

CURRICULUM VITAE

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EDUCATION

1999: Ph. D. in Cell Physiology and Biophysics, Institute of Cell Biophysics, Russian Academy of Sciences, Pushchino, Russia

1991: D.V.M., Moscow State Academy of Veterinarian Medicine and Biotechnology, Russia

1989: M.Sc. in Biochemistry, Moscow State Academy of Veterinarian Medicine and Biotechnology, Russia

PROFESSIONAL EXPERIENCES

2008 - Present **Assistant Professor (tenure track)**, Department of Molecular Biophysics and Physiology, Rush University Medical Center, Chicago, IL

2006 - 2008 Research Assistant Professor, Department of Physiology, Loyola University Medical Center, Maywood, IL (Chair: Dr. Donald M. Bers)

2004 - 2006 American Heart Association fellow, Department of Physiology, Loyola University Medical Center, Maywood, IL (sponsors: Professors Lothar A. Blatter and Stephen L. Lipsius, Dept. Chair: Professor Donald M. Bers)

1999 - 2004 Postdoctoral Research Associate, Department of Physiology, Loyola University Medical Center, Maywood, IL (lab of Professor L.A. Blatter)

1994 - 1999 Graduate Student, Institute of Cell Biophysics, Russian Academy of Sciences, Pushchino, Russia (supervisor Prof. Valery P. Zinchenko)

1992 -1994 Pre-doctoral Junior Research Associate, Institute of Cell Biophysics, Russian Academy of Sciences University, Pushchino, Russia

Short-term visits:

2014 Visiting Researcher, Department of Cancer Biology and Pharmacology, University of Illinois College of Medicine, Peoria, IL (lab of Dr. E. Zakharian)

2013 Visiting Researcher, Comprehensive Heart Failure Center, University of Wurzburg, Wurzburg, Germany, (lab of Professor Oliver Ritter)

2010, 2012 Visiting Researcher, Department of Physiology and Institute of Neurology, University College London, UK (labs of Professor Michael Duchen and Dr. A. Abramov).

HONORS

- 1996-1998 Jorge Soros Award for Advanced Postgraduate Students, Moscow
 1999 FEBS Award for Participation in FEBS Advanced Course:
 Free Radicals, Nitric Oxide and Antioxidants in Health and Disease
- 2004-2006 AHA Greater Midwest Affiliate, Postdoctoral Fellowship
 2007 AHA Greater Midwest Scientist Development Grant,
 Mechanisms of mitochondria-mediated cardioprotection by trimetazidine in
 ventricular myocytes - declined in a favor of AHA National SDG award
- 2013 Co-chair, Session "Role of mitochondria in cell death" at the 57th Annual
 Meeting of Biophysical Society, February 2-13, 2013, Philadelphia, PA
- 01/2015 Chair, University Council Meeting, Rush University Chicago

ACADEMIC SERVICES

- 2011-present Faculty Council Member, Rush University Medical College
 2012-present University Council Member, Rush University Chicago
 2011-present Elected Council Member for the Bioenergetics Subgroup of the Biophysical
 Society
- 2013-present Diversity and Inclusion Committee Member, Elected University Council
 Representative, Rush University
- 2014-present Advisory Committee Member, Department of Molecular Biophysics and
 Physiology, Rush University Medical Center
- 2014-present Elected Secretary, University Council, Rush University Chicago

RESEARCH ACTIVITIES

- 2012-Present Roles of poly- β -hydroxybutyrate, the polymerized form of the ketone body β -
 hydroxybutyrate, in diabetes-mediated cardiomyopathy and cardiac cell death.
- 2011-Present Regulation of mitochondrial permeability transition pore during cardiac
 ischemia-reperfusion: roles of Ca^{2+} , reactive oxygen species and inorganic
 polyphosphate.
- 2010-Present Roles of inorganic polyphosphate in Ca^{2+} -induced mitochondrial permeability
 transition pore activation in cardiac myocytes.
- 2008-2012 Mitochondrial impairment in heart failure and mechanisms of mitochondria-
 mediated cardioprotection by trimetazidine.
- 2006 - 2008 Molecular mechanisms of mitochondrial nitric oxide and reactive oxygen
 species generation in cardiac myocytes. Role of cytoskeleton in regulation of
 nitric oxide generation in ventricular myocytes.
- 2005-2006 Mitochondrial contribution to decoding of fast cytosolic Ca^{2+} -transients in
 cardiac ventricular myocytes: slow mode of mitochondrial Ca^{2+} accumulation
versus fast beat-to-beat uptake.
- 2002 - 2005 Study of nitric oxide-dependent regulation of alpha- and beta-adrenergic
 mediated Ca^{2+} signaling pathways in cardiac (atrial and ventricular)
 myocytes.
- 2003-2004 Mechanisms of mitochondrial nitric oxide generation and its effects on
 mitochondrial Ca^{2+} entry and release in vascular endothelial cells.

