



Immune Efficacy of *Salmonella ohio* Somatic antigen in mice

Afaf Abdulrahman Yousif^{1*} Havan Ahmed Abd-Alkareem²

¹ Zoonosis unit, College of Veterinary Medicine, Baghdad University, Iraq

² Ministry of Health, Baghdad, Iraq

ARTICLE INFO

Received: 09.08.2012

Revised: 09.10.2012

Accepted: 20.10.2012

Publish online: 20.10.2012

***Corresponding author:**

Email address:

afaf_a.rahman@yahoo.com

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 1×10^8 C.F. U (protein content 200 μ 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 5LD50 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 ± 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 5LD50 $\{5x (1.5 \times 10^7)\}$ 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.

To cite this article: Afaf Abdulrahman Yousif, Havan Ahmed Abd Alkareem, (2012). Immune Efficacy of *Salmonella ohio* Somatic antigen in mice. *Mirror of Research in Veterinary Sciences and Animals*. MRVSA 1(1),17-25.

DOI: [10.22428/mrvsa.2307-8073.2012.00113.x](https://doi.org/10.22428/mrvsa.2307-8073.2012.00113.x)

Keywords: *Salmonella ohio*, somatic antigen, Cellular Immunity, humoral immunity