



## Immune Efficacy of *Salmonella ohio* Somatic antigen in mice

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### Abstract

**This study** was designed to evaluate the effect of *Salmonella ohio* Somatic antigen on humoral and cellular immunity in mice. Two groups of mice (thirty in each) were used, first group was immunized twice at two weeks' intervals subcutaneously (S/C)

with 0.5 ml of somatic antigen (prepared by heat inactivation of *S. ohio*) containing  $1 \times 10^8$  C.F. U (protein content 200  $\mu$ g); second group was injected S/C with phosphate buffer saline (PBS). Blood samples were collected at 2, 4, and 6 weeks post booster dose. Humoral immunity was detected by ELISA test, while cellular immunity detected by E. rosette and delayed type hypersensitivity test (DTH). The immunized and control mice groups were challenged with 5LD<sub>50</sub> of virulent *Salmonella ohio* six weeks post booster dose. IgG was increased significantly ( $P < 0.05$ ) at 2, 4, and 6 weeks in the immunized group, and the maximum increase of antibody titers was determined at fourth week ( $651.7 \pm 21.3$ ) in comparison with the control group which remained within the normal value in all times of the experiment. E. rosette test showed a significantly increase in the mean of the activated lymphocyte of the immunized group at fourth week of immunization while control group gave normal range of active lymphocyte. In DTH test, immunized group showed a significant increase in footpad thickness after 24 hours post inoculation with soluble antigen in comparison with control group. Immunized mice were resist the challenge dose 5LD<sub>50</sub> {5x ( $1.5 \times 10^7$ )} of virulent *Salmonella ohio* and all mice of control group died within (3- 4) days. In conclusion, immunization of mice with somatic *S. ohio* antigen was induced humoral and cellular immune response against Salmonellosis.

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