- 2002 - 2003 Effects of thyroid hormone on cardiac Ca^{2+} and Na^+ handling in the heart.
2000 - 2002 Regulation of store-operated calcium entry by nitric oxide (NO) in vascular endothelial cells. Investigation of cellular mechanisms of the regulation of NO generation and release from vascular endothelial cells.
1994 - 1999 Molecular mechanisms of store-operated Ca^{2+} entry in non-excitabile cells.
1992 - 1994 Study of the mechanisms governing mitochondrial membrane potential, mitochondrial ion channels, and the role of mitochondria for cellular calcium homeostasis and cell death.

PROFESIONAL MEMBERSHIPS

- 1999 - present Member, Biophysical Society
2003 - present Member, American Heart Association (AHA), Basic Science Council
2011 - present Elected Council Member, Bioenergetics Subgroup of the Biophysical Society
2013 - present Member, Cardiac Muscle Society

TEACHING, PROFESSIONAL DEVELOPMENT AND MENTORING

Teaching courses:

- 2014-present **Seminar Series Director** at the Department of Molecular Biophysics and Physiology, Rush University Medical Center, Chicago, IL
- 2008 - 2014 **Lectures and Journal Club Director** at Section of Calcium Signaling (together with Prof. Eduardo Rios) as part of the "Molecular Biophysics and Physiology" Graduate Program, Rush University, Chicago, IL
- 2007 **Nitric Oxide Signaling lectures** as a part of Signal Transduction Course (Fall Semester 2007) for Physiology 471 Graduate Program at Loyola University Medical Center, Maywood, IL. Course director: Mitchel F. Denning, PhD, Associate Professor of Pathology, Loyola University Medical Center, Maywood, IL
- 1998- 1999 **Laboratory course supervisor** for postgraduate students of Pushchino State University, Russia: "Use of fluorescence techniques to measure intracellular Ca^{2+} and pH in living cells". Course director: Valery P. Zinchenko, PhD, Professor of Physiology, Pushchino State University, Pushchino, Russia
- 1996-1998 **Essential Cell Biology course** for undergraduate students, Pushchino State University. Course director: Valery P. Zinchenko, PhD, Professor of Physiology, Pushchino State University, Pushchino, Russia

Teaching lectures:

- 2013 "Mitochondria and cellular Ca^{2+} handling" lecture presented as part of Journal Club Discussion Group at the Department of Mol. Biophysics and Physiology, Rush University Medical Center

- 2012 Lecture "Mitochondrial Ca²⁺ transport in cardiac myocytes: contribution to cardiac excitation-contraction coupling" presented as part of Journal Club Discussion Group at the Department of Mol. Biophysics and Physiology, Rush University Medical Center
- 2011 Lecture "Methods to study mitochondrial metabolism and calcium handling in cardiac myocytes" presented as part of Journal Club Discussion Group at the Department of Mol. Biophysics and Physiology, Rush University Medical Center

Professional development:

