Determination of the Antioxidant and Cytotoxic Activities of the leaves of *Artocarpus odoratissimus* Blanco (Moraceae)

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ABSTRACT

Currently, there is a global trend of shifting to the use and research of natural resources for anticancer and antioxidant agents, because of availability, cost and efficiency. However, in the Philippines, only a few studies were conducted on these sources.

Artocarpus species (Fam. Moraceae), due to the presence of bioactive compounds, have been recently studied for various pharmacological activities. Prenylated flavones and flavonoids are found to contribute to its potential as chemotherapeutic agents. Also, antioxidant compounds reduce free radicals, which may also lead to the cytotoxic properties of such compounds. Artocarpus odoratissimus Blanco (Marang), a member of this family, have been studied for phytochemical contents, antioxidant property, polyphenol diversity and cytotoxic properties, which show its anticancer potential. But, most studies are limited only to the fruit. Also, there are only few, if not none, which studies on the leaves. Thus, leaves of A. odoratissimus were chosen to be studied.

This study aims to characterize the leaves of A. odoratissimus leaves in terms of its physical properties and bioactivity. Specifically, it aims to test for the cytotoxic and antioxidant properties, to determine its moisture content, total ash content and total

extractives through pharmacopeial assays, to obtain the crude alkaloid extract via the Stas-Otto procedure, and to characterize the crude alkaloid extract in terms of its solubility and boiling point. The crude extract showed antioxidant activities for both DPPH and CUPRAC assays. For both assays, results are significantly less than that of the standard (p<0. 05).Also, crude extract showed cytotoxic activity for the brine shrimp lethality assay having LC50 of 1.08 mg/mL. The crude alkaloid mixture obtained was characterized, however, did contain traces of pigment and was not further purified.

Keywords: *Artocarpus odoratissimus*, Moraceae, Marang, DPPH, CUPRAC, Brine Shrimp Lethality Assay