

Special Issue on **Phytochemicals in Cardiovascular and Respiratory Diseases: Evidence in Oxidative Stress and Inflammation**

CALL FOR PAPERS

It is well known that oxidative stress and long-term inflammatory processes are simultaneously involved in the pathogenesis of various chronic diseases. Furthermore, it is very difficult to predict the primary sources of damage (oxidation or inflammation) since these pathophysiological processes are strongly interconnected. Thus, if oxidative stress occurs first, inflammation processes will be detected at some point as well. The central mechanism responsible for the inflammation initiation is the activation of transcription factor NF- κ B. This consequently regulates gene expression for proinflammatory cytokines, chemokines, and adhesion molecules. On the other hand, if inflammatory processes occur first, the reactive species resulting from oxidation processes of phagocytic cells or as response to proinflammatory cytokines will be detected. Both excessive oxidative stress and chronic inflammation are present in the pathogenesis of respiratory and cardiovascular chronic diseases. Increasing efforts are observed each year in different interconnected areas like chemistry, medicine, biology, bioinformatics, and others in order to prevent, control, or block disease progression. Still, cardiovascular and respiratory disorders remain the most common cause of mortality worldwide (26 % and 8.61% out of total deaths for cardiovascular and respiratory diseases, resp.). Therefore, more effort is needed targeting different approaches in order to come to a resolution. In these sense, *in vivo* and *in vitro* studies already confirmed that phytochemicals intake (e.g., nutraceuticals, fresh fruits, vegetables, or spices) has the potential to lower CVD and respiratory risks by targeting oxidative stress and inflammatory mediators. Transposed into everyday life, supplementation with plants and natural extracts by patients without specific medical advice is a common practice as well. Considering these, more evidence is needed to understand the exact mechanisms of initiation and disease progression in relation to both oxidation and inflammatory processes. This will lead to a safe and efficient usage of phytochemicals in everyday life, expanding their application from the experimental field to real life.

We invite authors to submit original research articles (*in vitro*, experimental, and clinical studies), as well as review articles, that address the special issue of phytochemicals targeting oxidative stress and inflammation in cardiovascular and respiratory diseases.

Potential topics include but are not limited to the following:

- ▶ Characterization and identification of new phytochemicals of natural origin useful in the development of new drug for CVD or respiratory diseases
- ▶ Oxidative stress, inflammation, and phytochemicals: evidence based impact on the molecular mechanism involved in the initiation, progression, and disease control
- ▶ Phytochemicals evaluation (*in vitro* or *in vivo* studies on animals and humans), in relation to inflammation and oxidative stress signaling
- ▶ Markers of oxidative stress and inflammation in the development and progression of cardiovascular and respiratory diseases
- ▶ Phytochemicals effect on specific gene marker expression in CVD and respiratory diseases

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

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

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