

Special Issue on Natural Bioactive Compounds Acting Against Oxidative Stress in Chronic, Degenerative, and Infectious Diseases

CALL FOR PAPERS

Despite continued efforts towards primary prevention, many chronic and degenerative diseases such as cancer, neurodegenerative disorders, and metabolic diseases are yet the most common causes of death and disability in industrialized countries. Common denominator of these diseases is oxidative stress which in turn may elicit chronic inflammation. Natural bioactive compounds from vegetables, including polyphenols, flavonoids, and anthocyanins but also micronutrient and vitamins, are well known for their antioxidant and anti-inflammatory role and have been proposed as possible therapeutic agents against these diseases.

Indeed, many epidemiological studies suggest that a large consumption of vegetables can counteract the development of several chronic, degenerative, and infectious disorders. These protective effects have been attributed to the high polyphenolic content in several plants and in general to their high amount of bioactive compounds. In addition to epidemiological studies, a number of *in vitro* experimental studies have shown the antioxidant and protective capacity of single purified bioactive molecules against several diseases, exerted by the modulation of the cellular redox balance and via interaction with cellular functions at different levels. However, it must be emphasized that the bioavailability and solubility within the organism of single isolated bioactive molecules as well as the alterations that these molecules undergo during metabolic processes could decrease their efficacy *in vivo*. An alternative and equally promising approach is the use of complex mixtures of bioactive molecules that appear to be very effective both *in vitro* and *in vivo*, possibly because of the synergistic action among different polyphenols and/or other food components such as vitamins and minerals. Although only a few studies have investigated the potential protective effect of complex mixtures of bioactive compounds, there is a growing interest in the study of the interactions between different phytochemicals contained in foods and how these affect cellular molecular processes and/or gene expression.

In this special issue, we invite investigators to contribute with original research articles, as well as review articles, which provide a better understanding of the effects of single and/or complex mixtures of natural bioactive molecules on chronic, degenerative, and infectious diseases.

Potential topics include but are not limited to the following:

- ▶ Antioxidant activity of natural compounds
- ▶ Polyphenols, flavonoids, and anthocyanins against neurodegenerative disorders
- ▶ Natural bioactive compounds in cancer prevention and treatment
- ▶ Glucosinolates and their protection against degenerative disorders
- ▶ Natural bioactive compounds in metabolic disorders
- ▶ Plant miRNA and its novel therapeutic uses
- ▶ Effects of sulfur containing compounds on arthritis, diabetes, and cancer
- ▶ Bacterial and yeast antimicrobial peptides

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/nbccd/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Roberto Mattioli, Sapienza University of Rome, Rome, Italy
roberto.mattioli@uniroma1.it

Guest Editors

Luciana Mosca, Sapienza University of Rome, Rome, Italy
luciana.mosca@uniroma1.it

Angel Sánchez-Lamar, Universidad de La Habana, Habana, Cuba
angel.sanchez@fbio.uh.cu

Italo Tempera, Temple University School of Medicine, Philadelphia, USA
tempera@temple.edu

Ralf Hausmann, RWTH Aachen University, Aachen, Germany
rhausmann@ukaachen.de

Submission Deadline

Friday, 13 April 2018

Publication Date

August 2018