

## 콩 Saponin의 분리·정제 및 품종에 따른 변이

작물과학원 : 김선림\*, Mark A. Berhow, 송진, 김정태, 지희연, 박남규, 손종록

### Isolation of Soyasaponins and Variation in Soybean Varieties

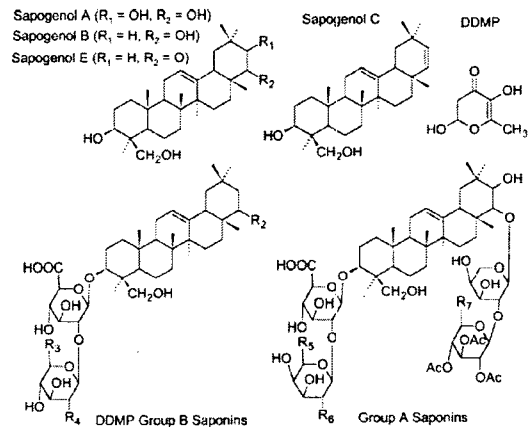
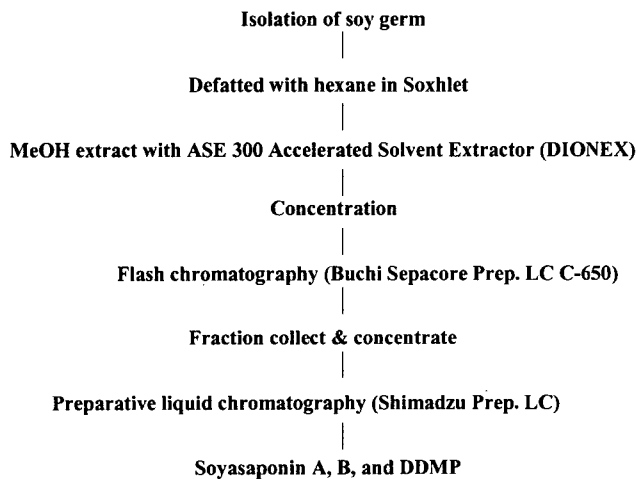
Sun-Lim Kim\*, Mark A. Berhow<sup>1</sup>, Jin Song, Jung-Tae Kim, Hee-Youn Chi, Nam-Kyu Park, and Jong-Rok Son  
 National Institute of Crop Science, R.D.A. Suwon 441-857, Korea  
 1USDA-ARS, Nation Center of Agricultural Research, Peoria, IL 61604, U.S.A.

