Comparison of protein and amino acids in the extracts of two edible mushroom, Pleurotus sajor-caju and Schizophyllum commune

ABSTRACT

This study was undertaken to determine total protein (%) and profiles of amino acid and made comparison between the aqueous and organic solvent extracted mushroom. Extraction was made from two edible, Pleurotus sajor-caju (commercial) and Schizophyllum *commune* (wild) types of mushrooms. Four types of solvents were used for the extraction include 100% aqueous, 50% ethanol, 50% methanol and 50% acetone. True protein of mushroom extract was analyzed with colorimetric Lowry method and amino acids were determined by using high-performance liquid chromatograph (HPLC). The range of 1.06% to 3.43% and 1.30% to 2.17% total protein value were obtained in the extracts of *P. sajor*caju and S. commune respectively, while the highest total protein of 3.43% was determined in aqueous extracted *P. sajor-caju* mushroom. The amount of total amino acids of *S.* commune and P. sajor-caju were in the range of 308.65 mg/g to 443.84 mg/g and 172.52 mg/g to 400.76 mg/g, respectively. The highest content of 443.84 mg/g total amino acids and 77.08 mg/g of essential amino acids were obtained in the aqueous extracted Schizophyllum commune. On the other hand the total content of essential amino acids (EAA). Essential amino acid of both mushrooms was dominated by leucine along with threonine and alanine, but the highest contents were determined from the extract of *Schizophyllum commune*. Aqueous extraction was effective in both types of mushroom for the protein components as well essential amino acids compared to other organic solvents that were used in extraction process in this study.