



# Oxidative Medicine and Cellular Longevity

## Special Issue on **Oxidant Antioxidants and Adaptive Responses to Exercise**

# CALL FOR PAPERS

It is long established that regular physical activity is associated with many health benefits including reduced risk for disorders such as cardiovascular disease, cancer, and diabetes in the promotion of healthy aging. It is also well known that, whereas unaccustomed exercise results in free radical overproduction and oxidative damage in skeletal muscles and other tissues, regular exercise exerts protective effects against tissue injury under conditions leading to increased free radical production.

More recent reports suggest that the low-to-moderate levels of oxidants, produced during single sessions of aerobic training, act as signals regulating molecular events crucial for the adaptive responses leading, among others, to mitochondrial biogenesis and modulation of muscle antioxidant defenses and force production. These observations have also led to revising the role of antioxidant integration in exercising subjects.

To date, although major oxidative-stress-sensitive signal transduction pathways, involved in adaptive response to exercise, have been shown, a lot remains to be understood about their mutual interaction, the modifications during aging and some disease states, and the impact exerted by antioxidant integration.

Because of the relevance of such topics, it appears appropriate to summarize some of the main recent advances on exercise, oxidants and antioxidants, mainly focusing attention on their impact on skeletal muscle function in health, disease, and aging. We invite authors to submit original research and review articles that seek to refine the aforementioned topics.

Potential topics include, but are not limited to:

- ▶ Systemic adaptive responses to exercise
- ▶ Mitochondrial adaptive responses to exercise
- ▶ Exercise in healthy aging
- ▶ Exercise and chronic disease
- ▶ Exercise and antioxidant supplementation
- ▶ Role of redox signaling in exercise-induced modulation of antioxidant defenses
- ▶ Impact of exercise-induced oxidative stress in muscle force production
- ▶ Adaptive responses biomarkers

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/omcl/oxan/>.

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