

Label and label-free detection techniques for protein microarrays

ABSTRACT

Protein microarray technology has gone through numerous innovative developments in recent decades. In this review, we focus on the development of protein detection methods embedded in the technology. Early microarrays utilized useful chromophores and versatile biochemical techniques dominated by high-throughput illumination. Recently, the realization of label-free techniques has been greatly advanced by the combination of knowledge in material sciences, computational design and nanofabrication. These rapidly advancing techniques aim to provide data without the intervention of label molecules. Here, we present a brief overview of this remarkable innovation from the perspectives of label and label-free techniques in transducing nano-biological events.

Keyword: Protein microarray; Protein chip; Detection method; Label technique; Label-free technique