

Basic Research in Cardiology

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From basic

mechanisms to clinical applications in heart protection, new players in cardiovascular diseases and cardiac theranostics: meeting report from the third international symposium on “New frontiers in cardiovascular research” (Review) ([Open Access](#))

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## Abstract

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In this meeting report, particularly addressing the topic of protection of the cardiovascular system from ischemia/reperfusion injury, highlights are presented that relate to conditioning strategies of the heart with respect to molecular mechanisms and outcome in patients' cohorts, the influence of co-morbidities and medications, as well as the contribution of innate immune reactions in cardioprotection. Moreover, developmental or systems biology approaches bear great potential in systematically uncovering unexpected components involved in ischemia–reperfusion injury or heart regeneration. Based on the characterization of particular platelet integrins, mitochondrial redox-linked proteins, or lipid-diol compounds in cardiovascular diseases, their targeting by newly developed theranostics and technologies opens new avenues for diagnosis and therapy of myocardial infarction to improve the patients' outcome. © 2016, The Author(s).

## SciVal Topic Prominence

Topic: [RNA](#) | [Reperfusion Injury](#) | [myocardial infarction](#)

Prominence percentile: 86.224

## Reaxys Database Information

[View Compounds](#)

## Author keywords

(Cardiomyocyte signaling pathways) (Cardioprotection) (Cardiovascular disease) (Co-morbidities) (Drug targeting)  
 (Endothelial permeability) (Extracellular RNA (eRNA)) (Heart regeneration) (Induced pluripotent stem cells)  
 (Ischemia–reperfusion injury) (Lipid metabolism) (MicroRNAs (miRNAs)) (Mitochondria)  
 (Remote ischemic conditioning)

## Indexed keywords

### EMTREE drug terms:

(high density lipoprotein cholesterol) (high mobility group B1 protein)  
 (macrophage migration inhibition factor) (macrophage migration inhibition factor 2)  
 (pancreatic ribonuclease) (protein kinase B) (reactive oxygen metabolite) (STAT3 protein)  
 (toll like receptor 4) (troponin I) (troponin T) (tumor necrosis factor) (unclassified drug)  
 (vascular endothelial cadherin)

### EMTREE medical terms:

(atherectomy) (atherogenesis) (atherosclerosis) (cardiac muscle cell)  
 (cardiovascular magnetic resonance) (chronic kidney disease) (cohort analysis)  
 (comorbidity) (coronary artery bypass graft) (disease association) (disease course)  
 (disseminated intravascular clotting) (drug eluting stent) (Escherichia coli)  
 (heart infarction size) (heart mitochondrion) (heart protection) (heart surgery)  
 (hemolytic uremic syndrome) (human) (immunosuppressive treatment)  
 (immunothrombosis) (in vivo study) (innate immunity) (insulin dependent diabetes mellitus)  
 (multicenter study (topic)) (myocardial ischemia reperfusion injury)  
 (non ST segment elevation myocardial infarction) (nonhuman) (oxidative stress)  
 (percutaneous coronary intervention) (pilot study) (protein expression)  
 (protein phosphorylation) (randomized controlled trial (topic)) (retinopathy) (Review)  
 (sepsis) (signal transduction) (ST segment elevation myocardial infarction) (thrombosis)  
 (animal) (cardiology) (cardiovascular disease) (procedures) (theranostic nanomedicine)  
 (trends)

### MeSH:

(Animals) (Cardiology) (Cardiovascular Diseases) (Humans) (Theranostic Nanomedicine)

## Chemicals and CAS Registry Numbers:

pancreatic ribonuclease, 12585-08-9; protein kinase B, 148640-14-6; toll like receptor 4, 203811-83-0;  
 troponin I, 77108-40-8; troponin T, 60304-72-5

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