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Authentication of Ginseng by Microsatellite Marker

Bo-bae Kim, Yong-eui Choi², Myung-suk Ahn, Sung-hae Kim, Eui-soo Yoon^{*1}

¹Department of Biology, Kongju National University, Kongju, Chungnam 314-701, Korea

²Division of Forest resources, Kangwon National University, Chunchon, Kangwon 200-701, Korea

Objectives

The international trade of ginseng is increasing yearly. The disguise of Chinese and American ginseng as Korean ginseng becomes a problem in recent years in Korea and abroad. Therefore efficient method to distinguish of *panax ginseng* and others is necessarily.

DNA markers are used extensively to create genetic and physical genome maps and for many basic and applied purposes. In this study, high variability and ease of detection method for the identification of various kinds of ginseng developed by microsatellite.

Materials and Methods

1. Materials

Plant – ginseng (*Panax ginseng*, *Panax quinquefolius*, *Panax japonicum*)

2. Methods

- 1) Extraction of Genomic DNA : The genomic DNA was extracted from leaves or roots.
- 2) Library construction
- 3) Cloning and extraction of plasmid DNA
- 4) DNA sequencing and sequence analysis
- 5) Designed the primer
- 6) PCR amplication

Results and Discussion

About 1,200 clones from genomic library were isolated plasmid DNA. And then sequence of 1000 plasmid among these clones was determinate by sequencing analysis. Based upon sequence database, the 48 clones obtained various microsatellite. The GA microsatellite was found to be most abundant motif in *panax ginseng*. Isolated ginseng microsatellites were further examined for marker development. These repeated sequences are useful to identification between *panax ginseng* and other.