

7:55 AM Welcome and Introduction
Stephen E. Epstein, MD

Key Question #1:

Will reprogramming of somatic cells, and the use of epigenomics, have an important future impact on mechanistic insights, diagnosis, prevention, and treatment of cardiovascular disease?

Moderators: Frank J. Giordano, MD and Igor Slukvin, MD, PhD

8:00 AM Directed Differentiation of Stem Cells: Relative Advantages of Human Embryonic Stem Cells vs Induced Pluripotent Stem Cell Lines Derived from Human Somatic Cells
Igor Slukvin, MD, PhD

8:25 AM Questions & Answers

8:30 AM Epigenetics, Imprinting, and Human Disease Susceptibility
Randy L. Jirtle, PhD

8:55 AM Questions & Answers

9:00 AM Epigenetics and Transcriptional Control: Future Strategy for Myogenesis?
Frank J. Giordano, MD

9:25 AM Questions & Answers

9:30 AM Expert Panel Discussion for Key Question #1
Moderators: F. J. Giordano, I. Slukvin
Panelists: R. L. Jirtle, J. Sedivy

10:00 AM Break

Key Question #2:

Does knowledge of the relative biology of different “stem cell” types (cord blood, embryonic stem cells, iPS cells, adult bone marrow-derived cells, adult cardiac progenitor cells, adult adipocyte cells, mesenchymal cells, EPCs) provide answers as to which cell type will be best for improving severe myocardial dysfunction? What about for collateralogenesis? What about modifying the cells?

If Cell Therapy Can Ultimately Work, Will it Require Altering the Cell and/or its Properties, or Using More than One Particular Cell Type?

Moderators: Roger Laham, MD and Douglas W. Losordo, MD

10:15 AM Rationale and Experimental Results of Dual Cell Therapy for Collateralogenesis
Keith L. March, MD, PhD

10:40 AM Questions & Answers

10:45 AM The Rationale and Experimental Results on Remodeling of Preexisting Collaterals of Administering Endothelial Cells Overexpressing VEGF, and Smooth Muscle Cells Overexpressing Ang-1
Moshe Flugelman, MD

11:10 AM Questions & Answers

11:15 AM Optimization of Cell-Based Therapy by Gene Transfection
Marc S. Penn, MD, PhD

11:40 AM Questions & Answers

11:45 AM Outstanding Abstract Presentation: Overexpression of Endothelial NO-Synthase Restores Neovascularization Capacity of Endothelial Progenitor Cells from Patients with Coronary Artery Disease
Michael R. Ward

11:55 AM	Questions & Answers	Key Question #3: Will tissue engineering be a critically important strategy to 1) improve the function of severely compromised myocardium, and 2) enhance perfusion of tissues whose native vessels are severely compromised by atherosclerotic disease?
12:00 PM	Lunch & Visit the Exhibits	
<p><i>Overview: Cells for Myocardial Repair and Collaterogenesis</i> <i>Moderators: Roberto Bolli, MD and Charles E. Murry, MD, PhD</i></p>		<p><i>Repairing the Myocardium by Tissue Engineering</i> <i>Moderator: Gordana Vunjak-Novakovic, PhD</i></p>
1:00 PM	Adult Progenitor Cells to “Repair” Infarcted Myocardium <i>Roberto Bolli, MD</i>	3:05 PM Tissue Engineering of the Myocardium: Basic Concepts, Limitations, and Achievements to Date <i>Gordana Vunjak-Novakovic, PhD</i>
1:20 PM	Questions & Answers	
1:25 PM	Embryonic Progenitor Cells to “Repair” Infarcted Myocardium <i>Charles E. Murry, MD, PhD</i>	3:25 PM Questions & Answers
1:45 PM	Questions & Answers	3:30 PM The Development and Clinical Translation of a Tissue Engineered Vascular Graft: From the Bench to the Bedside and Back Again <i>Christopher Kane Breuer, MD</i>
1:50 PM	Expert Panel Discussion for Key Question #2 <i>Moderators: R. Bolli, C. E. Murry</i> <i>Panelists: S. E. Epstein, M. Flugelman, F. J. Giordano, R. Laham, D. W. Losordo, K. L. March, M. S. Penn</i>	3:50 PM Questions & Answers
2:50 PM	Break	3:55 PM Blood Vessels Engineered from Human Cells <i>Laura E. Niklason, MD, PhD</i>
		4:20 PM Questions & Answers
		4:25 PM New Materials for Tissue Engineering: Towards Greater Control Over the Biological Response <i>David J. Mooney, PhD</i>
		4:45 PM Questions & Answers
		4:50 PM Expert Panel Discussion for Key Question #3 <i>Moderator: D. J. Mooney</i> <i>Panelists: C. K. Breuer, L. E. Niklason, G. Vunjak-Novakovic</i>
		5:30 PM Adjourn