

colorimetric multiplex immunoassay using hydrogel microparticle

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In accordance with growing demands for quantification of multiple proteins in solution, bead-based immunoassay using hydrogel microparticles has one of the method noted for its possibility to detect multiple analytes with graphycally-encoded microparticles. However, it still remains constraints for bead-based immunoassay using microparticles to be applied practically, because microparticles are labelled with fluorescent dye which has problem for fluorescence quenching and requires expensive equipments to analyze signal. Herein, we introduce colorimetric detection signaling method to bead-based assay. Using colour dyes generated in an amplifiable enzymatic reaction which accumulate in pores of microparticle in the presense of a target proteins, the hydrogel microparticles were imaged and anlysed using low-cost portable devices.