Short Communication

Extraction and Electrochemical Fingerprint of Polysaharide and Fat Soluble Compounds from Panax

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Plant systematics focuses on the evolutionary results of organisms at a particular time in the process of evolution, which aims to elucidate the evolutionary processes and patterns as well as the kinship among various taxa. *Panax* is a medicinally important genus within the family of Araliaceae, in which almost all species are of cultural significance for traditional Chinese medicine. It is of great significance to conduct an in-depth study on the phylogeny of the species of the genus *Panax* and to introduce their introduction of cultivation and utilization. The application of electrochemical fingerprints in plant phylogenetic study is an emerging research field in related to biosensors. In this work, the lipid-soluble components, ginsenosides and polysaccharides were extracted from *Panax trifolius*, *P. stipuleanatus*, *P. pseudoginseng*, *P. notoginseng*, *P. quinquefolius*, *P. japonicas*, and *P. ginseng* with supercritical CO₂ extraction technique. The electrochemical fingerprints of the 7 species of *Panax* were recorded with lipid-soluble components and polysaccharides extract. The results indicate that tetraploid species *P. ginseng* and *P. quinquefolius* are allotetraploids. *P. notoginseng*, *P. ginseng* and *P. quinquefolius* are clustered in one large branch and are more closely related. The diploid species *P. trifolius* and the tetraploid *P. quinquefolius* are both distributed in North America, but they are distributed on two different sub-branches on the same phylogenetic branch.

Keywords: Electrochemical fingerprint; Electroactive compounds; *Panax*; Phylogenetic study; Taxonomy

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