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Development of cultivar-specific DNA sequences in orchid plants

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Objectives

We report here the detection of randomly amplified polymorphic DNA (RAPD) markers to search for specific DNA sequences and the elaboration of the sequence characterized amplified region (SCAR) markers allowing a rapid and specific identification of the cultivars.

Materials and Methods

1. Materials: Rhizomes of orchid (*Cymbidium goeringii* and *Cymbidium karan*)
2. Methods: 1) DNA isolation: genomic DNA was extracted using a DNeasy Plant Mini Kit (QIAGEN Inc.). The DNA concentration was determined for each sample using a Hoefer TKO100 fluorometer (Hoefer Scientific Instruments).
2) PCR analysis-primer (Operon Tech. Inc.)

Results and Discussion

The cultivar specific DNA sequence was developed in orchid species, *Cymbidium goeringii* and *Cymbidium karan*. Out of twenty primer tested, two cultivar specific RAPD bands were selected. The produced nucleotide segments were 661bp, 416bp, respectively. Analysis of the nucleotide sequences of the RAPD marker did not show any significant homology with previously reported sequences. Two of them were converted into a sequence characterized amplified region (SCAR) markers of 500bp and 389bp in legth and cultivar-specific.

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