

P222

## Evaluation of physiological functionalities of *Codonopsis lanceolata* root extracts on the storage temperatures and durations

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### Abstract

The effects of bioactivity, binding polyphenolic contents, DPPH radical scavenging activity, ABTS radical scavenging activity, xanthine oxidase and immune activity on the storage temperature and durations of *Codonopsis lanceolata* root were evaluated in vitro. The contents of total polyphenol and flavonoid content by storage temperature and storage period was no significant difference according to the storage period, but it was found that the content was higher at lower storage temperature. The DPPH free radical scavenging activity at six different concentrations, 500, 1000, 2500, 5000, 10000 and 20000 mg/L are measured, the scavenging activity according to different storage temperature and storage period showed relatively the higher the activity in the shorter storage period or the lower storage temperature. The ABTS radical scavenging activity did not show a significant difference under various storage temperature and storage period conditions. The xanthine oxidase inhibitory activity of *C. lanceolata* extract tended to decrease more, depending on the longer storage period or the higher storage temperature. In different storage period and storage temperature conditions, the immune cell growth of *C. lanceolata* extract promoted a concentration-dependent manner in both human T cell and B cell, and did not show a significant difference. These results of this study suggested that the root of *C. lanceolata* may assist in the potential biological activities, and can be used as a source of human health products.

**Keywords:** polyphenolic contents, DPPH, ABTS, xanthine oxidase, immune activity, *Codonopsis lanceolata*

**Acknowledgements:** This work was supported by Korea Institute of Planning and Evaluation for Technology in Food, Agriculture, Forestry and Fisheries (IPET) through High Value-added Food Technology Development Program, funded by Ministry of Agriculture, Food and Rural Affairs (MAFRA) (114036-04-3-SB010)

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