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Auto-Detection of Bead-Immobilized Proteins via Synthetic Ligands

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Inventors

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Invention Description

Protein microarrays have the potential to revolutionize proteomics research for vaccine development, drug discovery, and diagnosis. However, this potential is far from being realized mainly due to technical complexity of protein array fabrication and uncertainties about the functionality and integrity of proteins once immobilized onto a solid surface.

Researchers at the Biodesign Institute of Arizona State University have developed a native protein array that combines the advantages of current *in situ* self-assembled and spotted microarrays. By directly spotting protein-carrying magnetic beads onto a glass substrate, functionally verified proteins will remain in their native conformation, permitting high-density arrays to be produced in high volume.

This approach has the potential to significantly impact antigen identification and vaccine development, and also to accelerate biomedical research, drug development, and diagnostics.

Potential Applications

- antigen identification
- drug and vaccine development
- biomedical research
- medical diagnostics

Benefits and Advantages

- proteins maintain their native conformation
- yield and quality of expression can be verified throughout the process
- eliminates time-consuming protein expression and purification steps
- high throughput

Intellectual Property Status:
Patent Pending

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