proceedings

Abstract

Ginsenosides Analysis for New Zealand Wild Grown *Panax Ginseng* †

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Background: Ginseng is a slow-growing perennial herbaceous plant of the genus *Panax. Ginseng* root has been a significant source of natural medicines to maintain the body in balance and has been used for thousands of years. Ginsenosides are the main bioactive components. They are affected by the growing environment and conditions. Unlike farmed ginseng in other countries, ginseng in New Zealand (NZG) is grown under a pine tree canopy simulation of an open wild environment. It's hypothesized that NZG may have a unique ginsenoside profile based on how it's grown. The objective of this study is to characterize NZG for future bioactive studies and understand its potential to increase incretin hormone GLP-1 secretion and influence insulin resistance.

Methods: HPLC and LC-MS/MS technology were employed to characterize ginsenosides from NZG with ages from 6-year old to 14-year old.

Results: 76 ginsenosides were detected from the main root, 69 in the fine root, 74 from the rhizome, 44 from the stem and 57 from the leaf. A total of 142.49 ± 1.14 mg/g dry weight of ginsenosides were from the fine root, 143.06 ± 8.21 mg/g from the rhizome and 62.88 ± 0.50 mg/g in the main root. Rb1, mal-Rb1, and Re were the main components, which occupy 27.49 ± 0.57, 24.94 ± 1.64, and 24.84 ± 0.06 mg/g in the 8-year old ginseng fine root, respectively. While in the aboveground parts, the main ginsenosides are Re, mRd, and Rd, accounting for 27.39 ± 2.73, 26.57 ± 4.24, and 19.67 ± 1.19 mg/g in the 14-year old ginseng leaf, respectively. Interestingly, Ro also has a relatively high concentration from 9.09 ± 0.75 to 15.07 ± 0.60 mg/g in the rhizome, which is very low in other parts.

Conclusions: The content of ginsenosides was varied and not obviously dependent on the age of ginseng grown in the open-wild forest.

Supplementary Material: The poster is available online at www.mdpi.com/2504-3900/8/1/13/s1.