- 02/2015 **"Teaching Excellence Course"**, Rush University Medical Center Teaching Academy
- 11/2014 **"Grant writing"** workshop, Rush University Medical Center Teaching Academy
- 10/2014 **"Understanding Research: An Overview for Health Professionals"** Online Course, University of California, San Francisco, Professional Certificate
- 10/2014 **"Interactive Classroom"** Basic Training workshop, Rush University Medical Center Teaching Academy
- 06/2014 **"How to Prepare Online Lecturing using Panopto"** workshop, Rush University Medical Center Teaching Academy, presented by Heidi Zhao
- 05/2014 **"Talent Management"** workshop, Rush University Medical Center Teaching Academy, presented by Kurt Olson
- 03/2014 **"Copyright Compliance for Faculty"** workshop, Rush University Medical Center Teaching Academy, presented by Christine Frank
- 02/2014 **"How to Plan and Design Quality Test Questions"** workshop, Rush University Medical Center Teaching Academy, presented by Lola Coke
- 01/2014 **"How to prepare Quality Test Questions"** workshop, Rush University Medical Center Teaching Academy, presented by Rosemarie Suhayda
- 12/2013 **"Data Management and Analysis with Excel"**, Rush University Medical Center, Professional Certificate. Developed by Briana Jegier, PhD, CLC
- 12/2013 **"How Communication Styles Affect Leadership Skills"** workshop, Rush University Medical Center Teaching Academy, presented by Melinda Noonan
- 11/2013 **"Budgets & Rules of Funds and Cost Centers"** workshop, Rush University Medical Center Teaching Academy, presented by John McClatchy
- 10/2013 **"Communicating Effectively: Getting Your Points Across"** workshop, Rush University Medical Center Teaching Academy, presented by Melanie Dreher
- 09/2013 **"Building and managing your research"** workshop, Rush University Medical Center Teaching Academy, presented by Mary Jane Welch

Trainees:

- 2014, 2013 Isaac Philip, summer student
- 2011 - 2012 Vanessa Juettner, research technician
- 2009 - 2011 Lea K. Seildmayer, Dr. med., PhD, postdoctoral fellow
- 1997 - 1999 Tatyana Belyaeva, predoctoral fellow
- 1994-1996 Valentina Musienko, research technician

INVITED PRESENTATIONS:**Seminars:**

- 2014 Invited speaker at the Department of Cancer Biology and Pharmacology, University of Illinois College of Medicine, Peoria, IL, Invited by Dr. E. Zakharian.
- 2014 Seminar speaker at the Department of Pharmacology, University of California at Davis, Davis, CA, Invited by the chair, Professor, Dr. Donald M. Bers. "Mitochondrial impairment in heart failure and mechanisms of mitochondria-mediated cardioprotection by trimetazidine".
- 2013 Invited speaker at the Cardiovascular Aging Research Laboratory, Center for Integrative Research on Cardiovascular Aging, Aurora Research Institute, Milwaukee, WI, Invited by the director of the Cardiovascular Aging Research Laboratory, Prof. Dr. Arshad Jahangir.
- 2012 Invited speaker at the Comprehensive Heart Failure Center, University of Wurzburg, Wurzburg, Germany, "Mechanisms of mitochondria-mediated cardioprotection by trimetazidine in rabbit heart failure". Invited by the director of the Comprehensive Heart Failure Center, Prof. Dr. Oliver Ritter
- 2011 Invited Talk presented at the Institute of Molecular Cardiobiology, John Hopkins University, Baltimore, Maryland, "Inorganic Polyphosphate and Mitochondrial Function in Cardiac Myocytes: role in mPTP opening and protection against ischemia-reperfusion injury." Invited by Dr. Miguel Aon.
- 2010 Invited seminar presented at the Hatter Cardiovascular Institute, Department of Cardiovascular Medicine, University College of London, "Mitochondrial calcium and nitric oxide signaling in the heart". Invited by Dr. Derek Hausenloy.
- 2007 Invited seminar presented at the Department of Molecular Biophysics and Physiology, Rush University Medical Center "Mitochondrial calcium and nitric oxide in the heart". Invited by the chair Dr. Robert Eisenberg.
- 2005 Seminar presented at Physiology Department, Loyola University Chicago "Mitochondrial calcium –nitric oxide signaling in vascular endothelial cells".
- 2002 Seminar presented at Physiology Department, Loyola University Chicago "Calcium signaling in vascular endothelial cells: capacitative Ca^{2+} entry and nitric oxide".

