



## Paradox Role of Oxidative Stress in Cancer: State of the Art

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### Message from the Guest Editors

Oxidative stress plays an important role during all phases of carcinogenesis, and cancer cells display high ROS levels compared to healthy cells as the consequence of an increased metabolic activity, alterations in electron transport chain of mitochondria, and hypoxic conditions. Moreover, moderate levels of ROS may have a role as second messengers by activating receptor kinases, MAP kinases, and redox sensitive transcription factors and controlling the expression of tumor suppressor genes.

Several studies have shown that most chemotherapeutic and radiotherapeutic agents kill cancer cells through ROS production, and long-term anticancer treatment can induce an adaptive antioxidant cell response contributing to the development of chemo/radioresistance. Interestingly, ROS have also been implicated in chemopreventive and chemosensitive action of nutraceuticals derived from natural products. On the basis of these contradictory findings, this Special Issue aims to collect original articles and reviews dealing with the double-edged role of ROS, which can determine beneficial or detrimental outcomes in cancer development.





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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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