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HPLC Analysis of Ginsenosides from *Panax ginseng* Adventitious Roots after Methyl Jasmonate (MeJA) Treatment

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Objectives

We analyzed the ginsenoside contents from *Panax ginseng* adventitious roots 0 h, 24 h, 72 h, and 120 h after methyl jasmonate (MeJA) treatment by high performance liquid chromatography (HPLC) respectively.

Materials and Methods

The dried *P. ginseng* of adventitious roots was extracted by ultrasonic methods, including 80% MeOH, and then the extracts were centrifuged. We extracted two times for each samples under the same conditions.

P. ginseng of adventitious roots extracts were dissolved in methanol and filtered by 0.45 μm membrain filter for HPLC analysis. Chromatographic separation was carried out at 35℃ using XDB-C18 (4.6 x 150 mm, 5 μm) analytical column. The mobile phase consisted of water and acetonitrile. The flow rate was 1.0 ml/min by 18 to 50% gradient elution method for 90 minutes. The detecting wave length was set at 203 nm.

Results

○ The total components of ginsenoside were analyzed. The value was 328.19 ppm at 0 h, 332.81 ppm at 24 h, 408.25 ppm at 72 h, and 696.67 ppm at 120 h after MeJA treatment.

○ The total ginsenoside components were increased time-dependently after MeJA treatment.

○ The content of Rb1, Rb2, Rb3, Rc, Rd, Rf, Rh was increased time-dependently.

○ Contents of Rg3 was decreased until 0 h, 24 h, 72 h after MeJA treatment, but it was sharply increased at 120 h after MeJA treatment.

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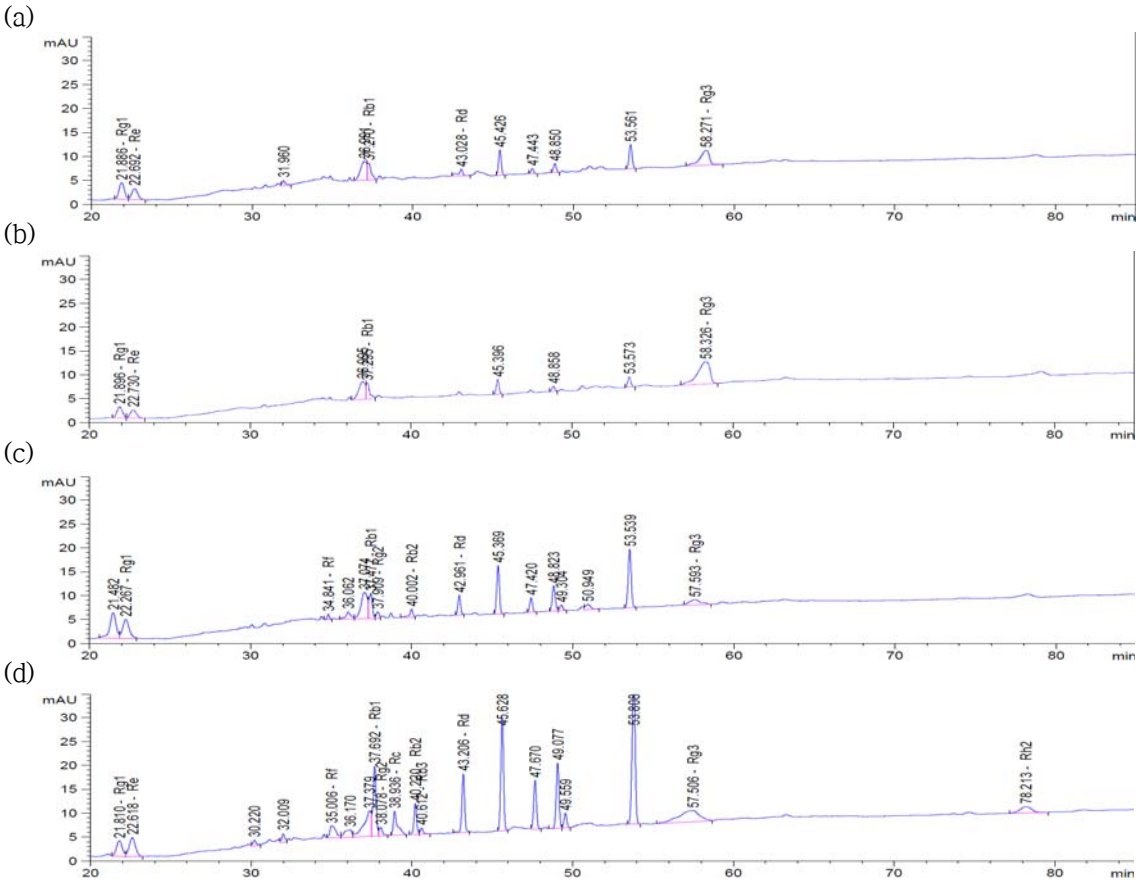

Figure 1. HPLC analysis of ginsenoside. Four chromatograms of HPLC analysis (a), the extract isolated from the MeJA treated *P. ginseng* adventitious roots for 0 h and 24 h: (b) 72 h: (c) 120 h: (d)

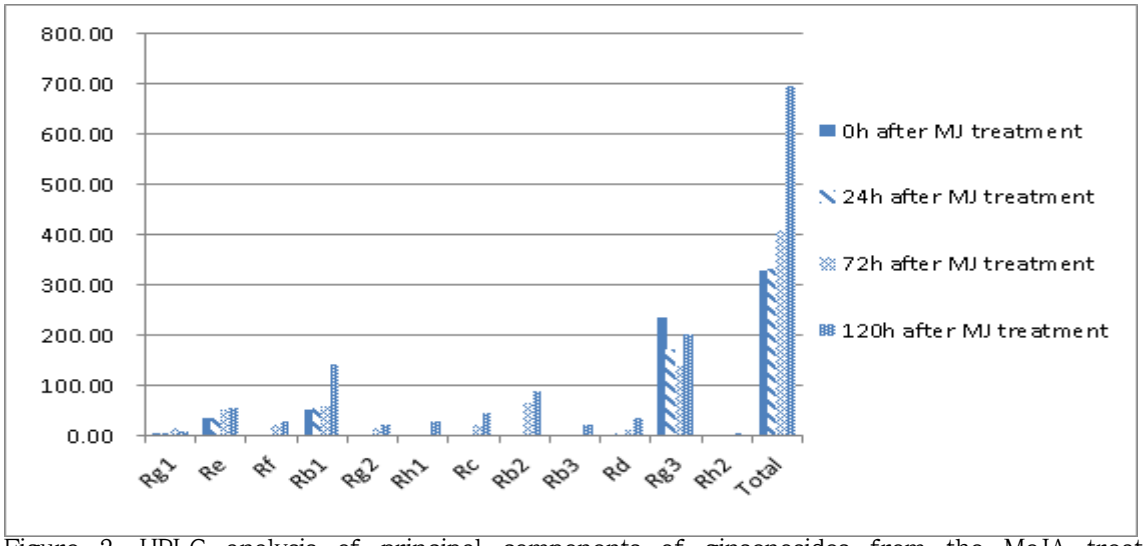

Figure 2. HPLC analysis of principal components of ginsenosides from the MeJA treated *P. ginseng* adventitious roots for 0 h, 24 h, 72 h, and 120 h