Symposia:

- 2013 Talk presented at the 4th Retreat of the Foundation Lequcq Transatlantic Network of Excellence on "Redox and Nitrosative Regulation of Cardiac Remodeling: Novel Therapeutic Approaches for Heart Failure", Turin, Italy, "Ca²⁺-dependent ROS generation during ischemia triggers mPTP-dependent cell death during reperfusion".
- 2013 Invited talk presented at the 57th Annual Meeting of Biophysical Society, February 2-13, 2013, Philadelphia, Pennsylvania, "Ca²⁺-dependent ROS generation during ischemia triggers mPTP-dependent cell death during reperfusion".
- 2012 Invited speaker at 2012 Gordon Research Conference, Cardiac Regulatory Mechanisms, New London, NH, June 10-15, "Mitochondrial Ca transients".

- 2012 Invited Point-Counterpoint Presenter at 2012 Gordon Research Conference, Cardiac Regulatory Mechanisms, New London, NH, June 10-15: "Is there a mitochondrial localized NOS?"
- 2012 Talk presented at the 3rd Retreat of the Foundation Lequcq Transatlantic Network of Excellence on "Redox and Nitrosative Regulation of Cardiac Remodeling: Novel Therapeutic Approaches for Heart Failure", Park City, UT, "Inorganic Polyphosphate is a Potent Activator of the Mitochondrial Permeability Transition Pore in Cardiac Myocytes".
- 2012 Invited speaker at the Cardiovascular Research Conference, Rush University Medical Center, Chicago, IL, "Mechanisms of mitochondria-mediated cardioprotection by trimetazidine in rabbit heart failure". Invited by Dr. Gary Schaer.
- 2011 Invited speaker at 2011 British Society for Cardiovascular Research Autumn Meeting, Mitochondria in Cardiovascular Disease: Emerging Concepts and Novel Therapeutic Targets, "Increased activity of mitochondrial complex II in rabbit heart failure is associated with reactive oxygen species generation and impaired excitation-contraction coupling". Invited by Prof. Michael Duchon.
- 2011 Talk presented at the 2nd Retreat of the Foundation Lequcq Transatlantic Network of Excellence on "Redox and Nitrosative Regulation of Cardiac Remodeling: Novel Therapeutic Approaches for Heart Failure", Merton College, Oxford, UK, "Increased activity of the mitochondrial complex II in rabbit heart failure is associated with robust ROS generation and impaired excitation-contraction coupling".
- 2010 Talk presented at the 1st Retreat of the Foundation Lequcq Transatlantic Network of Excellence on "Redox and Nitrosative Regulation of Cardiac Remodeling: Novel Therapeutic Approaches for Heart Failure", Baltimore, MD, "Mitochondrial impairment in heart failure and cardioprotective effect of trimetazidine".

RESEACH SUPPORT

Pending submissions:

1) AHA Grant-in-Aid

American Heart Association (AHA)

Beta-hydroxybutyrate and its polymers in type-2 diabetic hearts: implications for physiology and cardiomyopathy. The goal of this project is to determine the effects of β -hydroxybutyrate and its polymer poly- β -hydroxybutyrate on cardiac performance and mitochondrial function in type-2 diabetes.

Project Role: **Principal Investigator**

2) National Institutes of Health (NIH), R01

National Heart and Lung Institute

Role of Ketone bodies and their polymers in failure of the aging diabetic hearts.

The goal of this project is to investigate the role of ketone bodies, their polymers and inorganic polyphosphate on activation and regulation of the mitochondrial permeability transition pore, cardiac excitation-contraction coupling and cell metabolism in control and diseased hearts.

Project Role: **Principal Investigator**

3) NIH, 1R01CA137598-01A1

National Cancer Institute

Cellular responses to p53 activation by nutlin 3a

The goal is to investigate the cellular responses to p53 activation by nutlin 3a.

Principal Investigator: **Carl Maki**

Project Role: **Co-Investigator**

4) National Institutes of Health (NIH), R01

National Cancer Institute

Novel regulatory mechanisms of cell survival in bone metastasis

The goal is to investigate a novel regulatory mechanism of breast cancer metastasis via Runx2/ β -Arrestin-1/IGF-1R pathway.

