



**ANTIOXIDANT AND PHOTOPROTECTIVE ACTIVITY IN LEAF AND PULP
EXTRACTS OF *Annona squamosa* (Sugar apple)**

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Purpose of study: Oxidative stress is correlated to the development of diseases may cause cell damage and lead to accelerated aging of cells. Studies have show that plant extracts may contain the same compounds of pharmacological interest to treat and / or prevent cellular damage caused by oxidative stress. The antioxidant activity of plants is mainly due to the presence of phenolic compounds, especially flavonoids. Studies seeking new natural compounds, found in the leaf extract of sugar apple (*Annona squamosa*) substances of pharmacological interest that can be applied in different therapies, including the treatment of cancer. The present study aimed to determine the antioxidant and photoprotective activity in leaf and pulp extracts of *A. squamosa* through DPPH test and FRAP (ferric reducing antioxidant power) and also contents of total phenolics and flavonoids, and evaluating the absorbance in a spectrophotometer.

Methods: Antioxidant activity was determined for DPPH radical scavenging activity³ and FRAP (ferric Reducing antioxidant power). Total phenolic contents of *A. squamosa* dry extract samples were determined by the Folin–Ciocalteu method⁴ and results expressed in µg of gallic acid equivalent (AGE). Total flavonoids were determined by spectrophotometric method⁵ and results expressed in µg of rutin equivalents (RE). Tests were performed in triplicate.

Results: The hydroethanolic extracts of the pulp and leaf showed better values related to antioxidant activity with EC50 of 1940,18µg/mL and 66,63µg/mL, respectively, confirmed by FRAP test, which showed values of 23,44µM/g dry extract, for the hydroethanolic extract of the pulp, and 122,52µM/g dry extract for the hydroethanolic leaf. About the content of total flavonoids, the hydroethanolic extract of the pulp showed 21,46mgEAG/g extract, and hydroethanolic leaf, 169,00mgEAG/g extract. On phenolic composition, the hydroethanolic extract of the pulp showed 23,36mgRE /g extract and hydroethanolic leaf with 57,81mgRE / g extract, which are the highest contents. The peaks of absorbance were 0.794 in the hydroethanolic extract of the pulp at a wavelength of 290nm, and the hydroethanolic extract of the leaf reached 0.819 at 310nm.

Conclusion: In conclusion, the extracts of *Annona squamosa* possess antioxidant properties associated with the high content of phenolic compounds and flavonoids, and absorbance in the area of incidence ideal for sunscreens.

References

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