

Variation of Astragaloside Contents in Aboveground-Part and Underground-Part for *Astragalus membranaceus*

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황기의 지상부와 지하부의 Astragaloside 함량

용수정, 김은혜, 박진희, 여민아, 김선진, 권정웅, 송성현, 장미소,

임정대, 최대성, 유창연, 안종국, 정일민*

Objectives

Astragalus membranaceus well-known to exhibit health-beneficial effect on humans. Especially, It has been used as a tonic for promoting metabolism and immune system. So, in this study, 4 types of astragaloside which has been known saponin (biologically active substances) in astragalus was analyzed by HPLC with ESLD. And you can see a variation pattern in aboveground-part and underground-part *Astragalus membranaceus*

Materials and Method

○ Plant materials

There were used by material for studying astragaloside variation effect pattern aboveground-part and underground-part *Astragalus* (main root, lateral root)

○ Methods

-Preparation of samples

1. *Astragalus* was grind and put *Astragalus* through a sieve for eliminating a large fiber.
2. *Astragalus* was measured 3g and dissolved in 100% MeOH solution then sonication for 2 hour.
3. Treated samples were filtered with 0.2 μ m synringe filter (Nylon, TITAN)
4. Started for analyzing the samples.

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-Astragaloside analysis

1. Mobile phase solution in Evaporative Light Scattering Detection (Alltech ELSD 2000 ES, USA)

Astragaloside I - ACN : Water = 45 : 55

Astragaloside II, III, IV- ACN : Water = 40 : 60

2. ELSD condition

	temperature(℃)	Gas-flow(L/Min)	Gain	Impactor
Astragaloside I	94.8	2.5	1	OFF
Astragaloside II, III, IV	97.0	2.6	1	OFF

Results

These result shows that a Astragaloside contents in *Astragalus*. In the comparison of Astragaloside contents in aboveground-part with underground-part *Astragalus*, a Astragaloside I and II contents of underground-part *Astragalus* had higher than those of aboveground-part *Astragalus*. Especially, lateral root in underground-part *Astragalus* was the highest Astragaloside II (23912.5 μ g/g) contents. Although lateral root and main root was same part of *Astragalus*(underground-part), Astragaloside I and II contents of lateral root had much higher than those of main root. The variation of Astragaloside contents indicated the significant relationship among *Astragalus* parts.

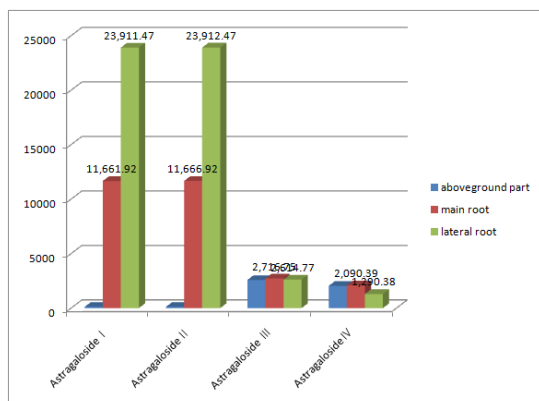


Figure1. The comparison of Astragaloside contents in aboveground-part and underground-part *Astragalus*