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A Review with Updated Perspectives on the Antiviral Potentials of Traditional Medicinal Plants and Their Prospects in Antiviral Therapy

Life • Review • Open Access • 2022 • DOI: 10.3390/life12081287  [Saifulazmi, Nur Fadlin](#)^a; [Rohani, Emelda Rosseleena](#)^b; [Harun, Sarahani](#)^b; [Bunawan, Hamidun](#)^b; [Hamezah, Hamizah Shahirah](#)^b; +6 authors
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Abstract

Exploration of the traditional medicinal plants is essential for drug discovery and development for various pharmacological targets. Various phytochemicals derived from medicinal plants were extensively studied for antiviral activity. This review aims to highlight the role of medicinal plants against viral infections that remains to be the leading cause of human death globally. Antiviral properties of phytoconstituents isolated from 45 plants were discussed for five different types of viral infections. The ability of the plants' active compounds with antiviral effects was highlighted as well as their mechanism of action, pharmacological studies, and toxicological data on a variety of cell lines. The experimental values, such as IC₅₀, EC₅₀, CC₅₀, ED₅₀, TD₅₀, MIC₁₀₀, and SI of the active compounds, were compiled and discussed to determine their potential. Among the plants mentioned, 11 plants showed the most promising medicinal plants against viral infections. Sambucus nigra and Clinacanthus nutans manifested antiviral activity against three different types of viral infections. Echinacea purpurea, Echinacea augustofolia, Echinacea pallida, Plantago major, Glycyrrhiza uralensis, Phyllanthus emblica, Camellia sinensis, and Cistus incanus exhibited antiviral activity against two different types of viral infections. Interestingly, Nicotiana benthamiana showed antiviral effects against mosquito-borne infections. The importance of phenolic acids, alkamides, alkylamides, glycyrrhizin, epicatechin gallate (ECG), epigallocatechin gallate (EGCG), epigallocatechin (EGC), protein-based plant-produced ZIKV Envelope (PzE), and anti-CHIKV monoclonal antibody was also reviewed. An exploratory approach to the published literature was conducted using a variety of books and online databases, including Scopus, Google Scholar, ScienceDirect, Web of Science, and PubMed Central, with the goal of obtaining, compiling, and reconstructing information on a variety of fundamental aspects, especially regarding medicinal plants. This evaluation gathered important information from all available library databases and Internet searches from 1992 to 2022. © 2022 by the authors.

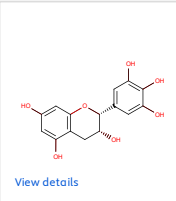
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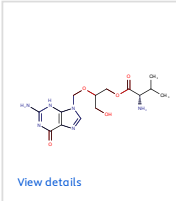
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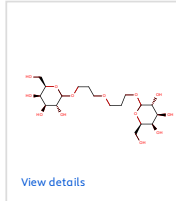
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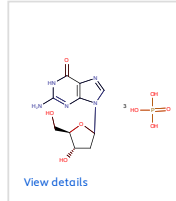
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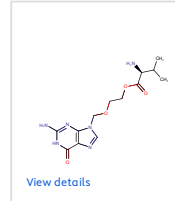
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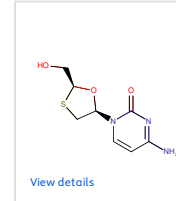
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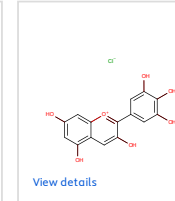
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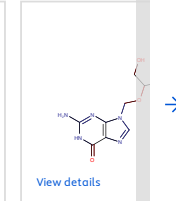
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Funding text
This study was funded by the Fundamental Grant Research Scheme (FRGS/1/2021/SKK0/UKM/02/10), Ministry of Higher Education (MoHE), Malaysia.

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