

Current Issues and Applications in DNA Chip

HWANG Seung Yong*

Department of Biochemistry and Molecular Biology & GenoCheck Co. Ltd., Hanyang Univ. Ansan, Kyunggi-do, Korea 425-791.

The genome sequencing project has generated and will continue to generate enormous amounts of sequence data. With sequencing data accumulating so rapidly, many researchers are entering the next phase of genome projects in which they functionally analyze sequence and other relevant data. To reduce the gaps between sequence data and functional informations, more sophisticated methods of expression analysis have to be developed. Therefore, DNA chip has recently developed to allow rapid quantitation of expression levels of many genes in parallel. DNA chip could also serve as a rapid detection method of identifying changes in specific gene sequences. Therefore, DNA chip can be a powerful tool for human disease research, whereby a sample of blood or a biopsy from a human would provide a source of mRNA or genomic DNA for monitoring gene expression and genotyping, respectively. A recent trend of DNA chip research is to develop integrated DNA analysis systems, DNA Laboratory-on-a-chip, which will provide the next generation of inexpensive DNA diagnostics. Therefore, the use of DNA chip technology will revolutionize many aspects of life science and human life.