Pathogen Detection through 16S rDNA Microarray and Diagnosis Program using Neural Network Algorithm

황병희, 차형준*
포항공과대학교 화학공학과
(hjcha@postech.ac.kr*)

There have been many attempts to develop sensitive and accurate techniques for the detection and diagnosis of pathogenic bacteria using nucleic acid-based technology. To achieve efficient simultaneous detection of eleven selected marine-originated pathogens, we constructed oligonucleotide microarray containing double specific capture probes and checked pattern recognition analysis for pathogenic bacteria detection. The two capture probes were designed from the total variable region of 16S rDNA for precise detection. This microarray system harboring double capture probes and pattern recognition showed subtype discrimination between two closely related species. Therefore, using the proposed oligonucleotide microarray, we could classify species and even subtypes of some pathogens simultaneously.