Antioxidant Activity of Javanese Ginseng (Talinum triangulare Willd.) Root Extracts

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Abstract

Antioxidant activity of the javanese ginseng root was investigated. The root extracts were prepared by solvent extraction using methanol, ethanol (96%), ethanol (70%), acetone, and hexane.Total antioxidant activity of the extracts was measured by ferric thiocyanate method, whereas radical scavenging capacity and reducing power were measured by the 1,1-diphenyl-2-picrylhydrazyl and the reducing potential methods, respectively. The result showed that the highest total antioxidant activity was observed in acetone and methanol extracts. It appread that the ability of these extracts for partitioning at the interface of the emulsion in the tested oxidation system was the highest among other extracts, therefore it had the best activity to inhibit oxidation.The highest radical scavenging capacity measured by EC_{50} was observed in acetone extract. The type of phenolic compounds of this extract appeared to be responsible for the highest radical scavenging capacity. Different phenomena occurred for reducing power.Methanol extract had the highest reducing power and the least were found with the hexane and acetone extract. It was suggested that each extracts comprised different types of phenolic based on different polarity of solvents used for extraction. The antioxidant compounds of javanese ginseng root extracts were primary antioxidant based on the ability to scavenge free radical. It could be concluded that acetone was the best solvent for antioxidant extraction of the javanese ginseng root.However, all tested antioxidant mechanisms in this research showed that vitamin E (1000 ppm) used as control had better activity than javanese ginseng root extracts (1000 ppm) for all types of solvent.Javanese ginseng extracts might contain other compounds which were not responsible for antioxidant activity, therefore at the same concentration the activity were lower than that of vitamin E.

Key words: total antioxidant activity, radical scavenging capacity, reducing power, javanese ginseng