Jmjd3 and Differentiation
Ohtani et al. page 856

---

WT
Jmjd3-/

---

In This Issue ............................................................................................................... 835

Editorials

The Impact Factor of Circulation Research Rises 25%
Roberto Bolli ................................................................. 836

Jumonji and Cardiac Fate
Erik Willems, Mark Mercola ............................................. 837

Why Has It Taken So Long to Learn What We Still Don’t Know?
Mark E. Anderson ............................................................ 840

Forgetting to Switch Off SMAD2 in Aneurysmal Disease
Amy Leung, Rama Natarajan ........................................... 843

Do Not Overcharge the System or It Will Explode!: How Mitochondrial Uncoupling Protein 2 Maintains Endothelial Function
Ralf P. Brandes ............................................................... 846

Commentaries on Cutting Edge Science

Identifying Single S-Nitrosothiol Sites With Cardioprotection
Puneet Anand, Douglas T. Hess, Jonathan S. Stamler ................................. 849

Circulation Research Classics

Did a Classic Preconditioning Study Provide a Clue to the Identity of the Mitochondrial Permeability Transition Pore?
Elizabeth Murphy, Charles Steenbergen ........................................... 852

Brief UltraRapid Communication

★ Jmjd3 Controls Mesodermal and Cardiovascular Differentiation of Embryonic Stem Cells
Kisho Ohtani, Cong Zhao, Gergana Dobreva, Yosif Manavski, Britta Kluge, Thomas Braun, Michael A. Rieger, Andreas M. Zeiher, Stefanie Dimmel ............................... 856

---

Circulation Research (ISSN 0009-7330) is published semimonthly except one issue per month in November and December and three issues per month in March and August by Lippincott Williams & Wilkins, at 12107 Insurance Way, Hagerstown, MD 21740. Business offices are located at Two Commerce Square, 2001 Market Street, Philadelphia, PA 19103. Production offices are located at 351 West Camden Street, Baltimore, MD 21201-2436. Individuals may subscribe for their personal use at the following annual rates: Domestic: $339 for members and $638 for nonmembers. International: $399 for members of an American Heart Association scientific council and $768 for nonmembers. Contact Lippincott Williams & Wilkins for single copy rates and subscription rates for medical professionals in training and for libraries, reading rooms, and other multiple-use institutions. Periodicals postage paid at Hagerstown, MD, and additional mailing offices. POSTMASTER: Send address changes to CIRCULATION RESEARCH, American Heart Association, Lippincott Williams & Wilkins, 12107 Insurance Way, Hagerstown, MD 21740.
New Methods in Cardiovascular Biology

Edward J. Botcherby, Alex Corbett, Rebecca A.B. Burton, Chris W. Smith, Christian Bollensdorff, Martin J. Booth, Peter Kohl, Tony Wilson, Gil Bub ......... 863

Molecular Medicine

★ β-Adrenergic Regulation of the L-type Ca^{2+} Channel Does Not Require Phosphorylation of α_{1C} Ser^{1700}
Lin Yang, Alexander Katchman, Tahmina Samad, John P. Morrow, Richard L. Weinberg, Steven O. Marx .................. 871

Ranolazine for Congenital and Acquired Late I_{Na}-Linked Arrhythmias: In Silico Pharmacological Screening
Jonathan D. Moreno, Pei-Chi Yang, John R. Bankston, Eleonora Grandi, Donald M. Bers, Robert S. Kass, Colleen E. Clancy [Online Only] ........... e50

★ Modifications of Chromatin Dynamics Control Smad2 Pathway Activation in Aneurysmal Smooth Muscle Cells
Delphine Gomez, Ketty Kessler, Jean-Baptiste Michel, Roger Vranckx ............. 881

Cellular Biology

Uncoupling Protein 2 Impacts Endothelial Phenotype via p53-Mediated Control of Mitochondrial Dynamics
YuKio Shimasaki, Ning Pan, Louis M. Messina, Chunying Li, Kai Chen, Lijun Liu, Marcus P. Cooper, Joseph A. Vita, John F. Keaney Jr .................. 891

Clinical/Translational Research

★ Transplantation of Mesenchymal Cells Rejuvenated by the Overexpression of Telomerase and Myocardin Promotes Revascularization and Tissue Repair in a Murine Model of Hindlimb Ischemia
Rosalinda Madonna, Doris A. Taylor, Yong-Jian Geng, Raffaele De Caterina, Harnath Shelat, Emerson C. Perin, James T. Willerson .................. 902

Reviews

Direct Cardiac Reprogramming: From Developmental Biology to Cardiac Regeneration
Li Qian, Deepak Srivastava .................. 915
In July 2013, the average time from submission to first decision for all original research papers submitted to *Circulation Research* was 13.24 days.

**On the Cover:** Composition illustrating the reversal of hindlimb ischemia in ApoE−/− mice after the transplantation of rejuvenated adipose tissue-derived mesenchymal cells (AT-MSCs) that had been obtained from older mice and that were previously transduced with myocardin (MYOCD) and telomerase reverse transcriptase (TERT). Top panel (from Supplemental Figure VII): CRI Nuance multispectral imaging showing the co-localization of rejuvenated AT-MSCs expressing green fluorescent protein (green) with smooth muscle α-actin (red) and 4',6-diamidino-2-phenylindole (DAPI; blue) in the ischemic leg tissue of ApoE−/− mice 21 days after treatment with transduced cells. Bottom panel (from Figure 4a of main manuscript): Laser Doppler perfusion imaging showing blood flow in a non-ligated control mouse and in ischemic mice 1 day before ligation, 1 day after artery ligation, and 2 weeks after the intramuscular injection of saline, mock-transduced AT-MSCs, or rejuvenated AT-MSCs transduced with MYOCD and TERT. See related article, page 902.