

S7-O-4: Reduction of Anticancer Agent Side Effects by the Outdoor Cultivated *Agaricus brasiliensis* KA21

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A. brasiliensis may play a complementary role in cancer treatment by reducing side effects associated with anticancer agents. However, the physiological of *A. brasiliensis* can be affected by cultivation conditions. Thus, we aimed to verify whether the reduction in anticancer agent side effects by *A. brasiliensis* is affected by cultivation methods. In this trial, we used clinically normal female BALB/c mice. The mice were orally administered fluorouracil (5-FU) to generate a model for assessing the side effects of an anticancer agent. Mice were fed AIN93G diet (control group), with 3% indoor cultivated *A. brasiliensis* (KA21) (KAID group), or with 3% outdoor cultivated *A. brasiliensis* (KA21) (KAOD group). The side effects were then evaluated. Following the oral administration of 5FU, there was a decreasing trend in the body weight. However, the KAOD group recovered the body weight to the same level as the group without drug administration. In contrast, the AIN93G and KAID groups did not exhibit recovery. The improved recovery in body weight corresponded to greater food intake, which was greater in the KAOD group than that in the KAID group and the AIN93G group. The intake was lowest in the AIN93G group. In the evaluation of renal function, the urinary protein level was elevated in the AIN93G and KAID groups; whereas, it was notably lower in the KAOD group. The incidences of diarrhea with bloody stool were 75%, 50% and 25% for the AIN93G, KAID, and KAOD groups, respectively. Intestinal damage on day 9 of the 5-FU administration was confirmed in the AIN93G and KAID groups, but was suppressed in the KAOD group. Nausea, vomiting, and diarrhea caused by anticancer agents can lead to significant mental and physical alterations in patients. Recovery from leukopenia is an important index for treatment continuation. Moreover, prevention of renal dysfunction is extremely important; however, presently, there is no drug for renal dysfunction caused by anticancer agents. Along with its antitumor properties, outdoor cultivated *A. brasiliensis* (KA21) reduced the side effects that are commonly associated with anticancer agents, demonstrating its significant therapeutic implications in cancer treatment.

Keywords: anticancer agent side effects, *Agaricus brasiliensis* (KA21)

S7-O-5: Nutritional and Bioactive Compounds of *Pleurotus ostreatus* from the Amazon Grown in Regional Waste

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