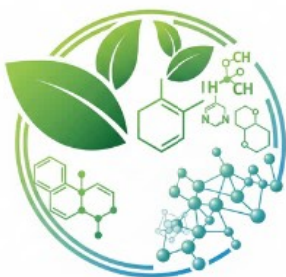


Proceedings of International conference on Green Chemistry and Nanotechnology : Health, Environment & Beyond

24&25 July 2025



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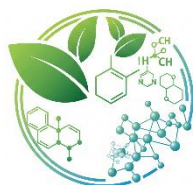
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PREFACE

It is with immense pleasure that we present the Abstract Book for GreenNano2025: International Conference on Green Chemistry and Nanotechnology: Health, Environment & Beyond. This compilation serves as a testament to the vibrant and interdisciplinary research currently shaping the future of sustainable science and technology.

The abstracts contained within these pages represent the cutting-edge contributions of scientists, researchers, and scholars from around the globe. They collectively highlight the revolutionary convergence of Green Chemistry and Nanotechnology, showcasing innovative solutions to some of the most pressing global challenges in human health and environmental sustainability. From eco-friendly synthesis of advanced nanomaterials to their applications in medicine, pollution control, and sustainable agriculture, this book offers a panoramic view of the diverse and impactful work being undertaken.

We extend our sincere gratitude to all authors for their invaluable contributions, the reviewers for their diligent efforts, and the organizing committee for their tireless dedication in bringing this conference and abstract book to fruition. May these abstracts inspire new collaborations, spark further inquiry, and accelerate our collective journey towards a greener, healthier, and more sustainable world.

We hope this Abstract Book serves as a valuable resource and a lasting record of the groundbreaking discussions and discoveries at GreenNano2025.

The Organizing Team - GREENNANO2025

ANTIOXIDANT POTENTIAL OF *CNIDOSCOLUS ACONITIFOLIUS*: A PROMISING NATURAL THERAPEUTIC AGAINST OXIDATIVE STRESS-RELATED DISEASES

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Abstract

Oxidative stress, resulting from an imbalance between reactive oxygen species (ROS) and the body's antioxidant defence systems, plays a critical role in the pathogenesis of various chronic and degenerative diseases, including cancer. In this study, the antioxidant properties of *Cnidoscolus aconitifolius*, a plant recognized by Kuti and Konoru (2004) as a rich source of natural antioxidants, were evaluated using a comprehensive set of in vitro assays. The plant extracts demonstrated significant free radical scavenging activity, with IC₅₀ values of 56.69, 57.66, 60.66, and 62.54 µg/mL for DPPH, ABTS, hydroxyl radical, and nitric oxide assays, respectively. Furthermore, both enzymatic antioxidants (superoxide dismutase, catalase, peroxidase, and glutathione-S-transferase) and non-enzymatic antioxidants (reduced glutathione, vitamin E, and vitamin C) were analysed, revealing robust antioxidant capacity. These findings highlight *C. aconitifolius* as a potent natural antioxidant source with potential therapeutic applications in the prevention and management of oxidative stress-related disorders.

Keywords: *Cnidoscolus aconitifolius*, oxidative stress, antioxidants, IC₅₀, free radicals, chronic disease, cancer prevention.