#### 실험목적

콩에 함유된 saponin을 분리·정제하고, 국내육성 주요 콩 품종의 saponin 함량 변이를 검토하고자 함

#### 재료 및 방법

##### ○ Soyasaponin의 분리 및 정제

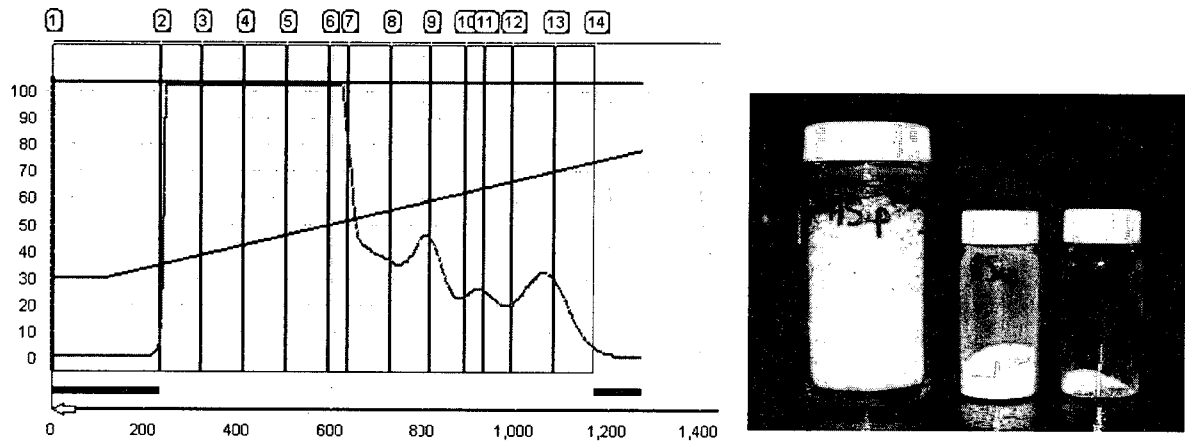


##### ○ 콩 주요 품종의 saponin 함량 변이

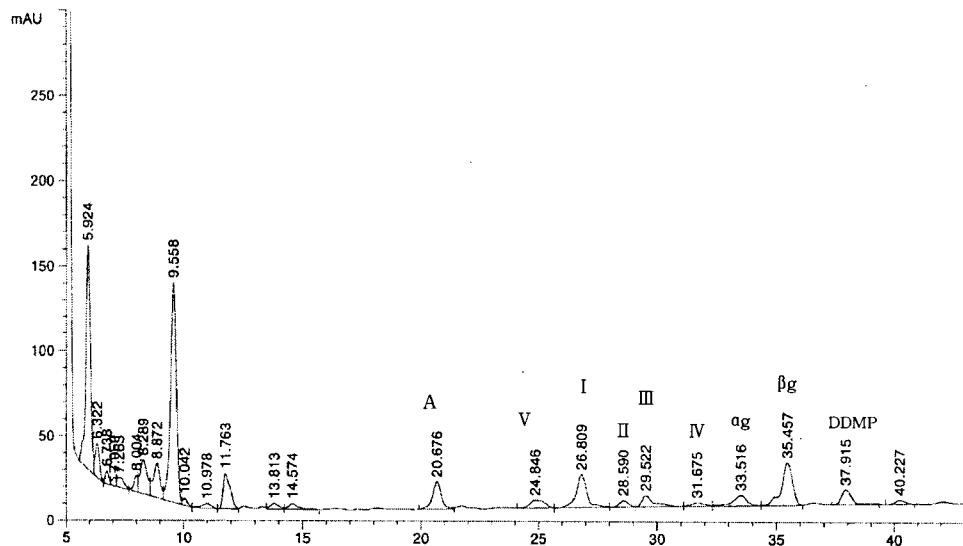
- 시험재료 : 신평달콩 2호 등 34품종
- 시험방법 : Hewlett Packard Series 1100 photodiode array system, 285nm  
 Column: 4.6mm×250mm Inertsil C<sub>18</sub>, 5μ column (Varian, Torrance, CA)  
 Mobile phase: 20% MeOH (0.025% TFA), 100% MeOH (0.025% TFA)  
 Gradient: 1.0mL/min, 20%의 MeOH ---> 100% MeOH, 50분간 gradient

#### 실험결과

- 콩의 MeOH 추출물을 flash chromatography와 Preparative LC를 이용하여 soyasaponin A, B, DDMP를 분리하였다.
- 신평달콩2호를 비롯한 국내육성 34품종의 saponin 함량의 평균은 108.7mg/100g 이었다.



**Fig. 1. Isolation of soyasaponins with flash chromatography.** Column was packed with preparative C<sub>18</sub> 125A, 55–105 $\mu$ m bulk packing material.



**Fig. 2. HPLC chromatogram of soyasaponins in Korean soybean variety Sinpaldalkong 2.**

**Table 1. Soyasaponin concentration (mg/100g) in Korean soybean varieties (n=34)**

Group A soyasaponin	----- Group B soyasaponin -----						DDMP	Total
	I	II+III	IV	V	ag	βg		
12.5±5.4	25.5±7.0	11.0±4.2	6.1±2.5	7.9±2.6	10.1±4.0	23.9±9.4	11.7±6.4	108.7±29.1