



Oxidative Medicine and Cellular Longevity

Special Issue on **Cardiovascular Health and Disease: Molecular Signaling and Regulation**

CALL FOR PAPERS

Cardiovascular dysfunction is a key component of the human pathophysiology. The vascular system connects different organs and tissues to deliver oxygen, nutrients, hormones, and circulating cells while also removing metabolic waste. In this way, the vascular system serves an important regulatory role integrating respiratory, digestive, cerebral, kidney, and urinary functions. Dysregulation of vascular function, including the endothelium, contributes to molecular and cellular events regulating proatherogenesis, proinflammatory and antiangiogenic processes.

Advances in technology and numerous studies over the years have led to a greater understanding of vascular dysfunction, in turn leading to new and better clinical approaches for vascular disease management. Studies involving signaling mechanisms may facilitate in early identification and interruption disease processes, while combination therapeutics could enhance protection against vascular complications and to reduce cardiovascular risk factors. Introduction of futuristic technologies such as Next Generation Sequencing (NGS) of transcriptome, small RNA, microRNA, and high end proteomics and metabolomics is accelerating the pace of discoveries in modern biology, while revealing new insights and research directions in cardiovascular disease.

In this special issue, contributions are encouraged that address basic, translational, and clinical studies that contribute towards understanding signaling mechanisms of vascular homeostasis, novel approaches for development of tools, identification of biomarkers for early diagnostics, clinical therapeutic approaches, and genomic regulation of vascular disease. Considering the paradigm shift in the uses of modern technologies in cardiovascular research, we propose the following topics to cover in the title.

Potential topics include, but are not limited to:

- ▶ Basic and clinical studies involving regulatory processes involving pathogenesis of vascular dysfunction including angiogenesis, inflammation, oxidative stress involving growth factors, hematopoietic stem cells, signaling molecules including neurotransmitters, proteins, protein modifications, mRNAs, and microRNAs
- ▶ Recent advances in disease models related to vascular remodeling and cardiovascular disease, imaging and diagnostics, bench to bedside approaches for management of the disease, and novel approaches for therapeutics and to control risk factors

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