

Biochemistry and Physiology of Mitochondrial Ion Channels Involved in Cardioprotection

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Abstract

Over the past decades there has been considerable progress in understanding the multifunctional roles of mitochondrial ion channels in metabolism, energy transduction, ion transport, signaling, and cell death. Recent data have suggested that some of these channels function under physiological condition, and others may be activated in response to pathological insults and play a key role in cytoprotection. This review outlines our current understanding of the molecular identity and pathophysiological roles of the mitochondrial ion channels in the heart with particular emphasis on cardioprotection against ischemia/reperfusion injury, and future research on mitochondrial ion channels.

Key words: Mitochondrial ion channels, cardioprotection, ischemia/reperfusion injury, cytoprotection, metabolism, energy transduction, ion transport, signaling, cell death.

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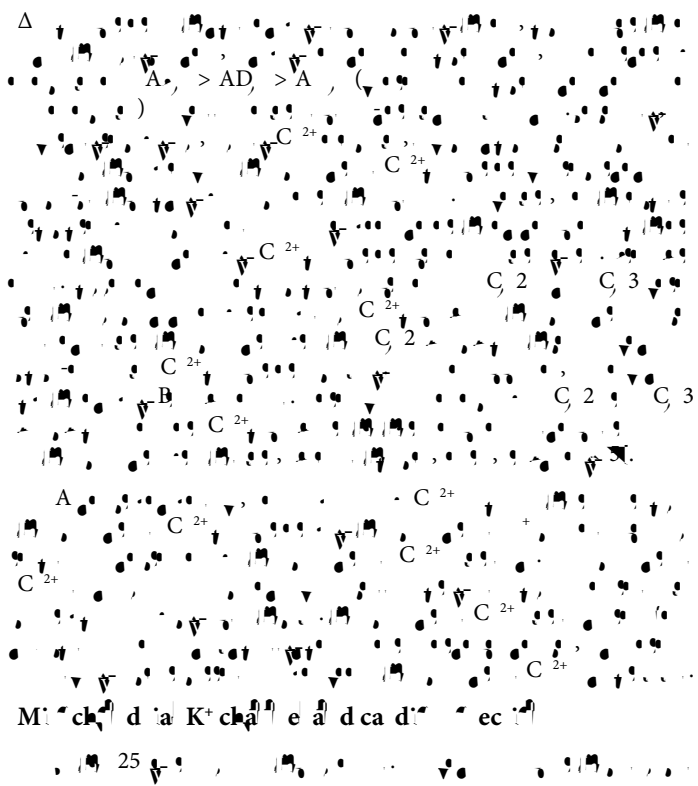
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