

(Optical particles for high throughput screening system and bio-imaging)

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Since protein detection has potential uses for early detection and diagnosis of various diseases, there have been considerable interests in the development of multiplex protein detection techniques. Among the various techniques for high-throughput protein screening, optically encoded beads combined with fluorescence-based target monitoring have great advantages over planar array-based multiplexing assays. Recently, we have developed several kinds of optical encoded beads such as multilayer fluorescence beads and SERS encoded beads for generating a large number of coding. And, their beads based novel protein detection strategies which can be applied for label-free protein detection were also developed. Moreover, some novel SERS or QDs encoded nanoparticle were also developed for bio-imaging. Optically encoded micro/nano particles which are suitable for multiplex detection systems will be discussed.