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Selective Immobilization of Proteins onto Solid Supports Through Split-Intein Mediated Protein Trans-Splicing

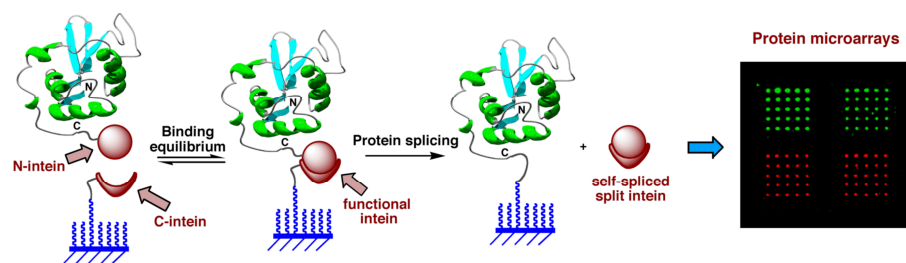
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Protein microarrays have emerged as important tools for screening protein-protein interactions and hold great potential for various applications including proteomics research, drug discovery, and diagnostics. This work describes a novel method for the traceless immobilization of proteins to a solid support through split-intein mediated protein trans-splicing. This method has been successfully used for the immobilization of biologically active proteins from very diluted samples ($\approx 1\mu\text{M}$) and it does not require the purification of the protein to be attached. This makes possible the direct immobilization of proteins from complex mixtures such as cellular lysates and it can also be easily interfaced with cell-free expression systems for high-throughput production of protein microarrays.