

# Antioxidant Activities of Polyphenols Extracted from *Perilla frutescens* Varieties

## Abstract

The DPPH radical scavenging activity was calculated as Trolox<sup>®</sup> [(±)-6-hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid] equivalent antioxidant capacity (TEAC). The mean amount of total phenolics of the water extracts (4-29 μmol/100 mL) and the TEAC value calculated (23-167 μmol TE/100 mL) confirmed the high antioxidant activity of these leaf water extracts. These results were highly correlated with in some o-dihydroxylated polyphenolic compounds and AA. All reagents were of analytical grade. Cyanidin chloride and rosmarinic acid were purchased from Sigma-Aldrich, 2,2-diphenyl-1-picrylhydrazyl radical (DPPH) and Trolox<sup>®</sup> [(±)-6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid] were supplied by Fluka and luteolin-7-O-glucoside by Extrasynthese.

**Keywords:** *Perilla frutescens* • Polyphenolics • Anthocyanins • Flavonoids • Cinnamic acid derivatives • Antioxidant activity

## Introduction

*Perilla frutescens*(L.) Britt. (Lamiaceae) is associate degree edible plant of times employed in Asian countries like China, Choson and Japan. Among the varieties, 2 that are historically employed by native individuals are typically full-grown (var. *frutescens*, and var. *crispa*). Leaves of *P. frutescens* volt-ampere. *Frutescens* are used as a contemporary vegetable and to method pickles, whereas *P. frutescens* volt-ampere. *Crisp* is additional usually employed in China for its healthful properties. Serial dilution of the two essential oils (6 conc.) was ready in n-hexane [1]. A Whatmann filter paper (diameter 2.0 cm) were every fertilized with twenty twenty dilution, and then placed on the side of the screw cap of a glass ampoule (diameter 2.5 cm, height 5.5 cm, volume 25 mL). Eight leaf samples of *P. frutescens* were collected from numerous spaces of China (seven samples) and one sample from Japan. The leaves showed totally different degrees of red to inexperienced colorations. The DPPH radical scavenging activity was calculated as Trolox<sup>®</sup> [(±)-6-hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid] equivalent antioxidant capacity (TEAC). The mean amount of total phenolic of the water extracts (4-29 μmol/100 mL) and the TEAC value calculated (23-167 μmol TE/100 mL) confirmed the high antioxidant activity of these leaf water extracts. These results were highly correlated with in some o-dihydroxylated polyphenolic compounds and AA. All reagents were of analytical grade [2]. Cyanidin chloride and rosmarinic acid were purchased from Sigma-Aldrich, 2,2-diphenyl-1-picrylhydrazyl radical (DPPH) and Trolox<sup>®</sup> [(±)-6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid] were supplied by Fluka and luteolin-7-O-glucoside by extra synthesis. The *crispa* selection being solely red. Soluble polyphenolics were extracted from the dried leaves and analyzed by DAD-HPLC [3]. The red kind samples, 1-4, gave similar DAD-HPLC chromatograms at 530 nm, with six peaks that are known as anthocyanins. The total anthocyanin content varied from a pair of 0.9 to 4.0 μmol/100 cubic cm (expressed as cyanidin equivalent). Malonylshisonin was the foremost anthocyanin all told *P. frutescens* red samples, followed by shisonin. A very touch of anthocyanin compound was detected by DAD-HPLC in five, however not within the different green samples [4].

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## Description

The bleaching action is especially attributed to the presence within the resolution of inhibitor compounds like polyphenols. The quantity of inactivated DPPH° is proportional to the concentration of additional flavonoids, thus, the classical standardization procedure supported the employment of Trolox® as customary, can be applied for AA quantification. Correlations between every polyphenolic family and corresponding AA are investigated. These correlations are vital at P [5].

## Acknowledgements

None

## Conflict of Interests

None

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