

3rd International Conference and Exhibition on Biosensors & Bioelectronics

August 11-13, 2014 Hilton San Antonio Airport, San Antonio, USA

SPR biosensor for the detection of *Staphylococcus aureus*

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Surface Plasmon Resonance (SPR) based biosensors offer tremendous advantages over traditional techniques of bioanalysis including microbial detection. SPR is a modern technique that offers real time and label free detection of analytes as well as association and dissociation studies. In the last decade it has been successfully studied for ligand receptor interactions, microbial detection as well as enzymatic actions. SPR biosensors may also be successfully used for microbial detection for promising results. In this study, a commercially available SPR based biosensor of BI Company to study the microbial detection from water samples has been utilized. The gold sensor surface was functionalized to react with proteins such as protein G and monoclonal antibodies against *Staphylococcus aureus*. The results of the work show that this immunosensor can be used to detect very small number of bacterial cells with higher sensitivity and specificity. In our case 10^3 cells/ ml of water have been successfully detected. In conclusion it can be said that this technique has a strong potential to be used in microbial detection and identification.

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