

Technology Offer

Protein Array for the Identification of Interaction-Partners.

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TO 03-00149

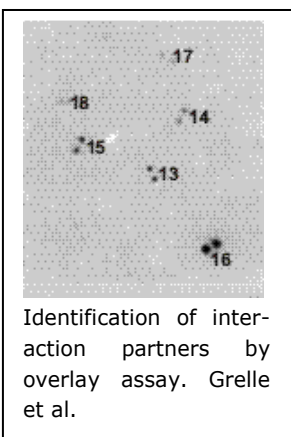
The Challenge

Protein arrays have become a powerful tool for the detection of proteins, monitoring of protein expression levels, and for identification of binding partners within protein/protein-, protein/nucleic acids- or protein/drug-interactions. Arrays are widely used in fundamental research, and become increasingly significant in clinical diagnostics and prognostics as well. Accuracy and reliability are prerequisites for the broad use of protein arrays in all application fields. In addition, the value of an array is strongly influenced by the number and quality of the proteins presented on the array.

Consequently, protein supply for an array has to be considered as one main limiting step in chip design technologies. The protein should be available in sufficient amounts, allowing strong and specific signal intensities. Furthermore, all proteins should have the native folding characteristics in order to provide experimental data, that clearly reflect the natural conditions.

Currently, proteins for array technologies are either provided by cell-based expression systems for recombinant proteins, by isolation from natural sources, or by chemical synthesis. These methods, although constantly optimized, are either time and costs consuming, or cannot rule out protein denaturation and degradation. There is a strong demand to overcome these limitations in order to benefit from protein array potential.

The Technology



The invention provides a method for protein array setup using recombinant proteins derived from crude cell extracts. The procedure allows a quick and easy recovery of native recombinant proteins from cells without laborious purification steps and their use in various assay formats. The method is suitable for high throughput purposes, and in particular can perfectly be applied for large expression libraries from bacteria, yeast, or mammalian cells. Protein arrays generated according to the invention allow analysis of protein-protein interactions, e.g. by combination with defined protein expression clones, or the analysis of protein interactions with nucleic acids or chemical and natural compounds.

Commercial Opportunity

- In-licensing for the development and distribution of protein arrays.
- Scientific collaboration.

Patent situation

A European Patent Application is filed (EP 05090248.5; unpublished).

Further Reading

Grelle et al., 2005, Mol. Cell. Proteomics, in press.

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