Systematic Multiple-detection of Bacterial Pathogens Using Diagnostic Array and the Study of Antibiotics Treatment Effect

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Pathogenic bacteria cause various infectious diseases, which are serious diseases leading up to even death. In this reason, identification of pathogenic bacteria has become important in clinical diagnostics. Unfortunately, conventional methods such as culture system are time consuming and labor intensive. DNA microarray is receiving much attention as a powerful tool for high throughput detection of pathogen. In this study, we suggest a microarray for the detection of 39 pathogenic bacteria, which were chosen for their prevalence rates and difficulty of cultivation. The usefulness of probes designed in this study was validated by hybridizing with DNAs from reference bacteria and clinical isolates. In addition, we compared the capabilities of assay between conventional culture system and our microarray by using *Escherichia coli* and *Klebsiella pneumoniae* after antibiotics treatment. As a result, our microarray-based system could diagnose pathogens more accurately, rapidly, easily than conventional method. [This work was supported by Medigenes Co., Ltd.]