction and Various Pharmacological Activity of Allicin From Garlic

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Abstract: *Garlic has various pharmacological activities such as antibacterial, anticancer and antiinflammatory activities. In this work, fresh clove of garlic was used the raw material to prepare the garlic extracts. The aim of this work is to prepare the garlic extracts by using chemical and non-chemical extraction. For chemical extraction, different garlic/95% ethanol (w/v) ratios were 1:10, 1:15 and 1:20 using extraction methods including maceration, soxhlet, and microwave assisted extraction, respectively. For non-chemical extraction, the garlic extract was prepared by mixing the garlic and honey in the ratio of 1:1 (w/v). All garlic extracts were evaluated the bioactivities and allicin contents. The antioxidant activity and total phenolic contents of each extract were investigated by DPPH radical scavenging assay and Folin Ciocalteu method, respectively. The results revealed that the garlic extract obtained from soxhlet extraction using a mixture of garlic and ethanol in the ratio of 1:15 (w/v) displayed the highest antioxidant activity and total phenolic contents of 17.95 ± 1.05 μmol of trolox equivalents per gram of garlic and 26.88 ± 0.08 mg of gallic acid equivalents per gram of garlic, respectively. Each garlic extract was determined the content of allicin by HPLC-UV analysis. The results revealed that garlic extract obtained from the mixture of garlic and honey displayed the highest content of allicin at 8.12 $\mu\text{g/ml}$.*

Keywords: Soxhlet extraction, Microwave assisted extraction, Ultrasonic-assisted extraction, Supercritical-fluid extraction, Microwave Extraction, maceration. Pharmacological Activity