

Name: Generation of *Bacillus subtilis* carrying mutant *hla* from *Staphylococcus aureus* fused with *cotB* and *cotG* and studying the immunoresponse in mice

[Tạo chủng *Bacillus subtilis* mang *hla* đột biến từ *Staphylococcus aureus* với gen *cotB* và *cotG* và nghiên cứu sự đáp ứng miễn dịch ở chuột]

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Abstract

Bacillus subtilis spore has been studied as a display platform and delivery vehicle for vaccines extensively recently. As a safe and widely used bacteria in probiotics for oral bacteriotherapy both in humans and in animals, *B. subtilis* spore is potential for needle-free vaccine development. The spore production of this Gram-positive bacteria also exerts adjuvant effects. In this study, we constructed plasmids carrying mutant staphylococcal alpha toxin gene (*Hla_{H35LH48L}*) fused with coding genes of anchor proteins, *CotB* and *CotG*. *B. subtilis* strains were generated to display antigen on spore surface. Next, we studied about immunogenicity of *B. subtilis* spores in Swiss mice via oral administration. Serum was collected and analyzed using ELISA. The result provided an assessment of immune response in mice to *B. subtilis* spores expressing antigens on the surface.

Key work: *Bacillus subtilis* spore, alpha toxin, *cotB*, *cotG*, surface display