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| Descrizione fisica | 1 online resource (306 pages) : illustrations |
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| Sommario/riassunto | The cyclic nucleotides 3',5'-adenosine monophosphate (cAMP) and 3',5'-cyclic guanosine monophosphate (cGMP) play important roles in the control of cardiovascular function under physiological and pathological conditions. In this book, which is a reprint of a Special Issue of the Journal of Cardiovascular Development and Disease entitled "Cyclic Nucleotide Signaling and the Cardiovascular System", internationally recognized experts give an overview of this vibrant scientific field. The first series of articles deal with the localization and function of membrane-bound and soluble adenylyl cyclases, followed by articles on the roles of phosphodiesterase isoforms in the heart. Cyclic nucleotide signaling takes place in nanodomains and the A-kinase anchor proteins (AKAPs) are essential for the compartmentalized assembly of signaling proteins into functional complexes. Reviews on the role of AKAP proteins in the physiology and pathophysiology of the heart are also included in this book. Cyclic nucleotides act through effector proteins and articles on EPAC and POPDC proteins inform the reader of recent developments on these topics. A major advancement in our understanding of cyclic nucleotide signaling came through the use of genetically encoded cAMP sensor molecules, and a series of articles review the current insight that these reporter molecules have provided. The final set of articles in this book deals with the association |

of the cyclic nucleotide pathway and cardiovascular disease as well as the development of novel therapeutic approaches.
