Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Role of MicroRNAs in Cardiovascular Oxidative Stress

CALL FOR PAPERS

Cardiovascular system is vulnerable to various stress stimuli especially oxidative and nitrosative stress. Irrespective of the stimuli, pathophysiological changes in the cardiovascular system suggest that ROS is either a cause or an important mediator of the entire process. Recent advances in the field suggest that these pathophysiological changes in the cardiovascular system result from changes in the gene expression. Interestingly, these pathophysiological gene expression changes are, at least in part, regulated by small noncoding RNAs or microRNAs. Knowledge and understanding of these microRNAs and the mechanism(s) by which they regulate the pathophysiological changes in the cardiovascular system can provide critical insights into development of novel diagnostics and therapeutic interventions.

We invite researchers to contribute original research articles as well as review articles that will enhance the ongoing efforts to understand the molecular mechanisms that regulate cardiovascular pathophysiology via regulation of gene expression by microRNAs, the development of strategies to diagnose, evaluate, and treat these conditions; recent advances in cardiovascular signaling and molecular diagnostics with special reference to microRNAs; new insights into cardiovascular pathophysiology using knockout and transgenic animals; and current concepts in the treatment of cardiovascular pathology and oxidative stress using microRNA mimics, inhibitors, and target-site blockers.

Potential topics include, but are not limited to:

- Role of miRNAs in the cardiovascular health and disease processes such as myocardial infarction, stroke, atherosclerosis, abdominal aneurysms, and cardiomyopathy
- MicroRNAs as biomarkers of cardiovascular diseases
- Recent developments using microRNAs in postmyocardial infarction and pulmonary arterial hypertension (PAH) settings
- Diagnostic and therapeutic application of microRNAs and their inhibitors in cardiomyopathies, atherosclerosis, abdominal aneurysms, and other vasculopathies
- MicroRNA mediated regulation of endothelial, smooth muscle, and cardiomyocyte signaling and function with special reference to oxidative stress at cellular or subcellular levels
- Role of microRNAs in xenobiotics-induced oxidative stress in myocardium

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

Lead Guest Editor
Sandeep Kumar, Emory University, Atlanta, USA
sandeepkumar@emory.edu

Guest Editors
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Wakako Takabe, Doshisha University, Tatara, Japan
wtakabe@mail.doshisha.ac.jp

Chan W. Kim, Inha University, Incheon, Republic of Korea
cwkimbio@inha.ac.kr

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