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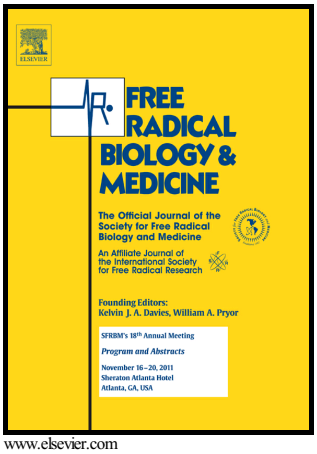


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Xiuchun Li[11], Pan He[1,21], Xiaoliang Wang[1], Shuning Zhang[1], Neil Devejian[3], Edward Bennett[4], Chuanxi Cai[1,*]

[1]Center for Cardiovascular Sciences, Department of Molecular and Cellular Physiology, & Department of Medicine, Albany Medical College, Albany, NY, 12208, USA

[2]Laboratory for Cancer Signal Transduction, Department of Pathology, Xinxiang Medical University, Xinxiang, Henan 453003, P.R. China

[3]Division of Pediatric Cardiothoracic Surgery, Albany Medical Center, NY 12208, USA; [4]Division of Cardiothoracic Surgery, Albany Medical Center, NY 12208, USA.

[*]Correspondence to: Center for Cardiovascular Sciences, Department of Molecular and Cellular Physiology, & Department of Medicine, Albany Medical College, Albany, NY 12208, USA. Tel.: (518) 264 2541; fax: (518) 262 8101. caic@amc.edu



## Abstract

Cardiac stem/progenitor cells (CPCs) have recently emerged as a potentially transformative regenerative medicine to repair the infarcted heart. However, the limited survival of donor cells is one of the major challenges for CPC therapy. Our recent research effort on preconditioning human CPCs (hCPCs) with cobalt protoporphyrin (CoPP) indicated that sulfiredoxin-1 (SRXN1) is upregulated upon preconditioning aldehyde dehydrogenase bright hCPCs ($ALDH^{br}$-hCPCs) with CoPP. Further studies demonstrated that overexpressing SRXN1 enhanced the survival capacity for $ALDH^{br}$-hCPCs. This was associated with the up-regulation of anti-apoptotic factors, including BCL2 and BCL-xL. Meanwhile, overexpressing SRXN1 decreased the ROS generation and mitochondrial membrane potential, concomitant with the up-regulated primary antioxidant systems, such as PRDX1, PRDX3, TXNRD1,

[1] These authors contributed equally to this work