

## Mesospaced surface for DNA chips

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Since the first report, DNA microarrays have attracted a great deal of attention because they allow high-throughput analysis of the DNA sequence, genetic variations, and gene expression. However, this methodology needs to be improved in terms of fidelity, reproducibility, and spot homogeneity that are essential for the standardization and application to human gene diagnosis. These shortcomings are caused mainly by the variations in the nature of the surface and molecular interlayer structures that are far from ideal. Recently, we showed that a DNA microarray fabricated on a nanoscale-controlled surface provided enhanced discrimination efficiency for various types of single nucleotide polymorphism (SNP)<sup>1-3</sup>. This approach ensures ample space between the immobilized probe DNAs which interact with an incoming target DNA with minimal steric hindrance. Thus, the improved DNA microarray promises the very reliable diagnosis of human genes. Moreover, the approach is general enough to be applied to various bioassays utilizing immobilized bioactive molecules and biomolecules.

### References

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