

研究業績 英文表記

和文	
表題	熊本県南阿蘇産および海外産ハーブ熱水抽出物の抗酸化能評価
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英文	
Title	Evaluation of the Antioxidant Capacity of Hot Water Extracts from Herbs Produced in Minamiaso and Overseas
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Abstract	<p>Antioxidant capacities of dried hot water extracts of herbs produced in Minamiaso and those produced in other countries were evaluated by assays based on different principles-DPPH, ABTS, WST-1, and ferric thiocyanate (FTC) assays. Extract of spearmint from Minamiaso had significantly higher antioxidant capacity than that from the U.S. The antioxidant capacity of peppermint extract from Minamiaso was the second highest following that from the U.S., and the antioxidant capacity of lemon balm from Minamiaso was second to that from Italy. Lavender extract from Minamiaso had lower antioxidant capacity than that from France. No other significant differences were noted in antioxidant capacity for other herbs produced in Minamiaso and overseas. The antioxidant capacity of herb extracts measured by DPPH assay correlated well with that measured by ABTS and WST-1 assays. However, the antioxidant capacity of extracts measured by FTC assay was lower than that measured by DPPH assay. The correlation between DPPH and FTC assay results was also low. These results indicated that herb extracts had strong radical-scavenging activity but weak inhibiting activity of lipid peroxidation. All herbs, depending on the type and origin, had characteristic composition ratios of rosmarinic acid, eriocitrin, and luteolin 7 -O-glucoside. Eriocitrin content was significantly high in peppermint extract from Minamiaso and the U.S. Rosmarinic acid was the major compound of lemon balm. These results suggest that detected differences in the antioxidant capacity of herbs by FTC and DPPH assays were due to different activities of rosmarinic acid, eriocitrin, and other antioxidants contained in the herbs.</p>
keyword	antioxidant capacity, herb, polyphenol, rosmarinic acid, radical scavenging activity

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