**Materials and Methods**

Materials — We collected eleven taxa in the field and plants were transplanted in the greenhouses of the Sungshin Women’s University (Seoul, Korea) and the Univiersity of Florida (Florida, USA). Voucher specimens are deposited in each herbarium of the university (Table #). We requested seeds of *Solanum lycopersicum* L. ‘Stupické polní rané’ (2C = 1.96 pg), and *Glycine max* Merr. ‘Polanka’ (2C = 2.50 pg) to Dr. Jaroslav Doležel (Institute of Experimental Botany, Olomouc, Czech Republic) who suggested them as size-standards in a recent technical paper for the flow cytometry (Doležel et al., 2007) and leaves of these plants were used as size standards for genome-size estimation. In each astimation, a standard sample was selected based on the previously reported genome size information in *Scutellaria* (Lee and Kim, 2017).

Methods — The genome size of each plant was estimated using flow cytometry as described in Doležel et al. (2007). Fresh leaves from a standard plant and a sample for estimation (each ca. 5 mm²) were co-chopped using a razor blade in a petri dish with DAPI Prep DNA Staining Solution (SONY, Biotechnology Inc., USA) and incubated two minutes for staining. Cell sorter SH800 (SONY, Biotechnology Inc., USA) was used to measure the fluorescence of the stained cells and each sample measured more than 5,000 particles. Each analysis was repeated three or more times using different leaves or different individuals, and their average and standard deviation were calculated. The 2C-value was estimated based on the relative counts between G1 (growth 1 stage on the cell division) peak from a standard plant and that from a sample for the estimation. The genome size (bp) was estimated based on relative rate between 1C-value and number of bases: 1C (pg) DNA = 0.978 ×109 bp (Doležel et al., 2007).

Table 1. Genome size of *Scutellaria* included in this study and their voucher information

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| --- | --- | --- | --- | --- |
| Taxa | Voucher  Info. | Standard  Plant | 1C ± SD (pg)a | Genome  Size (Gbp) |
| *S. altissima* L. |  | *Solanum* | 0.40 ± 0.02 | 0.39 |
| *S. arenicola* Small |  | *Glycine* | 0.87 ± 0.02 | 0.85 |
| *S. baicalensis* Georgi |  | *Solanum* | 0.55 ± 0.00 | 0.54 |
| *S. barbata* D.Don | *S. Kim 2019-056* | *Solanum* | 0.53 ± 0.03 | 0.52 |
| *S. dependens* Maxim. | *S. Kim 2019-065* | *Solanum* | 0.45 ± 0.01 | 0.44 |
| *S. hastifolia* L. |  | *Solanum* | 0.39 ± 0.04 | 0.39 |
| *S. havanensis* Jacq. |  | *Solanum* | 0.38 ± 0.03 | 0.37 |
| *S. leonardii* Epling |  | *Glycine* | 0.51 ± 0.02 | 0.50 |
| *S. pekinensis* var*. alpina* (Makino) Hara | *S. Kim 2015-268* | *Solanum* | 0.38 ± 0.02 | 0.38 |
| *S. racemose* Pers. |  | *Solanum* | 0.44 ± 0.03 | 0.44 |
| *S. tournefortii* Benth. |  | *Solanum* | 0.40 ± 0.01 | 0.39 |

a1C nuclear DNA contents (mean ± standard deviation)