

Isolation of Flavonoid from *Allium thunbergii* G. Don

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Objectives

Allium thunbergii G. Don grows as a perennial plant, and is widely distributed in Korea. Its whole plant has been used a folk medicine and a chinese crude drug.

In our continuing studies to find bioactive compound from natural products, flavonoid compound was isolated from the active fraction of *A. thunbergii* by using ORAC assay.

Materials and Methods

○ Plant Material

The flower of *Allium thunbergii* G. Don were collected at Pa-Ju, korea, in sep. 2008.

○ Extraction and Isolation

Flower of *Allium thunbergii* G.(600g) were swelled with 9L of 95% aqueous ethanol(EtOH) followed at room temperature.

The combined extracts were evaporated in vacuo to remove EtOH, and the residual extract was partitioned between n-hexane, CH₂Cl₂, EtOAc, n-BuOH and water.

The n-BuOH eluate was rechromatographed on ODS gel using 50% aqueous MeOH as a mobile phase to give 9 fractions by monitoring with ODS TLC analysis.

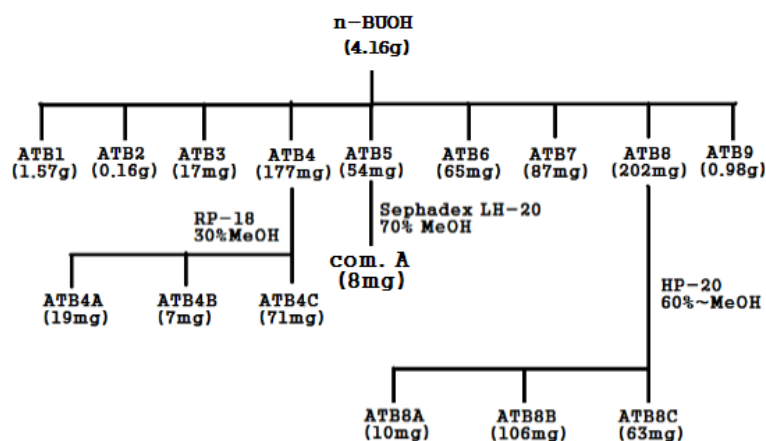
○ ORAC assay

The ORAC values of isolated compounds were measured according to a method described in an earlier paper(Cao, G. et. Automated assay of ORAC with COBAS FARA II. *Clin. Chem.* 1995, 41, 4619-4626).

Results

A previous study indicated that the n-BuOH eluate exhibited the strongest antioxidant activity, so that the n-BuOH eluate was further purified using chromatographic techniques to result in the isolation of flavonoid.

The ORAC value of flavonoid compound was relatively high.



Scheme.1 Isolation of compound **A** of *n*-BuOH fraction from flowers of *Allium thunbergii* G. Don

Table. 1 Antioxidant activity of *n*-BuOH fractions of *Allium thunbergii* G. Don

Extract and Fractions	ORAC _{PE}
ATBT	1.25±0.019
ATB1	0.92±0.029
ATB2	1.12±0.028
ATB3	1.01±0.020
ATB4	1.02±0.011
ATB5	1.03±0.031
ATB6	1.05±0.022
ATB7	1.15±0.023
ATB8	1.13±0.017
ATB9	0.89±0.025
Trolox	1.00±0.017

Table.2 Antioxidant activity of compound **A** from *Allium thunbergii* G. Don

Compound	ORAC _{PE}
ATBCOM A	1.05±0.025
Trolox	1.00±0.015