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Protective effects of rice bran fermented by *Saccharomyces cerevisiae* Misaki-1 and *Lactobacillus plantarum* Sanriki-SU8 in dextran sodium sulphate-induced inflammatory bowel disease model mice

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ABSTRACT

Inflammatory bowel disease (IBD) is characterised by two forms of intestinal inflammation: ulcerative colitis (UC) and Crohn's disease (CD). Oxidative stress is considered as one of the etiological factors involved in several signals and symptoms of IBD. Rice bran (RB) is a major by-product of rice polishing. In this study, the effect of fermentation by *Lactobacillus plantarum* S-SU8 and *Saccharomyces cerevisiae* Misaki-1 at 30 °C for 2 days on the antioxidant and anti-IBD properties, as well as the DPPH and O₂⁻ radical scavenging capacities, of the aqueous extract suspension (AES) of RB was evaluated. No significant effects were observed. The inhibitory effect of RB AES on lipopolysaccharide-induced nitric oxide (NO) secretion of murine macrophage RAW264.7 cells was also unaffected. However, the fermented RB AES, compared with intact RB AES, clearly showed the protective effects in dextran sodium sulphate (DSS)-induced IBD model mice.

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