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Editorial

Editorial Overview of the Special Issue "Biological Activity Evaluation Process of Natural Antioxidants"

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We are glad to share the editorial summary of the Special Issue on "Biological Activity Evaluation Process of Natural Antioxidants," edited by Chang-Wei Hsieh and Jer-An Lin of National Chung Hsing University. Research on the creation and use of techniques for assessing the biological activity of natural antioxidants is covered in this Special Issue.

Natural antioxidants are compounds derived from natural sources, such as plants, fruits, and vegetables, which possess the ability to scavenge free radicals and protect against oxidative stress. The evaluation of their biological activity is crucial in determining their potential health benefits and therapeutic applications. The evaluation process involves various in vitro and in vivo assays to assess their antioxidant capacity, such as the DPPH assay, ABTS assay, and FRAP assay. These assays measure the ability of natural antioxidants to scavenge free radicals and reduce oxidative stress. In addition to antioxidant capacity, other biological activities are also evaluated, such as anti-inflammatory, anti-cancer, and anti-diabetic activities. These assays involve the use of cell cultures, animal models, and clinical trials to determine the effectiveness of natural antioxidants in preventing or treating various diseases. Overall, the biological activity evaluation process of natural antioxidants is a complex and multi-step process that requires careful selection of appropriate assays and methods to determine their potential health benefits. With the increasing interest in natural antioxidants as potential therapeutic agents, this evaluation process plays a critical role in identifying and developing new treatments for various diseases.

This Special Issue collects several research articles related to natural antioxidants and their biological activity. These articles include studies on different natural sources of antioxidants, such as *Padina pavonica* [1], *Talinum triangulare* [2], *Spiranthes sinensis* [3], Lithuanian royal jelly [4], and β-1,3-glucanase hydrolytes of *Wolfiporia cocos* and *Pycnoporus sanguineus* [5], as well as the application of different methods for extracting and purifying their antioxidants. The studies also explore the potential health benefits and therapeutic effects of natural antioxidants, such as their antioxidant, anti-inflammatory, and immunomodulatory properties. Interestingly, the ability of rice grains to resist starch decomposition by interacting with a phenolic antioxidant, chlorogenic acid, was found in a study collected in this Special Issue [6].

The results suggest that natural antioxidants have great potential as health-promoting and disease-preventing agents, and that their biological activity can be enhanced by different extraction and purification methods. However, further research is needed to determine the optimal extraction and purification methods of natural antioxidants, as well as the accurate biological evaluation for clarifying their specific effects on human health.

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