P 55 Analysis of Genetic Diversity by Amplified Fragment Length Polymorphism (AFLP) Fingerprinting in Five *Arisaema* Species

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Objectives

This study was conducted to analysis genetic diversity of five species in *Arisaema* species and concerned with identification of genetic markers, and a utilization of the accurate and convenient method for *Arsaema* species. Classification of *Arisaema* species was conducted genetic analysis by amplified fragment length polymorphism technique.

Materials and Methods

1. Materials

Five species of *Arisaema* and commercial materials were used to study. Plant materials collected from different habitats or botanical gardens. Four habitats of *Arisaema amurease* var. *serratutumm* Nakai., one of *A. ringens* (Thunb.) Schott., one of *A. robustum* (Engl.) Nakai., one of *A. penisulae* Nakai, one of A. *amurense* var. *serratum* Nakai., and one of *A. amurense* Max were used as plant materials.

2. Methods

Amplified fragment length polymorphism (AFLP) was a PCR-based and procedure of the AFLP analysis was modified (Zabeau and Vos 1993; Vos et all. 1995). We used to eight selective primer combinations. Genetic diversity was determined according to polymorphic pattern. Analysis of genetic releationship was done NTSYS (Unweighted Taxonomy and Multivariate with Arthmetic average)-PC program.

Results and Discussion

1. Genetic diversity of five species using eight selective primer pairs identified a total of 175 fragments among the 11 samples.

2. The genetic releationship of five species were divided into two groups and the AFLP analysis detected much higher level of polymorphism than the RAPD analysis.

3. The result of the AFLP analysis between fresh leaf materials and commercial dry root materials were the same. Thus it is possible to discriminate the commercial herbal medicine based on AFLP profile, and this technique can be used as a method for discrimination in a commercial *Arisaema* and others herbal medicine.

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