Principal Investigator: **Jitesh Pratap**

Project Role: **Co-Investigator**

Completed research support:

1) National Institutes of Health (NIH), R01 HL101235-04 05/01/2010-03/31/2014

Mitochondrial dysfunction in cardiac hypertrophy and failure.

The goal of this project is to study mitochondrial disbalance in cardiac hypertrophy and failure.

Multiple Principal Investigators:

Lothar A. Blatter (Rush University)

Brian O'Rourke, Jennifer Van Eyk, Natalia Trayanova (Johns Hopkins University)

Donald M. Bers (UC Davis)

Project Role: **Co-Investigator**

2) Rush Translational Research Consortium Pilot Grant 09/01/2012-01/31/2014

β -hydroxybutyrate and its polymers in diabetic hearts: implications in cardiomyopathy.

The goal of this project is to determine the role of poly- β -hydroxybutyrate, the polymerized form of ketone bodies, in diabetes-mediated cardiomyopathy and cardiac cell death.

Project Role: **Principal Investigator**

3) Rush Translational Research Consortium Grant 12/01/2010-11/30/2012

Depletion of mitochondrial polyphosphate as a novel protection strategy against ischemia-reperfusion induced cell death.

The goal of this project is to study the role of the inorganic polyphosphate in protection against ischemia-reperfusion induced cell death.

Project Role: **Principal Investigator**

4) AHA Scientist Development Grant (SDG) 0735071N 07/01/2007-06/30/2012

American Heart Association (AHA), National Affiliate

Mechanisms of mitochondria-mediated cardioprotection by trimetazidine in

ventricular myocytes. The goal of this project is to study the mechanisms of mitochondria-mediated cardioprotection by trimetazidine during heart failure.

Project Role: **Principal Investigator**

5) AHA fellowship 0425761Z 07/01/2004-06/30/2006

American Heart Association (AHA)/Greater Midwest

Contractile activity stimulates nitric oxide production in cat ventricular myocytes through cytoskeletal-dependent mechanisms.

The goal of this study was to evaluate whether contractile activity modulates nitric oxide production in cardiomyocytes and to determine the underlying mechanisms.

Project Role: **Principal Investigator**

GRANT REVIEW PANELS

2011 Rush Translational Sciences Consortium Pilot Grants Review Committee
2013 Ataxia UK Research Grant reviewer
2013 Rush Translational Sciences Consortium Pilot Grants Review Committee
for Projects in Woman's Cancer
2014, 2015 American Heart Association, Cardiac Regulatory Mechanisms III Grants
Review Committee, National Center

REFFERAL AND EDITORIAL WORK

Editorial Boards:

2010-present Review Editor for Frontiers in Cardiac Muscle Physiology
2011-present Review Editor for Frontiers in Mitochondrial Research

Invited Book Editor:

2014-present Co-Editor (together with Drs. T. Kulakovskya and E. Pavlov), "Biological
Function of Inorganic Polyphosphates in Eukaryotic Cells", 300 pages, 100
illustrations, Springer International Publishing AG, Gewerbestrasse 11,
6330 Cham, Switzerland

Reviewer for Book Proposals:

Cellular & Molecular Biology, Humana Press (Book proposal review)
Elsevier Publishing House (Book proposal review)

Reviewer for Professional Journals:

American Journal of Physiology
Cardiovascular Research
Cell Calcium
Circulation Research
Dove Medical Press
Experimental Gerontology
FEBS Letters
Frontiers in Mitochondrial Physiology
Frontiers in Cardiac Muscle Physiology
Gene
Journal of Applied Physiology
Journal of Molecular and Cellular Cardiology
Journal of Muscle Research and Cell Motility
Nature
PLOS One
The Journal of Physiology
Trends in Cardiovascular Medicine

