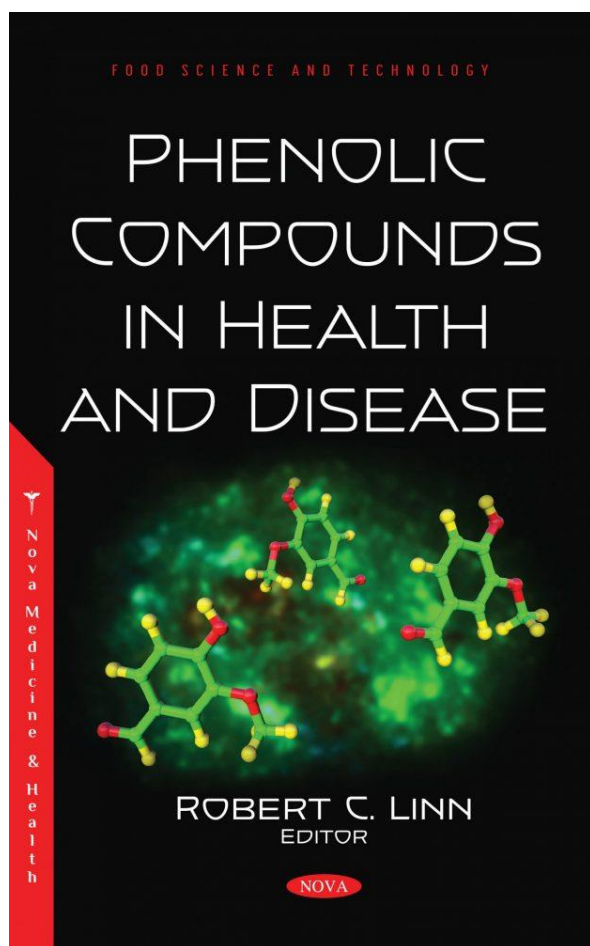


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Phenolic Compounds in Health and Disease

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Phenolic compounds are structures found in plant-based foods that play an important role in regulating health and disease. Accordingly, this book presents seven chapters that explore phenolic compounds from a variety of perspectives. Chapter One addresses the current knowledge about the presence of phenolic compounds in plants, their bioavailability and protective effects of interest for diabetes mellitus. Chapter Two describes the Bignoniaceae family and *Handroanthus impetiginosus*, as well as the main groups of phenolic compounds reported for this species and their main biological activities. Chapter Three highlights some scientific evidence corroborating the role of polyphenols in the prevention and treatment of cancer. Chapter Four presents the results of a study that indicate that *L. leucocephala* calli are promising biotechnological products for obtaining phenolic compounds in vitro. Chapter Five details a study that assessed the phenolic compound content and antioxidant and antibacterial activities of extracts and fractions of *Bauhinia holophylla*. Chapter Six evaluates the production of phenolic compounds in cell suspensions of *B. variegata*. Finally, Chapter Seven provides an insight on the anti-inflammatory activities of galangin through attenuation of allergic inflammation, regulation of PPAR γ pathway, inhibition of ERK, NF-kappaB, PI3K/AKT and NLRP3 signaling, interplaying of MAPK signaling cascade, and through activation of Nrf2 signaling in animal models.

Description

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Chapter 1. Health Benefits of Phenolic Compounds against Diabetes: Recent Advances

(Ana R. Nunes, Ana C. Gonçalves, Amílcar Falcão, Gilberto Alves and Luís R. Silva – ICICS–UBI – Health Sciences Research Centre, University of Beira Interior, Covilhã, Portugal)

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(Luana Cristina Diniz Santos, Lucas Santos Azevedo, Luciana Alves Rodrigues dos Santos Lima and Ana Hortência Fonsêca Castro – Universidade Federal de São João Del Rei, Campus Centro-Oeste Dona Lindu, Divinópolis, MG, Brazil)

Chapter 3. Cancer Prevention and Management through Phenolic Compounds

(Raquel Guiné, Sofia Guiné Florença, Manuela Ferreira, Sofia Campos, Charles Okpala and Małgorzata Korzeniowska – CERNAS Research Centre, Polytechnic Institute of Viseu, Viseu, Portugal, et al.)

Chapter 4. Production of Phenolic Compounds in *Leucaena leucocephala* Calli

(Clara Novais Saraiva, Aline Evangelista, Mairon César Coimbra, Marlúcia Souza Pádua Vilela, Andréia Fonseca Silva and Ana Hortência Fonseca Castro – Universidade Federal de São João del-Rei, Campus Centro-Oeste, Divinópolis, MG, Brazil, et al.)

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(Aline Evangelista, João Máximo de Siqueira, Marlúcia Souza Pádua Vilela, Mairon César Coimbra, Andréia Fonseca Silva and Ana Hortência Fonseca Castro – Universidade Federal de São João del-Rei, Campus Centro-Oeste, Divinópolis, MG, Brazil, et al.)

Chapter 7. Galangin – A Phenolic Compound with Diverse Anti-Inflammatory Activities

(A. Alí Redha and Z. Ilyas – Chemistry Department, School of Science, Loughborough University, Loughborough, United Kingdom, et al.)

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