Magnetic Nanoparticles Applied in Simultaneous Detection of Multiple DNA Targets

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Multiplexed detection of PCR-based biotinylated oligonucleotide targets has been performed with streptavidin (STA) magnetic nanoparticle and various fluorescence dye-labeled probe DNA. In this study, sexually transmitted diseases (STDs) genes, especially *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and *Ureaplasma urealyticum* were employed as a model system. STA magnetic nanoparticles were characterized by UV-Vis microscopy and transmission electron microscopy (TEM), and the multiple-step process was analyzed by fluorescence microscopy. Furthermore, magnetic nanoparticle could be employed to separate the reacted samples from unreacted ones in whole process, and control the DNA hybridization process.

References:

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