

**TITLE:** Quantitative detection of *Lactobacillus* spp. from fecal microbiota of allergic children to cow milk with exclusion diet.

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**ABSTRACT:**

Microorganisms belonging to the intestinal microbiota called probiotic confers advantages to the host's health. Species of *Bifidobacterium* and *Lactobacillus* are found in low amount in the gastrointestinal tract of children with food allergy. In the present study, a quantitative detection of *Lactobacillus* spp. in the fecal microbiota of children with allergy to cow's milk with total exclusion of the milk's proteins was evaluated. Fifty (50) fecal samples were analyzed, twenty five (25) from healthy and twenty five (25) from allergic children receiving milk's protein exclusion diet. Samples were analyzed at the Institute of Biomedical Science at the University of Sao Paulo. Fecal samples were streaked onto selective media and incubated in anaerobiosis (90% N<sub>2</sub> /10% CO<sub>2</sub>) at 37 °C, 72 h. Species were identified by PCR with specific primers, and their quantification was performed by real time PCR (qPCR) using the SYBR<sup>®</sup> Green system. Data were analyzed by Kruskal-Wallis test ( $P < 0.05$ ). In the allergic children, 14 (56%) samples harbored *Lactobacillus* spp., and 45 strains were isolated. They were distributed in 15 (33.3%) *Lactobacillus* sp., 20 (44.4%) *L. rhamnosus*, and 10 (22.2%) *L. casei*. In non-allergic children, from 20 (80%) samples 74 strains were isolated, and they were distributed in 14 (18.6%) *Lactobacillus* sp., 46 (62%) *L. rhamnosus*, and 16 (21.30%) *L. casei*. The quantitative analysis showed median values of 5.45 x 10 copies/g of feces in allergic children, and 5.50 x 10 copies/g of feces in non-allergic, without statistically significant values. Our results show no quantitative differences between the species of *Lactobacillus* in the children fecal microbiota; however, a low *Lactobacillus* species diversity isolated from allergic and non-allergic children's groups were observed.

**Keywords:** Intestinal microbiota, *Lactobacillus* spp., Allergy to cow's milk.

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