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Title: Oral administration of *saccharomyces cerevisiae* inhibits the allergic airway response in mice

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Body: Background: Probiotics may be effective in the treatment and prevention of allergic disease. Treatment with *Saccharomyces cerevisiae* protected mice against intestinal infections, prevented bacterial translocation and increased IL-10 production. There is no study of *Saccharomyces cerevisiae* in the prevention or treatment of asthma. Objective: We investigated the effects of *S. cerevisiae* UFMG 905 on the response to antigen challenge in a mouse model. Methods: Balb/c mice were sensitized twice with ovalbumin (OVA) i.p. and challenged with OVA intranasally for three days. Mice were treated with *S. cerevisiae* UFMG 905 via gavaging needle before OVA sensitization and during challenge. Control mice received saline on the same days. After challenge, mice were ventilated with a small animal ventilator (FlexiVent) and in vivo measurements of bronchial hyperresponsiveness were realized. Bronchoalveolar lavage fluid (BALF) was collected to quantify total and differential cell counts and cytokine levels. Results: Oral treatment with *S. cerevisiae* UFMG 905 significantly decreased airway hyperresponsiveness, measured by total resistance, central airway resistance and tissue resistance. *S. cerevisiae* UFMG 905 significantly attenuated total cell number and the influx of eosinophils to the airway lumen. Furthermore, levels of IL-4 in BALF were significantly diminished by *S. cerevisiae* UFMG 905. Conclusion: Oral administration of *Saccharomyces cerevisiae* UFMG 905 attenuated major asthma-like characteristics in a mouse model. These results showed that oral treatment with this probiotic may have therapeutic potential in allergic airway disease. Supported by: FAPESP and CNPq, Brazil.