Coexpression of differential antigens on the self−assembled protein nanoparticles

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The specific two differential antigens are studied whether it has divalent immunogenicity and antigenicity. We have chosen the *E.coli* toxin inducing diarrhea. Mucosal surfaces are uniquely structured for the development of effective immune responses against pathogens that invade via the mucosal route. Like *E.coli* toxin, there is another virus antigen which is also expressed on the surface of lipid vesicles. To enhance the efficiency of antigen uptake at mucosal surfaces, E.coli toxin and virus antigens were conjugated to self−assembled protein nanoparticle that had been discovered already. The one of the self−assembled protein nanoparticles are studied continuously in our laboratory and used by recombination with various fusion partners. The protein nanaoparticles have characteristics as follows : formation of self assembled supra molecules with limited and constant sizes and solubility enhancement of heterologous proteins. So we tried that the fragments of virus antigen and E.coli toxin would be displayed on surface of protein nanoparticles. Therefore, E.coli toxin conjugated with virus antigen would gain divalent immunity and be noticed for one of the candidate of vaccine.