



## Cellular immune responses induced in mice by *Salmonella hadar* O antigen

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### **Abstract**

**This study** was designed to investigate the cellular immune response in mice after parenteral immunization with *Salmonella hadar* O antigen with and without Adjuvant. BALB/c mice were divided into three groups (each 25 mice). First group was

injected subcutaneously with *S. hadar* O antigen (heat killed O antigen), second group similarly injected with (*S.hadar* O antigen suspended in alum as adjuvant) and control group injected with phosphate-buffered saline. All mice were immunized two times on days 0 and 14. Two weeks after the last immunization, cellular immune responses to *S.hadar* were assessed using E. rosette test at 2nd, 5th and 8th week, while delayed type hypersensitivity test (DTH) skin test used after 21 days of immunization. Then all mice were challenged intraperitoneally with 4LD50 of virulent *Salmonella hadar* eight weeks post immunization. The E.rosette test in mice injected with O antigen and O antigen suspended in adjuvant showed a significant increase in the activation of lymphocyte at 2nd, 5th & 8th week after immunization. While the control group gives normal range of active lymphocyte in all weeks of experiment. DTH skin showed significant increase in thickness of the footpad skin after 24 and 48 hours post inoculation with *S hadar* soluble antigen while the control group didn't show any reaction. A significant protection was observed in the immunized groups challenged with 4 LD50 {4(1X10<sup>8</sup>)} compared with control group of mice which died within 1-2 days. In conclusion, this study indicate that the administration of *S.hadar* O antigen suspended in adjuvant can induce a significant cellular immunity more than non-suspended *S.hadar* O antigen only, but both antigens give a good protection against salmonellosis in mice.

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