

A Surface Acoustic Wave Based Assay for Detection Immunoglobulin G (IgG)

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In this study, we have developed shear horizontal (SH) surface acoustic wave (SAW) sensors for the detection of immunoglobulin G (IgG) on the gold coated delay line of SH-SAW devices. As the result of the experiment, we could uniformly immobilize anti-MIgG(mouse IgG) conjugate on the surface of gold. When displaying results of immobilization on the surface of gold using G-anti MIgG conjugate and blocking buffer in frequency shift, G-anti MIgG conjugate showed frequency shift of 75.1 kHz in the initial frequency, and blocking buffer showed frequency shift of 215.7 kHz. When various concentration of MIgG was added in 100MHz type, the sensor showed 46.3, 127.45, 161.21 and 262.39 kHz frequency shift at 25, 50, 75 and 100 μg MIgG concentration compare with phosphate buffered saline (PBS) solution. The result shows that is primarily detected the frequency shift due to the change in mass loading, which results from interactions between the prove and the target layer.