

Development of the Gold Binding Polypeptide-Mediated Surface Plasmon Resonance Sensor Chip

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The gold binding polypeptide (GBP)-mediated fusion proteins, which were the GBP fused to the N-terminal end of enhanced green fluorescent protein (EGFP) or core streptavidin (cSA) gene of *Streptomyces avidinii*, were allowed to be specifically immobilized on the bare gold surface by combining a fusion protein technique and microcontact printing (μ CP) method. This platform enables the study of protein-protein and DNA-DNA interactions. The successful nanopattern generation and morphology of the fusion proteins bound onto the gold (Au) nanopatterned structures were visualized by Atomic force microscopy (AFM) and characterized by surface plasmon resonance (SPR) imaging. This simple and highly specific immobilization method would be useful for a wide variety of applications such being the use in biotechnological sensors and biochips. [Our work described in this work was supported by the KOSEF through the Center for Ultramicrochemical Process Systems and the R&D program for Regional Development, which is sponsored by the MOCIE]