



Special Issue Reprint

## Cellular Mechanisms of Cardiovascular Disease

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Cardiovascular diseases (CVD) remain the major cause of mortality and disability worldwide. Although cardiovascular outcomes have significantly improved due to early diagnosis and timely treatment, the prevalence of CVD is expected to increase in the coming years, highlighting the pressing need to identify novel biomarkers and disease-modifying treatments. In addition to classical risk factors, CVD burden is now recognized to be aggravated due to the growing population of cancer survivors treated with cardiotoxic cancer therapies or radiotherapy, which has fostered the development of a new field of research—cardio-oncology. Across the spectrum of CVD, multiple molecular pathways converge in endothelial dysfunction and myocardial remodeling, including inflammation, oxidative stress, defective calcium homeostasis, intercellular communication, and metabolic abnormalities. Therefore, a major future challenge in cardiovascular medicine lies in understanding the molecular basis of cardiac and valvular remodeling, paving the way for the identification of more efficient diagnostic and therapeutic tools. This Special Issue intended to bring together the latest findings in the field of cardiovascular biology and cardio-oncology, involving both cell-based studies and animal models of CVD, aiming to identify novel mechanisms underlying cardiac remodeling and dysfunction.



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