

Title : Antioxidant Activity, Total Phenolic Content, and Total Flavonoid Content of Green and Purple Eggplant Extracts.

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ABSTRACT

Thai eggplant (*Solanum melongena L.*) is a commonly consumed indigenous vegetable in Thailand and is a rich source of phytochemicals with antioxidant properties. This study aimed to investigate antioxidant activity, total phenolic content (TPC), and total flavonoid content (TFC) of extracts from green and purple Thai eggplants. Fresh eggplant samples were extracted using methanol as a solvent. Antioxidant activity was evaluated using the DPPH radical scavenging assay, while TPC and TFC were determined using the Folin–Ciocalteu method and the aluminum chloride colorimetric assay, respectively. Absorbance was measured using a UV–Visible spectrophotometer. The results showed that extracts from both eggplant varieties exhibited antioxidant activity and contained phenolic and flavonoid compounds at different levels. The green eggplant extract showed higher antioxidant activity ($IC_{50} = 6.13$ mg/mL), as well as higher total phenolic content (123 mg GAE/g extract) and total flavonoid content (12.9 mg QE/g extract) compared to the purple eggplant extract. These findings suggest that Thai eggplant, particularly the green variety, is a promising natural source of antioxidants and has potential applications in nutrition and health-related products.

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