

【P3-47】**Hypoglycemic and free radical scavenging effects of *Trapa japonica* Flerov. extracts *in vitro***

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Alpha-glucosidase is the enzyme to digest carbohydrate and inhibition of alpha-glucosidase could suppress postprandial hyperglycemia. Oxidative stress is one of factors which could develop diabetic complications. Various solvent extracts of *Trapa japonica* Flerov. were tested for the inhibitory activities against yeast alpha-glucosidase and rat intestinal alpha-glucosidase and free radical scavenging activities *in vitro*. Methanol, 70% ethanol, and acetone extract of *Trapa japonica* Flerov. inhibited yeast alpha-glucosidase by 91.0%, 92.2% and 91.2% at the concentration of 0.2 mg/mL. Both methanol(88.1%) and acetone extract(86.9%) showed strong inhibitory activity against rat intestinal alpha-glucosidase followed by 70% ethanol extract(66.4%). Methanol(93.1%), 70% ethanol(92.0%), acetone(93.3%) and water(89.9%) extract showed strong radical scavenging effect on DPPH (1,1-diphenyl-2-picrylhydrazyl) radical at the concentration of 0.1 mg/mL. The radical scavenging activity of L-ascorbic acid, a standard antioxidant was 96.3% at the same concentration. Thus further study will be required to study the beneficial effect of methanol and acetone extracts of *Trapa japonica* Flerov. on glycemic control and improvement of diabetic complications *in vivo*.