

## **Biochip technology for immunosensing: surface construction, signalling, and application**

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There has been an increasing demand for efficient analytical tools for immunoassays in the fields of clinical analysis and biochemical studies. Based on the requirement, a new scientific field in bioassay has been emerging, linking bioanalytical techniques with microelectronics technology. Especially, immuno- or affinity-sensing biochip technology, registering biospecific interactions such as antigen-antibody, ligand-receptor and protein-protein recognition reactions, is under great demand in terms of assay automation and throughput/output. Additionally, recent completion of human genome project (HGP) and flourishing genomics opened a new research field of proteomics, making the development of affinity-sensing techniques with biochips more important. Objectively, research trends in protein biochips area are mainly with two directions consisting the design of affinity surfaces presenting desired characteristics such as useful surface functionality, adequate immobilization density, biocompatibility, resistance to nonspecific binding, etc., and the development of novel transduction techniques, particularly stressing parallel sensing with array-type sensors. Based on the viewpoint, an overview of studies of our group will be given in the talk.

### References

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