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Possibility of *Platycodon grandiflorum* ethanol extract as cancer-preventing functional food

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The roots of *Platycodon grandiflorum* (PG) is one of the traditional herbal medicines commonly used to treat coughs, phlegm, and bruises in traditional medicine. PG is also known as "Doragi" in Korea and is one of the main ingredients of "Bibimbap" and widely used as food. The purpose of this study was to study the anti-oxidative and anti-tumor effects of PG to investigate the possibility of using PG's ethanol extract as a functional food to prevent cancer. PG showed the anti-oxidant activities in 2,2-diphenyl-1-picrylhydrazyl radical, 2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid) radical and ferric reducing antioxidant power assay. In addition, PG showed the highest inhibitory effect on cell proliferation in A549 lung adenocarcinoma cells than in H460 large cell lung cancer cells, MCF-7 breast cancer cell, Hep3B liver cancer cells and RAW264.8 macrophagy cells. Interestingly, PG clearly induced autophagy by changing the autophagy-related genes such as LC3, beclin-1, and ATG3. These results suggest that PG can effectively overcome oxidative stress and autophagy deficiency, which cause cancer development. Although more research should be done, PG seems to be an attractive material as a functional food to prevent lung cancer.

Biography

Su Hyun Hong has completed PhD and Postdoctoral studies from Donggeui University College of Korean Medicine. She is the Professor of Donggeui University College of Korean Medicine. She has published more than 30 papers in journals. She is named in the Marquis Who's Who Publication Board 2016.

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