

The High Throughput Lambda DNA Separation with Amino Functionalized Magnetic Nanoparticles

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This work presented the development of high throughput lambda DNA separation process using the amino-functionalized silica coated magnetic nanoparticles. The magnetic nanoparticles were synthesized and coated with silica in controlling the coating layer thickness and their sizes. The surface modification was performed with amino-functionalized organosilanes on silica coated magnetic nanoparticles. All particles were characterized a SEM, TEM, FT-IR(ATR-method), XRD and BET. The image of lambda DNA separation was obtained with electrophoresis. The separation efficiency was calculated by the size effect of silica coated magnetic nanoparticles. The result indicate that the optimum effect on particle sizes and efficiency and large yields of lambda DNA-separation with high throughput.