

Study to Surface Modification of Gold Sensor Chip and Immunoassay by using Surface Plasmon Resonance Analyzer

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Recently, researchers frequently use biosensor based gold chip can couple SPR detection method. The gold surface is modified various materials including self assembly monolayer (SAM), biotin, streptavidin, dextran, Prolinker, protein G, lipid bi-layer, etc. to use as biosensor, diagnosis system. The modified gold surface can enhances immobilization amounts, orientation, activity, stability of receptor and decrease non-specific binding. Surface plasmon resonance (SPR) is optical biosensors that are widely gaining recognition as a valuable tool to investigate biological interactions. SPR is a phenomenon which involves variable absorption of light by the surface electron plasma of a metal film under specific resonance conditions. Thus, any physical phenomenon at the surface that alters the refractive index will elicit a response. The key features of SPR biosensors make this technology suitable for a wide range of applications. We modified the surface of bare gold chip by using our NHS-SAM. And we compared its results with commercial SAM. Also we observed antigen-antibody interaction and compared its results using SPR analyzer.