

## The detection of pathogens by interlinked PDA(Polydiacetylene) liposome chip

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This study is experiment which detects 5 species pathogens that using PDA liposome chip. The used PDA liposome was improved in sensitivity by interlinker. And used interlinker was Ethylenediamine in this study. Biochip is manufactured for detection of waterborne pathogens that be considerably increases incidence and be resistant to tolerance. First of all, We manufactured PDA chip that directly conjugate mono clone antibody of pathogen in substituted surface of PDA liposome by NHS/EDC chemical reaction. But it was occurred problems that washed PDA liposome on slide. Exactly PDA liposome was not constituted monolayer and we concluded that multilayered liposome on other liposome was detached when conjugated with high molecular weight targets, except for covalent bonded PDA liposome with glass slide. We did not induce monolayer for solution of problem, induced interlinker between liposome and stably fixed by the diamine. So we obtained effect of signal amplification more than biochip of monolayer PDA liposome. In this study, we concluded optimum quantity of ethylenediamine, and gained signal graphs of 5 species pathogens concentration.