Variation of β-glucan content in fermented Sparassis latifolia with Lactobacillus species

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Mushrooms are protected by antibacterial, antifungal and immune-stimulating compounds to survive in their natural environment. It is, therefore, not surprising that these compounds with more or less strong activities could be isolated from many mushrooms and beneficial for human. Particularly, Sparassis latifolia (formerly S. crispa) is an edible mushroom abundant in dietary fiber and widely known to contain high levels of β-glucan. In the present study, fermentation broths containing β-glucan were prepared by fermented mushrooms with four Lactobacillus species (L. plantarum subsp. Plantarum, L. acidophilus, L. helveticus, and L. delbrueckii subsp. Bulgaricus). After culturing four Lactobacillus spp. in MRS broth, each 5 mL was inoculated into 100 mL of MRS broth containing S. latifolia powder 5% (w/v) at 37°C in an anaerobic incubator for five days. It showed the β-glucan contents were different in each fermentation sample. The suitable conditions for the preparation of mushroom fermentation broths were investigated and discussed compared to a sample of traditional fermentation conditions.