



**biomolecules**



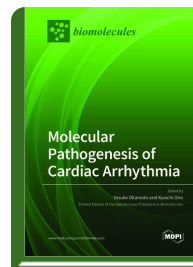
*Special Issue Reprint*

## **Molecular Pathogenesis of Cardiac Arrhythmia**

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The heart is the first organ in an embryo, and its function is detected as a heartbeat. Thereafter, the heart continues to beat until the individual dies. Therefore, the beating rhythm is a robust system that must be maintained in a reliable manner. Arrhythmia appears as a breakdown of the biological system. This book contains a collection of papers that focus on the highly sophisticated molecular mechanisms of the heartbeat and arrhythmias caused by abnormalities in these molecular mechanisms. Membrane proteins such as ion channels and transporters are introduced, as well as review articles focusing on mitochondrial proteins and methods for identifying the responsible molecules based on mathematical analysis and high-throughput data analysis. The reader will be able to recognize both the miraculous mechanism of the heartbeat and the still incomplete danger of the heartbeat.



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