

## Comparison between different strategies of DNA attachment to glass surfaces to build Microarrays

임성춘, 박현규, 장호남\*  
한국과학기술원  
(hnchang@kaist.ac.kr\*)

DNA chip technology uses microscopic arrays of DNA molecules immobilized on solid supports for biomedical analysis such as gene expression analysis, polymorphism or mutation detection, DNA sequencing, and gene discovery. DNA microarray is a powerful tool allowing simultaneous detection of many different target molecules present in a sample. Primarily due to its low fluorescence, transparency, low cost, and resistance to high temperature, glass is a popular material for DNA chip technology. The efficiency of the array depends on mainly on the sequence of the capture probes and the way they are attached to the support. The coupling procedure must be quick and reproducible in order to be compatible with automatic spotting devices dispensing tiny drops of liquids on the surface. Here, we compared several methods of coupling of DNA on many different glasses such as amine modified, aldehyde activated, NCS activated, polylysine coated, and plain glass. Also, coupling buffer condition and hybridization procedure have been optimized.