Sensitive and multiplex SNP genotyping method using ligase detection reaction coupled CE-SSCP

최 웅[1], 정규열[2,3,*]

[1]POSTECH; [2]School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology; [3]Department of Chemical Engineering, Pohang University of Science and Technology

(gyjung@postech.ac.kr*)

Accuracy, simplicity, sensitivity and cost-effectiveness are the most important criteria for SNP genotpying method. One method developed for SNP genotyping, ligase-based method is considered for clinical diagnosis. However, multiplex assays using this method are limited by the detection method. Although capillary electrophoresis is attractive method for multiplex analysis, the design process and assay procedure are complicated because of the size-dependent separation principle. In this study, we developed a simple, accurate and sensitive multiplex genotyping method using ligase detection reaction (LDR) and high-resolution CE-SSCP. With this system, we are able to use similar-sized probes, simplifying the design step and assay process. In addition, this method can accurately and sensitively detect SNPs of tp53 gene used as targets for multiplex detection.