PEER-REVIEWED PUBLICATIONS

1. Seidlmayer L.K., Juettner V.V., Kettlewell S., Pavlov E., Blatter L.A., **Dedkova E.N.***. (2015) Distinct modes of mPTP activation during ischemia and reperfusion: contributions of calcium, ROS and inorganic polyphosphate. *Cardiovascular Research*. (**Accepted, In Press*).
2. **Dedkova E.N.***, Blatter L.A. (2014) Role of β -hydroxybutyrate and inorganic polyphosphate in cardiovascular health and disease. *Frontiers in Mitochondrial Research* (**Invited and Corresponding Author. This review is part of a Special Issue entitled "Mitochondria: Hubs of cellular signaling, energetics and redox balance".*) *Front. Physiol.*, 17 July 2014 | doi: 10.3389/fphys.2014.00260 (*Most viewed and downloaded article of the Special Issue*).
3. **Dedkova E.N.***, Seidlmayer L.K., Blatter L.A. (2013) Mechanisms of the cardioprotective effects of trimetazidine in rabbit heart failure. *J Mol Cell Cardiology*, 59: 41-54. PMID: 23388837 (*Recommended by Faculty of 1000, F1000*). (**Principal Investigator and Corresponding Author*).
4. **Dedkova E.N.**, Blatter L.A.* (2013) Calcium signaling in cardiac mitochondria. *J Mol Cell Cardiol*. 58: 125-133 PMID: PMC3627826 (**Invited Review. This article is part of a Special Issue entitled "Calcium Signaling in Heart".*)
5. Seidlmayer L.K., Blatter L.A., Pavlov E., **Dedkova E.N.***. Inorganic polyphosphate – an unusual suspect of the mitochondrial permeability transition mystery. 2012, *Channels (Austin)*. 6: 463-7. PMID: PMC3536732 (**Invited Addendum to 2012, J. Gen. Physiology, 139 (5): 321-31.*)
6. Seidlmayer L.K., Blatter L.A., Pavlov E., **Dedkova E.N.*** Inorganic polyphosphate is a potent activator of the mitochondrial permeability transition pore in cardiac myocytes. 2012, *J. Gen. Physiology*, 139 (5): 321-31. PMID: PMC3343371 (**Editorial Comment in J Gen Physiol. 2012 June; 139(6): 391–393.*)
7. **Dedkova EN**, Blatter LA*. Measuring mitochondrial function in intact cardiac myocytes. *J. Mol. Cell. Cardiology* 2012, 52(1), 48-61. PMID: PMC3246130 (**Invited Review*).
8. **Dedkova E.N.***, Blatter L.A. Characteristics and function of cardiac mitochondrial nitric oxide synthase. *J. Physiol.*, 2009, 587, 851-872. Epub 2008 Dec 22. (**Editorial comment in J. Physiol. 2009; 587:2719-20. doi: 10.1113/jphysiol.2009.169318*).
9. **Dedkova E.N.*** Blatter L.A. Mitochondrial Ca^{2+} and the heart. *Cell Calcium* 2008, 44 (1), 77-91. Epub 2008 Feb 21. PMID: 18178248 (**Invited and Corresponding Author. This review is part of a Special Issue entitled "Mitochondria and Calcium in Health and Disease"*).
10. **Dedkova E.N.**, Wang Y.G., Ji X., Blatter L.A., Samarel A.M., Lipsius S.L. Signaling mechanisms in contraction-mediated stimulation of intracellular NO production in cat ventricular myocytes. *J. Physiol.* 2007, 580 (1): 327-345. Epub 2007 Jan 18.
11. Sedova M.* **Dedkova E.N.*** Blatter L.A. Integration of rapid cytosolic Ca^{2+} signals by mitochondria in cat ventricular myocytes. *Am. J. Physiol. Cell Physiol.*, Nov; 291(5):C840-50. Epub 2006 May 24 (**Authors contributed equally to this publication*).
12. **Dedkova E.N.***, Blatter L.A. Modulation of Mitochondrial Calcium by Nitric Oxide in Cultured Bovine Vascular Endothelial Cells. *Am. J. Physiol. Cell Physiol.*, 2005 Oct; 289(4): C836-845. Epub 2005 May 18. (**Editorial comment in Am J Physiol Cell Physiol. 2005, 289 (4):C775-7.*)
13. Wang Y.G., **Dedkova E.N.**, Ji X., Blatter L.A., Lipsius S.L. Phenylephrine acts via IP_3 -dependent intracellular NO release to stimulate L-type Ca^{2+} current in cat atrial myocytes. *J. Physiol.*, 2005 Aug 15; 567(Pt 1): 143-157. Epub 2005 Jun 9. (**Recommended by Faculty of 1000, F1000*). PMID: PMC1474159

