Phytochemicals in Cancer Prevention and Therapy

Poyil Pratheeshkumar  
*University of Kentucky, pratheeshkumar.poyil@uky.edu*

Young-Ok Son  
*Gwangju Institute of Science and Technology (GIST), Korea*

Preethi Korangath  
*Johns Hopkins University*

Kanjoormana Aryan Manu  
*DUKE-NUS Graduate Medical School, Singapore*

Kodappully Sivaraman Siveen  
*Hamad Medical Corporation, Qatar*

[Click here to let us know how access to this document benefits you.](https://uknowledge.uky.edu/toxicology_facpub)

Follow this and additional works at: [https://uknowledge.uky.edu/toxicology_facpub](https://uknowledge.uky.edu/toxicology_facpub)

Part of the [Medical Toxicology Commons](https://uknowledge.uky.edu/toxicology_facpub)

**Repository Citation**

Pratheeshkumar, Poyil; Son, Young-Ok; Korangath, Preethi; Manu, Kanjoormana Aryan; and Siveen, Kodappully Sivaraman, "Phytochemicals in Cancer Prevention and Therapy" (2015). *Toxicology and Cancer Biology Faculty Publications*. 40.  
[https://uknowledge.uky.edu/toxicology_facpub/40](https://uknowledge.uky.edu/toxicology_facpub/40)

This Editorial is brought to you for free and open access by the Toxicology and Cancer Biology at UKnowledge. It has been accepted for inclusion in Toxicology and Cancer Biology Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.
Despite advances in modern medicine, cancer is still the major cause of mortality in both developing and developed countries. Search for safer and more effective chemoprevention and treatment strategy is a need for the improvement of patient care in the field. Prevention may be more effective and less costly because cancer is largely a preventable disease which could be attributed to a greater extent to lifestyle. Dietary phytochemicals have been used for the treatment of cancer throughout history due to their safety, low toxicity, and general availability. Population based studies suggest that a reduced risk of cancer is associated with high consumption of vegetables and fruits. Promising phytochemicals not only disrupt aberrant signaling pathways leading to cancer but also synergize with chemotherapy and radiotherapy. Thus, the cancer chemoprevention and therapeutic potential of naturally occurring phytochemicals are of great interest. In this special issue we have collected many interesting original research articles and reviews that provide solid evidence to support the application of phytochemicals or dietary agents in prevention and treatment of cancer.

This special issue contains 3 review articles and 9 original peer-reviewed papers. A. M. Harrison et al. performed a systematic review of the biomedical literature for the use of phytochemicals for management of cancer therapy pain in human subjects; X.-Y. Chen et al. reported the potential of ethanolic extract of Taiwanese fungus camphoratus (Antrodia camphorata) to enhance the cytotoxicity of cisplatin and doxorubicin on human hepatocellular carcinoma cells; G. Wang et al. explored the molecular mechanism of total flavonoids extracted from Cotinus coggyria against glioblastoma cancer in vitro and in vivo; M. N. Mallick et al. studied the anticancer activity of hydroalcoholic extract of Picrorhiza kurroa and its fractions; M. F. Abu Bakar et al. demonstrate that the Garcinia dulcis fruit extract induced cytotoxicity and apoptosis in HepG2 liver cancer cells; G. Weng et al. reported the curcumin enhanced busulfan-induced apoptosis in leukemia stem-like KG1a cells via downregulating the expression of
survivin; S. Kumar and J. Kim in their review discuss potency and selectivity of PLK-1-targeted inhibitors and their molecular interactions with PLK-1 domains.

In conclusion, this special issue discussed the potential anticancer phytochemicals and dietary agents, their molecular targets, and their mechanisms of actions. The understanding of molecular mechanism of a specific plant derived compound against a particular type of cancer will lead to the invention of novel drug and drug targets for therapeutic intervention.

**Acknowledgments**

The guest editorial team would like to thank all external reviewers for their expert assistance and all authors who submitted their work to the issue.

*Poyil Pratheeshkumar*
*Young-Ok Son*
*Preethi Korangath*
*Kanjoormana Aryan Manu*
*Kodappully Sivaraman Siveen*