Fabrication of Immune-Affinity Monolithic Array for Detection of α-Fetoprotein and Carcinoembryonic Antigen

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Abstract : In this paper, we presented a highly sensitive immune-affinity monolithic array for detection of α-fetoprotein (AFP) and carcinoembryonic antigen (CEA). Firstly, the epoxy functionalized monolith arrays were fabricated using UV initiated copolymerization method. Scanning electron microscopy (SEM) image showed that the poly(BABEA-co-GMA) monolith exhibited a well-controlled skeletal and well-distributed porous structure. Then, AFP and CEA immune-affinity monolithic arrays were prepared by immobilization of AFP and CEA antibodies on epoxy functionalized monolith arrays. With a non-competitive immune response format, the presented AFP and CEA immune-affinity arrays were demonstrated as an inexpensive, flexible, homogeneous and stable array for detection of AFP and CEA.

Keywords : chemiluminescent detection, immune-affinity, monolithic copolymer array, UV-initiated copolymerization **Conference Title :** ICAEB 2016 : International Conference on Agriculture, Environment and Biotechnology

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