

Development of DNA Chip using PAG(PhotoAcid Generator) and PNA(Peptide Nucleic Acid)

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BioScience and Biotechnology has been advancing at an unprecedented speed.

This kind of advancement is impossible without the help of innovative tools and advancement of related fields such as information and supercomputing technology. DNA chip is such a tool in Post Genome Age.

DNA Chip is a kind of chip(glass or silicon) where many different kinds of DNA are microarrayed on the tiny surface.. It is a very powerful tool for the genetic analysis. Its being used as a key technolgy in Functional Genomics by providing different gene expression profiles in diverse tissues and different conditions. DNA Chip is also used to detect gene variation(e.g., mutations and polymorphism). The beauty of this technology lies in its high throughput capability of providing enormous genetic information within short time. There are two important areas in this technology. The first one is what kinds of DNA are going to be arrayed(contents) and the other one is how to make the chip(chip fabrication)

In this presentation, different ways of fabricating DNA chips will be discussed such as Photolithography, Microspotting and Inkjet method. The progress and issues in the development of a novel DNA chip using PAG(photoacid generator) and PNA(peptide nucleic acid) as an alternative probe for DNA are also going to be presented