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The 1st Tarumanagara International Conference on Medicine and Health (TICMIH) 2021 was held by Consortium of Health Science of LLDIKTI Region III collaborated with Untar Institute of Research & Community Engagement (LPPM Untar). The conference brought a topic about “Challenges and Opportunities for Overcoming Infectious Diseases in the 21st Century.” The scope of the articles included but was not limited to the following: Medicine, Health, Public Health, Infectious Disease & Tropical Medicine, Community Medicine, Dentistry, Pharmacy, Nursing, Nutrition, Obstetrics, and Clinical Psychology.

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Phytochemical Screening, Total Antioxidant Capacity and Toxicity Test of White Jasmine Flower Extract (*Jasminum sambac*)

Authors

Vincent Suaputra^{1, *}, David Limanan², Eny Yulianti², Frans Ferdinal²

¹ Faculty of Medicine, Tarumanagara University, Jakarta, Indonesia

² Staff of Departement of Biochemistry and Molecular Biology, Faculty of Medicine, TarumanagaraUniversity, Jakarta, Indonesia

* Corresponding author: Email: vincent.suaputra@gmail.com

Corresponding Author

Vincent Suaputra

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Jasminum sambac; Phytochemical Screening; DPPH; Brine Shrimp Lethality Test

Abstract

Oxidative stress is a state of imbalance of antioxidants and reactive oxygen species levels in the body. Prolonged oxidative stress can cause degenerative diseases, malignancies, or premature aging. This situation can be prevented by antioxidants, compounds that can inhibit the oxidation process. One of the Indonesian plants, namely white jasmine flower, is known to contain a lot of secondary metabolites and have the potential to be antioxidants. Therefore, this research was conducted to determine the content of secondary metabolites, antioxidant potential, and toxicity of white jasmine flowers. Jasmine flower extract was made by maceration method using methanol solvent. Phytochemical screening was carried out in a semi-qualitative manner based on Harborne's book. The total antioxidant capacity test was carried out by the Blois method using DPPH (1,1-diphenyl-2-picrylhydrazyl) solution. Toxicity test was carried out using the BSLT (Brine Shrimp Lethality Test) method. In the phytochemical screening, jasmine flower extract was found alkaloids, flavonoids, cardio glycosides, glycosides, saponins, coumarins, phenolics, quinones, betacyanins, steroids, terpenoids, and tannins. It was found that jasmine flower extract had a total antioxidant capacity ($IC_{50} = 460.24 \mu\text{g/mL}$) which was categorized as weak antioxidant ($200 \text{ ppm} \leq IC_{50} \leq 500 \text{ ppm}$), and the level of toxicity ($LC_{50} = 111.43 \mu\text{g/mL}$) which has cytotoxic properties ($LC_{50} \leq 1000 \text{ ppm}$) and belongs to the moderate toxic category ($100 \text{ ppm} \leq LC_{50} \leq 1000 \text{ ppm}$). In summary, jasmine flower extract has the potential as an antioxidant and has the potential to be an antimetabolic agent.

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