

Table S1. Calibration equations of isoflavone standards

Isoflavone	Equation of linear regression	Coefficient of determination (R^2)	Linearity range ($\mu\text{mol/ml}$)
Daidzein	$y = 108.43x - 1.778$	1	1–30
Glycitein	$y = 92.292x - 0.5878$	1	0.25–10
Genistein	$y = 141.91x - 1.9569$	1	1–20

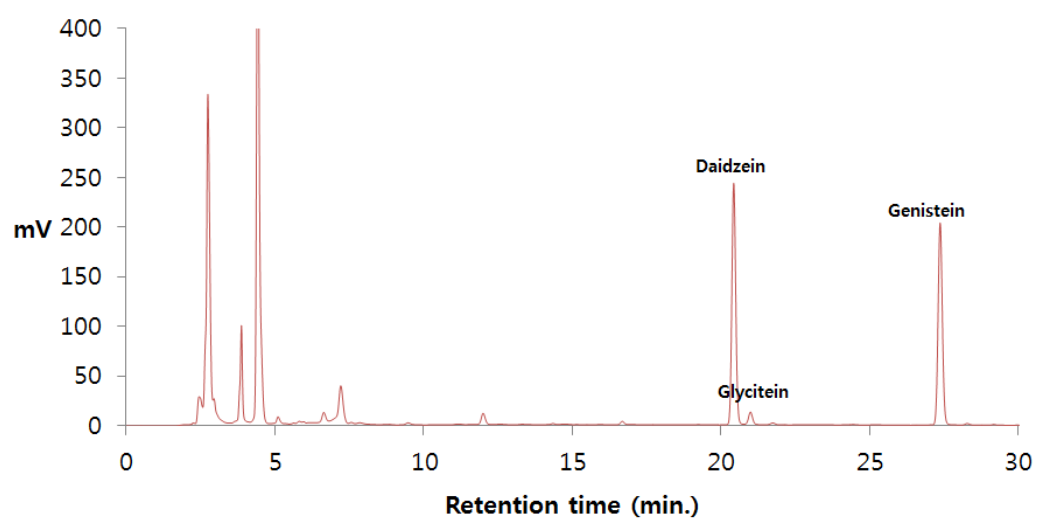


Figure S1. HPLC chromatogram patterns (UV 254 nm) of seed isoflavones.

Table S2. Analytical conditions of HPLC for isoflavone

Parameter	Condition
Instrument	Waters 600 pump & controller, Waters 717 autosampler, Waters 486 tunable absorbance detector
Wavelength	254 nm
Mobile phase	Acetonitrile: Water + 0.1% Acetic acid = Acetonitrile 20 → 50%/30min (gradient)
Flow rate	1.0 mL/min
injection volume	20 μ l
Column	YMC-PACK Pro C18 column (250 X 4.6 mm)

Table S3. Maximum, minimum and mean value of protein contents in soybean germplasms

	Max.	Min.	Mean	±SD	CV(%)
Protein (g 100g ⁻¹)	44.5	28.7	39	2.4	2.2

Table S4. Selected accessions for its high protein contents

IT No.	Protein (g 100g ⁻¹)	Country	Seed color	Seed size	100 Seed weight(g)
IT263050	44.5	CHN*	Black	Medium ※	20.2
IT101111	44.0	KOR	Yellow	Large	28.9
IT24921	43.8	CHN	Yellow	Medium	21.7
IT167907	43.8	KOR	Yellow	Small	11.8
IT102595	43.6	KOR	Yellow	Small	12.2
IT161574	43.5	CHN	Yellow	Medium	20.7

*CHN: China, KOR: Korea

※Large(100 seed weight: 24g~), Medium(100 seed weight: 13~24g), Small(100 seed weight: ~13g)

Table S5. Maximum, minimum and mean value of Isoflavone contents in soybean germplasms.

Statistics	Isoflavone contents ($\mu\text{g g}^{-1}$)			
	Daidzein	Glycitein	Genistein	Total
Max.	2081.4	443.7	1378.4	3561.8
Min.	56.4	17.7	28.2	207.0
Mean	338.4	126.0	424.2	888.8
\pmSD	207.0	67.1	197.6	411.2
CV(%)	61.2	53.3	46.6	46.3

Table S6. Selected accessions for its high isoflavone contents

IT No.	Country	Seed color	Seed size [*]	Isoflavone contents($\mu\text{g g}^{-1}$)			
				Daidzein	Glycitein	Genistein	Total
IT262889	JPN*	Yellow	Medium	2081.4	101.96	1378.4	3561.8
IT171009	CHN	Brown	Small	1015.9	305.9	949.1	2271.0
IT100869	JPN	Yellow	Large	923.13	182.6	1144.7	2250.5
IT208248	USA	Brown	Small	829.37	443.7	906.2	2179.3
IT142911	USA	Black	Small	1043.0	373.3	612.3	2028.7
IT142854	USA	Black	Small	1060.4	314.9	641.8	2017.1

* JPN: Japan, CHN: China, USA: United States of America

^{*}Large(100 seed weight: 24g~), Medium(100 seed weight: 13~24g), Small(100 seed weight: ~13g)