Phenolic acid composition and antioxidant activity of Novel Red Ginseng (NRG) prepared by hot-air drying and vacuum drying

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This study was conducted to develop novel red ginseng (NRG) with improved antioxidative activity and phenolic acid contents by hot-air drying (HD) and vacuum drying (VD). The NRG extract was analyzed for the total phenol content, DPPH radical scavenging activity and phenolic acid content. The total phenol content was increased in NRG (HD: 1.48%, VD: 1.78%) compared to raw ginseng (0.36%) and red ginseng (0.39%). DPPH radical scavenging activities of NRG (HD), NRG (VD), raw ginseng and red ginseng extracts were 4.8~78.4%, 6.8~78.8%, 1~47.4% and 1.8~56.5% at 1~100 mg/ml concentration. In HPLC analysis, amounts of measured phenolic acid of NRG greatly increased than raw ginseng and red ginseng, but salicylic acid was not detected in NRG. In addition, DPPH radical scavenging activity of phenolic acid from NRG was increased. Consequently, we believe hot-air drying (HD) and vacuum drying (VD) process is better method than existing method to increase the bioactivity of ginseng.

Keywords: novel red ginseng, phenolic acid, antioxidative activity