

황기뿌리 Ethanol추출물의 항염증 및 항산화 평가

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Anti-inflammatory and Anti-oxidant Activities of Ethanol Extracts from *Astragalus membranaceus* Roots

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Objectives

To measure and compare anti-inflammatory and anti-oxidant activities of ethanol extracts from *Astragalus membranaceus* roots of 5 kinds of different growth years (1 year, 2-3 years, 3-4 years, 4-5 years and 6 years).

Materials and Methods

○ Materials

5 kinds of *Astragalus membranaceus* (1 year, 2-3 years, 3-4 years, 4-5 years and 6 years) were purchased from Chuncheon city of Kangwon-do in Korea. All of samples were extracted by ethanol for three days. Then 5 kinds of ethanol extracts were obtained.

○ Methods

DPPH free radical scavenging activity assay.

Hydroxyl radical inhibition assay.

Anti-inflammatory activity assay.

Results

Table 1 Antioxidant activity of ethanol extracts from *Astragalus membranaceus* roots by DPPH free radical scavenging test. α -Tocopherol and vitamin C were used as positive controls. α -Tocopherol was used as positive control.

Table 2 Hydroxyl radical-scavenging activities of ethanol extracts from *Astragalus membranaceus* roots. α -Tocopherol was used as a positive control.

Fig. 1. iNOS expression from LPS-stimulated RAW 264.7 cells co-treated with ethanol extracts from *Astragalus membranaceus* roots. A: 1 year sample; B: 2-3 years sample; C: 3-4 years sample; D: 4-5 years sample; E: 6 years sample.

Discussions

All results denoted that ethanol extracts of 5 kinds of different growth have significant antioxidant activity, considerable and similar, suggesting that ethanol extracts from *Astragalus membranaceus* roots could be used as a potential source for pharmaceutical material.

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Table 1

Sample	DPPH Scavenging Activity (IC ₅₀ : µg/ml)
1 year	1452.67
2-3 years	1121.81
3-4 years	1162.05
4-5 years	1197.64
6 years	796.66
α -Tocopherol	7.59
Vitamin C	3.42

Table 2

Sample	Hydroxyl Radical Scavenging Activity (IC ₅₀ : µg/ml)
1 year	13.87
2-3 years	15.35
3-4 years	11.31
4-5 years	31.59
6 years	19.76
α -Tocopherol	7.87

Fig. 1.

