



Oxidative Stress and Epigenetic Changes in Rare Diseases

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Message from the Guest Editors

Epigenetic changes lie at the core of the cellular response to both external and internal stimuli which might be encrypted into the cell's own genome, in the form of mutations and DNA alterations, but also and sometimes exclusively contained within aberrant epigenetic marks or modulators in response to external stimuli. From this perspective, oxidative stress and the impairment of the antioxidant response can guide toward alterations in the epigenetic machinery regulation that lead to the development and worsening of pathological conditions regardless of the existence of DNA alterations.

Given the prominent role of oxidative stress as one of the most common symptoms accompanying cellular impairment in rare diseases, understanding the close relationship between excessive reactive species and failure of the antioxidant responses, which in turn can alter the functioning of epigenetic machinery and/or aberrant patterns of epigenetic modifications (i.e., histone carbonylation, nitrosylation, and sulfonylation) will undoubtedly become one of the most exciting challenges in the near future for biomedical sciences.





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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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