Selective Immobilization and Diagnosis Protein Chips on PHB-Based Microarray Using Extracellular Depolymerase Substrate Binding Domain for Site-Directed Capturinge Ligand to Detect Protein-Protein and Antigen-Antibody Interactions

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Abstract

This work describes a novel method for the selective and non-covalent immobilization of proteins to PHB (Poly(3-hydroxybutyrate))-based microarray with proper orientation of the proteins. The strategy is based on specific binding domain of the extracellular PHB depolymerase to PHB chip.

The versatility of the substrate-binding domain of PHB depolymerase has been studied by using green fluorescent protein (GFP) and single chain antibody of hepatitis B virus (scFV) fusion protein for protein chip method. Our methods are capable of the detection of protein-protein and antigen-antibody interactions.

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