

### Enhancement of sensitivity and specificity by using magnetic particles for diagnosis of PSA based on polydiacetylene

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This study is simple with biosensor using Polydiacetylene(PDA) in base to diagnose the Prostate-Specific Antigen(PSA). Prostate specific antigen (PSA) is a protein produced by the cells of the prostate gland. PSA is present in small quantities in the serum of normal men, and is often elevated in the presence of prostate cancer and in other prostate disorders. A blood test to measure PSA is considered the most effective test currently available for the early detection of prostate cancer. Polydiacetylene(PDA) immobilization on the glass surface was achieved by NHS/EDC chemical reaction for developing of biological sensor system. This experimentation demonstrate the application of this technique for sensitive and specific diagnosis of PSA as an example of both protein binding in general and tumor marker diagnosis in particular. We can confirm that PSA was detected with chip and use interlinker and magnetic bead conjugated secondary antibody method with saw the amplification effect of signal.