

## **ABSTRACT**

**THESIS:** Examination of the Effect of Reduction of Probiotic Species *Lactobacillus* due to Broad Spectrum Antibiotic Treatment on Oral Tolerance

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Antibiotic usage is on the rise in industrialized countries and as a result the prevalence of autoimmune and atopic diseases has risen. The use of antibiotics is connected to a depletion of the microflora located within the gastrointestinal tract. The microflora contains a variety of different bacterial species, including some that are probiotic species, Lactobacilli and Bifidobacteria, which have a beneficial effect on the host. Probiotic species of bacteria are important for immune function due to their ability to regulate oral tolerance, a state of unresponsiveness to antigens that have been introduced orally to the host. The goal of this study was to assess the effect of broad spectrum antibiotic treatment on the probiotic species Lactobacilli and the resulting effect on the induction of oral tolerization to the antigen ovalbumin.