

## **Efficacy of a Commercial Probiotic in Protecting Mice against *Salmonella* Infection**

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### **Abstract**

It is believed that probiotics are able to inhibit pathogenic bacteria from colonizing the gastrointestinal tract and thereby prevent infection and even mortality. On this basis, this project was undertaken to examine the efficacy of a commercial probiotic in preventing infection in the mouse model. This probiotic is made up of 8 bacterial species from 3 genera. Forty 6-week old white ICR mice were used in this project. The mice were divided into 7 groups consisting of positive and negative controls, 2 preventive groups and 3 treatment groups. The infective inocula were made up of a *Salmonella typhimurium* isolate. All mice in the positive control and treatment groups were severely affected when inoculated with the *Salmonella* isolate. Eleven (73%) of the 15 mice in the treatment groups died from the *Salmonella* infection. *Salmonella* was recovered from the internal organs of the mice in the positive control group and the treatment groups. No *Salmonella* was isolated from the internal organs of the mice in the negative control and the preventive groups. This showed that the probiotic was not able to prevent serious infection if given during or after infection. When the probiotic was given earlier as a prophylaxis, it was able to prevent serious infection. In this project, it is seen that none of the mice from the preventive groups succumbed to the *Salmonella* infection. It was clearly shown that probiotics were able to prevent adverse infection if given earlier as a prophylaxis.

**Keywords:** probiotic, infection, mice, mortality, *Salmonella*