Erratum

The publisher regrets the incomplete address of the editors of this book.

APOPTOSIS IN CARDIAC BIOLOGY

Edited by:

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**Kluwer Academic Publishers
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Introduction

Cardiac myocytes are, for the most part, terminally differentiated and non-renewing cells. Thus, the functional and structural integrity of cardiac myocytes needs to be maintained during the entire lifespan. In this context, it appears almost contra-intuitively that cardiac myocytes accommodate a complex machinery for self destruction. Obviously, this machinery has to be kept under tight control such that coordinated self elimination does not occur accidentally. Rather, apoptosis must be reserved for rather desperate conditions in which necrosis with inflammatory responses may be the only alternative fate for a malfunctioning cell.

The question arises if excessive or unintentional activation of apoptosis is involved in the precipitation or progression of cardiovascular diseases, i.e. the leading causes for morbidity and mortality in industrialized countries. Moreover, what are the factors that push cardiac cells involuntarily into death and what are the precise mechanisms that are activated along this path. Comprehensive answers to these questions are certainly a major challenge for nowadays cardiovascular research.

Deepening our knowledge on apoptosis in cardiac biology emerges to be a timely goal in this context, both for clinical practice as well as basic research in cardiology. In particular, the appropriate integration of the functional consequences related to apoptosis appear to be essential for a complete understanding of the pathophysiology of cardiac diseases. Likewise, the potential benefits achieved by the abrogation of apoptosis need to be defined by future research. Subsequently, new treatment modalities focused on apoptotic cell death will require careful evaluation in experimental models and ultimately in patients with heart failure or myocardial infarction.

Fortunately, the forefront of apoptosis research is in a phase of rapid expansion and creative molecular biological techniques are being increasingly introduced for the exploration of cardiac cell death. This book reflects these advances and starts with a series of chapters on basic mechanisms of apoptosis. The complex system required to keep apoptosis in custody, for the most part, as well as the components of the death machinery itself will be distinctly presented. Next, the cellular targets of apoptosis in the heart and the cardiovascular system will be lined up and discussed with respect to their susceptibility to programmed cell death. The current conception of the role of apoptosis in the course of myocardial infarction, heart failure, and hypertension is next being presented. Finally, pharmacological interventions that are directed to the genuine mechanisms as well as the initiating factors of programmed cell death are being described.

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Thus, *Apoptosis in Cardiac Biology*, written by a team of internationally renowned researchers, gives a timely synopsis of programmed cell death in the heart. We hope that the book will provide candid guidance into the emerging fields of apoptosis for the cardiologist with interest in basic mechanisms of heart disease as well as the basic scientist with interest in a comprehensive overview on the subject.

Our appreciation goes to Professor Bernard Swynghedauw who encouraged us and our fellow contributors to edit this volume. The Working Group on Heart Failure of the European Society of Cardiology as well as the Arbeitsgruppe für Molekularbiologie und Gentechnologie of the German Society of Cardiology provided further in valuable support. Finally, our special thanks go to Frau Irene Brandl, University of Regensburg, and Ms Elaine Bello, Kluwer Academic Publishers, who have to be acknowledged for their outstanding expertise and patience during the realization of this book.

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