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## **Evaluation of Phytochemical and Antioxidant Analysis of Tarap (*Artocarpus odoratissimus*) Fruit**

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### **Structured Abstract**

**Background:** To unveil the antioxidant capacity and capability of Tarap (*Artocarpus odoratissimus*) fruit as well as to determine which parts of Tarap (*Artocarpus odoratissimus*) fruit such as flesh, peel, and seed contain the highest amount of phytochemicals, the study conducted will be highlighting the true potential Tarap fruit can carry in all of its components (i.e., flesh, peel, and seed). The study emphasises the need for exploring more tropical fruit species especially *Artocarpus* species that are undoubtedly have higher content of antioxidant. The phytochemical screening which is qualitative analysis performed is to give evidence of the existence of very beneficial phytochemicals such as Alkaloids, Tannins, Saponins, Phenolic compounds, and Terpenoids which are highly valued in pharmaceutical industry. Furthermore, the antioxidant analysis is conducted which is a quantitative analysis, solely to measure the exact amount of antioxidant in all parts of Tarap fruit.

**Methods:** *Artocarpus odoratissimus* was first separated into flesh, peel, and seed followed by chopping, weighing, cleaning, and grinding of all parts of *Artocarpus odoratissimus*. Each components (flesh, peel, and seed) were extracted using solvent extraction method in which 500 mL of 80% methanol solution was added with 80 g of Tarap samples for 48 hours. After that, the filtrate obtained were purified using rotary evaporator at 50°C. To detect the presence of phytochemicals, phytochemical screening were performed specifically for Alkaloids, Tannins, Saponins, Phenolic compounds, and Terpenoids. To quantify the amount of antioxidants, antioxidant analysis were conducted such as DPPH assay, FRAP assay, Total Phenolic Content (TPC), Total Flavonoid Content (TFC), and Total Tannins Content (TTC).

**Results:** In this study, the results of phytochemical indicated that seed extract of *Artocarpus odoratissimus* had demonstrated strong presence of Flavonoids, Tannins, and Saponins whereas peel extract indicated that the presence of Terpenoids and Phenolic compounds is strong. For flesh extract, it showed strong presence of only Alkaloids. For antioxidant analysis, it greatly indicated high amounts of antioxidants.

**Conclusion:** To conclude, seed extract had shown strong phytochemicals presence which is followed by peel extract, and lastly flesh extract. Through antioxidant analysis, the high contents of antioxidants in *Artocarpus odoratissimus* showed its potential to be used as a reliable source of antioxidants.

**Keywords:** Antioxidant analysis, *Artocarpus odoratissimus* extract, Phytochemical screening, Phytochemicals

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