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Rosa, D.^{a b}, Elya, B.^a, Hanafi, M.^c, Khatib, A.^d

In vitro and molecular docking of α -Glucosidase inhibitor potency from *Artabotrys suaveolens* leaf and stem bark (2022) *IOP Conference Series: Earth and Environmental Science*, 1116 (1), art. no. 012007, .

DOI: 10.1088/1755-1315/1116/1/012007

^a Faculty of Pharmacy Universitas Indonesia, West Java, Depok, 16424, Indonesia

^b Faculty of Health Science, Pharmacy Study Program, Pelita Harapan University, Tangerang, 15811, Indonesia

^c Chemistry Research Centre, National Research and Innovation Agency (BRIN), PUSPITEK, Serpong, 15314, Indonesia

^d Department of Pharmaceutical Chemistry, Kulliyah of Pharmacy, International Islamic University Malaysia, Kuantan, 25200, Malaysia

Abstract

Artabotrys suaveolens is one of the species from *Artabotrys* genus, one of the largest genus from Annonaceae family. This plant has been used traditionally to treat several diseases and also as emmenagogue. This research was aimed to explore the potency of *Artabotrys suaveolens*'s leaf and stem bark extracts as α -glucosidase inhibitor using in vitro and molecular docking techniques. It was found that IC50 of α -glucosidase inhibition activity of leaf extract was 48.18 ± 0.16 ppm while the one of stem bark extract was 44.99 ± 0.35 ppm. Besides that, it was also found that IC50 of DPPH free radical scavenging activity of leaf extract was 114.074 ppm and of stem bark extract was 63.640 ppm. Further analysis indicated that α -glucosidase inhibition activity had stronger relationship with antioxidant activity in leaf extract compared to that in stem bark extract. Using LC-MS/MS, 23 compound structures were identified from leaf and stem bark extracts which were then analyzed using simulations of molecular docking to α -glucosidase receptor. The molecular docking results showed that several compounds both from leaf and stem bark extracts had good affinities to α -glucosidase receptor. © 2022 Institute of Physics Publishing. All rights reserved.

Funding details

Universitas Pelita Harapan UPHP-03-FIKes/XII/2021

Institute of Research and Innovation, Walailak University IRI

The authors want to thank the National Research and Innovation Institutes for the study funding through Degree by Research Scholarship, the Advanced Characterization Laboratories Serpong at National Research and Innovation Institute and the Pharmaceutical Biology Laboratory at Pelita Harapan University for research facilities, as well as scientific & technical supports, and the Pelita Harapan University for the research funding through internal grant number P-03-FIKes/XII/2021.

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Correspondence Address

Elya B.; Faculty of Pharmacy Universitas Indonesia, West Java, Indonesia; email: berna.elya@farmasi.ui.ac.id

Publisher: Institute of Physics

Conference name: 4th International Conference on Agricultural Technology, Engineering, and Environmental Sciences 2022, ICATES 2022

Conference date: 9 August 2022 through 10 August 2022

Conference code: 185790

ISSN: 17551307

Language of Original Document: English

Abbreviated Source Title: IOP Conf. Ser. Earth Environ. Sci.
2-s2.0-85146515104

Document Type: Conference Paper

Publication Stage: Final

Source: Scopus

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