

## Quantitative Analysis of Antioxidant Activity in Methanolic Extracts of Newly Developed Polyphenolic Agents

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### ABSTRACT

The free radical plays a role in damaging DNA and many chronic health issues such as cancer, inflammatory, and cardiovascular diseases. Several specific flavonoid-rich foods appear to lower the risk for non-alcoholic fatty acid liver disease (NAFALD) in adults. This study aimed to extract and characterize Pitaya (dragon fruit) (*Hylocereus polyrhizus*), soursop (*Annona muricata*), ginger (*Zingiberaceae*), and curcumin (*Curcuma longa*), which are members of a plant kingdom family and important in both consumed dietary and antioxidant agents. The methodology involved collecting and authenticating the plant, processing samples, extracting using cold methanol, purifying the extract, conducting phytochemical screening, UV-VIS spectrophotometric scanning, and HPLC techniques. Our identification and quantitative determination of L-Rutin, R-Rutin, Apegnin, and Qurectine. These polyphenol and flavonoid groups play a role in protecting against oxidation and reducing free radical production. The antioxidant scavenging activities of all solvent extractions in the DPPH assay were found to be the highest as compared to the other assays at 200 µg/mL that were determined.

