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# **Oxidative Stress, Metabolic and Inflammatory Diseases**

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# **Message from the Guest Editors**

Metabolic pathologies syndrome, also known as metabolic syndrome, and inflammatory diseases represent a public health problem worldwide. Oxidative stress stimulates the production of cytokines (interleukin (IL) 6, Tumor Necrosis Factor alpha (TNF- $\alpha$ ), IL-8 and IL-18, among others) that initiate an inflammatory response and thus an alteration in the metabolism of carbohydrates, lipids and proteins. In addition, the increase in pro-oxidant secretion is suggested to be responsible for the generation of insulin resistance in skeletal muscle, adipose tissue and the alteration in insulin secretion by the  $\alpha$  cells of the pancreas. The accumulation of pro-oxidant molecules in the body causes damage and induces the activation of specific pathways—both of these events lead to cell proliferation, dysfunction, adaptation or death.

Therefore, with regard to the latest advances in the detection of oxidative damage and the new bioactive compounds described in recent years, we consider it important to collect information on new advances in the treatment of this type of disease.



**Special**sue









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# **Message from the Editor-in-Chief**

It has been recognized in medical sciences that in order to prevent adverse effects of "oxidative stress" a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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