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Effects of extraction solvents on phenolic contents, antioxidant and anticancer activities of *Prunella vulgaris var lilacina*

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Abstract

In this study, we investigated the antioxidant and anticancer activities of ethanol extract from *Prunella vulgaris var. lilacina* and its fraction. Total phenolic contents of ethanol extract of and water fraction of *P. vulgaris var. lilacina* were 303.66 and 322.80 mg gallic acid equivalents/g dry weight, respectively. Subsequently, the antioxidant activities of ethanol extract and solvent fractions were analyzed employing various antioxidant model systems including DPPH radical scavenging activity; FRAP activity; ABTS activity; SOD activity and production of reactive oxygen species. And anticancer activity was also tested using HepG2, HT29, A549, MKN45 and HeLa cancer cell lines. The ethanol extract and water fraction of *P. vulgaris var. lilacina* had a higher antioxidant and anticancer activities than other solvent fractions similar with the result of total phenolic contents. In addition, we confirmed the major compounds of *P. vulgaris var. lilacina* ethanol extract which were octadecatrienoic acid, ethyl linoleolate and hexadecanoic acid. These results suggest that the ethanol extract from *P. vulgaris var. lilacina* and its fraction could be applicable as natural source of the antioxidant and anticancer in food and pharmaceutical industry.

Biography

Dr. Kyung-A Hwang completed her Ph.D at 2004 year from Sungkyunkwan University in Republic of Korea and Postdoctoral Fellow studies from Yale University School of Medicine. Currently, she has been working in Functional Food and Nutrition Division, National Academy of Agricultural Science, senior researcher. Dr. Hwang's main area of research is the correlation of obesity, diabetes and the immune system. Currently, she is focusing on the development of new molecular bio-markers for obesity-related. She has published various renowned journals such as British Journal of Nutrition (2012), Food Chemistry (2011), Mechanisms of ageing development (2009), Journal of Immunology (2012, 2008, and 2007), Critical Reviews in Immunology (2008), etc.