9-2013

Multitargeting By Turmeric, The Golden Spice: From Kitchen to Clinic (Abstract)

Subash C. Gupta
Bokyung Sung
Ji Hye Kim
Sahdeo Prasad
Shiyou Li

Stephen F Austin State University, Arthur Temple College of Forestry and Agriculture, lis@sfasu.edu

See next page for additional authors

Follow this and additional works at: https://scholarworks.sfasu.edu/forestry

Part of the Pharmacology, Toxicology and Environmental Health Commons

Tell us how this article helped you.

Repository Citation
Gupta, Subash C.; Sung, Bokyung; Kim, Ji Hye; Prasad, Sahdeo; Li, Shiyou; and Aggarwal, Bharat, "Multitargeting By Turmeric, The Golden Spice: From Kitchen to Clinic (Abstract)" (2013). Faculty Publications. 429.
https://scholarworks.sfasu.edu/forestry/429

This Article is brought to you for free and open access by the Forestry at SFA ScholarWorks. It has been accepted for inclusion in Faculty Publications by an authorized administrator of SFA ScholarWorks. For more information, please contact cdsscholarworks@sfasu.edu.
Authors
Subash C. Gupta, Bokyung Sung, Ji Hye Kim, Sahdeo Prasad, Shiyou Li, and Bharat Aggarwal

This article is available at SFA ScholarWorks: https://scholarworks.sfasu.edu/forestry/429
Multitargeting By Turmeric, The Golden Spice: From Kitchen to Clinic

1. Subash C. Gupta
2. Bokyung Sung
3. Ji Hye Kim
4. Sahdeo Prasad
5. Shiyou Li
6. Bharat B. Aggarwal

Originally published in Molecular Nutrition & Food Research 57 (9), pgs. 1510-1528, Sept 2013

Abstract

Although much has been published about curcumin, which is obtained from turmeric, comparatively little is known about turmeric itself. Turmeric, a golden spice obtained from the rhizome of the plant Curcuma longa, has been used to give color and taste to food preparations since ancient times. Traditionally, this spice has been used in Ayurveda and folk medicine for the treatment of such ailments as gynecological problems, gastric problems, hepatic disorders, infectious diseases, and blood disorders. Modern science has provided the scientific basis for the use of turmeric against such disorders. Various chemical constituents have been isolated from this spice, including polyphenols, sesquiterpenes, diterpenes, triterpenoids, sterols, and alkaloids. Curcumin, which constitutes 2–5% of turmeric, is perhaps the most-studied component. Although some of the activities of turmeric can be mimicked by curcumin, other activities are curcumin-independent. Cell-based studies have demonstrated the potential of turmeric as an antimicrobial, insecticidal, larvicidal, antimutagenic, radioprotector, and anticancer agent. Numerous animal studies have shown the potential of this spice against proinflammatory diseases, cancer, neurodegenerative diseases, depression, diabetes, obesity, and atherosclerosis. At the molecular level, this spice has been shown to modulate numerous cell-signaling pathways. In clinical trials, turmeric has shown efficacy against numerous human ailments including lupus nephritis, cancer, diabetes, irritable bowel syndrome, acne, and fibrosis. Thus, a spice originally common in the kitchen is now exhibiting activities in the clinic. In this review, we discuss the chemical constituents of turmeric, its biological activities, its molecular targets, and its potential in the clinic.