

## HBsAg detection based on SPR and electrochemical assay

Shun Zheng, 박태정, 김현욱, 이상엽\*

Dept. of Chemical and Biomolecular Eng., KAIST

(ehukim@kaist.ac.kr\*)

A way of detecting HBsAg based on surface plasmon resonance and electrochemical assay was demonstrated. HBsAg, together with HBV DNA and anti-HBc, is one of three biomarkers for reliable diagnosis of HBV infection. In order to immobilize the capturing element, anti-HBsAg antibody onto the bare gold surface, fusion protein 6HGBP-ScFv was prepared from *Escherichia coli* through recombinant protein technology. Thus, the gold surface activated by this kind of protein can be directly used for target HBsAg detection. Both SPR and electrochemical assay exhibited successful interaction between target HBsAg and immobilized antibody fragment [Our work was supported in part by the IT Leading R&D Support Project from the Ministry of Knowledge Economy through IITA and by the KOSEF through the Center for Ultramicrochemical Process Systems.].