

Biological Activity and Phytochemical Analysis of *Podophyllum peltatum* (mayapple) Fruit

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Podophyllum peltatum is a medicinal plant native to the northeastern United States, including Michigan. The plant has been used in Native American traditional medicine, and an extract is currently used to treat genital warts caused by the human papillomavirus. Its efficacy is ascribed to the cytotoxic molecule podophyllotoxin (PDX), which inhibits the polymerization of tubulin to form microtubules. Although the unripe fruit contains toxic amounts of podophyllotoxin, the ripe fruit is edible. Ripened fruit was harvested from the Alma College Ecological Station in Vestaburg as part of a larger effort to characterize the pharmacological properties of Michigan plants. We subjected a fruit extract to several biochemical assays, which revealed activity relevant to the treatment of metabolic disorders, such as diabetes. Phytochemical analysis confirmed the absence of PDX. We are currently working to identify the predominant chemical constituents of the extract using separation (LC, TLC, HPLC) and structure elucidation (NMR) methods.