14. **Dedkova E.N.**, Ji X., Lipsius S.L., Blatter L.A. Mitochondrial calcium uptake stimulates nitric oxide production in mitochondria of bovine vascular endothelial cells. *Am. J. Physiol. Cell Physiol.*, **2004**, 286, C406-415.
15. **Dedkova E.N.**, Ji X., Wang Y.G., Blatter L.A., Lipsius S.L. Signaling mechanisms that mediate NO production induced by ACh exposure and withdrawal in cat atrial myocytes. *Circ. Res.*, **2003**, 93, 1233-1240.
16. Wang Y.G., **Dedkova E.N.**, Fiening J. P., Ojamaa K., Blatter L. A., Lipsius S.L. Acute exposure to thyroid hormone increases Na⁺ current and intracellular Ca²⁺ in cat atrial myocytes. *J. Physiol.*, **2003**, 546, 491-499.
17. **Dedkova E.N.**, Wang Y.G., Blatter L.A., Lipsius S.L. Nitric oxide signalling by selective β_2 -adrenoceptor stimulation prevents ACh-induced inhibition of β_2 -stimulated Ca²⁺-current in cat atrial myocytes. *J. Physiol.*, **2002**, 542, 711-723. PMID: PMC2290448
18. **Dedkova E.N.**, Blatter L.A. Nitric oxide inhibits capacitative Ca²⁺ entry and enhances endoplasmic reticulum Ca²⁺ uptake in bovine vascular endothelial cells. *J. Physiol.*, **2002**, 539, 77-91. PMID: PMC2290138 (**One of the top 10 downloaded articles of the month**).
19. Wang Y.G., **Dedkova E.N.**, Steinberg S.F., Blatter L.A., Lipsius S.L. Beta 2-adrenergic receptor signaling acts via NO release to mediate ACh-induced activation of ATP-sensitive K⁺ current in cat atrial myocytes. *J. Gen. Physiol.*, **2002**, 119, 69-82.
20. **Dedkova E.N.**, Sigova A.A., Zinchenko V.P. Mechanism of action of calcium ionophores on intact cells: ionophore-resistant cells. *Membr Cell Biol.*, **2000**, 13, 357-368.
21. Sigova A.A., **Dedkova E.N.**, Zinchenko V.P., Litvinov I.S. Reduction of Ca²⁺-transporting systems in memory T cells. *Membr Cell Biol.*, **2000**, 14, 97-107.
22. **Dedkova E.N.**, Alovskaya A.A., Gabdulhakova A.G., Safronova V.S., Zinchenko V.P. Priming effect of calcium ionophores on phorbol ester-induced respiratory burst in mouse peritoneal neutrophils. *Biochemistry (Mosc.)*, **1999**, 64(7):788-794.
23. Sigova A.A., **Dedkova E.N.**, Zinchenko V.P., Litvinov I.S. A comparative study of calcium system in memory T cells and naive T cells. *FEBS Lett.*, **1999**, 447, 34-38.
24. Alovskaya A.A., Gabdulhakova A.G., Gapeev A.B., **Dedkova E.N.**, Safronova V.G., Fesenko E.E., Chemeris N.K. Biological effects by EHF EMF depends on functional status of neutrophils. *News of medical technology*, **1998**, 1, 36-40 (Russian).
25. Zinchenko V.P., Mysiakin E.B., Dolgachev V.A., **Dedkova E.N.**, Safronova V.G., Gapeev A.B., Shebzukhov Iu.V., Vaisbud M.Iu. Effect of structural analogs of platelet activating factor on the intracellular signal transduction in murine peritoneal neutrophils and macrophages of P388D1 line. *Biofizika*, **1997**, 42, 1097-1105. (Russian)
26. Abdrasilov B.S., Kim Yu.A., Nurieva R.I., **Dedkova E.N.**, Leonteva G.A., Hwa-Jin Park, Zinchenko V.P. The effect of total saponins from Panax Ginseng C.A. Meyer on the intracellular signalling system in Ehrlich ascites tumor cells. *Biochemistry and Molecular Biology International*, **1996**, 38, 3, 519-526.
27. Nurieva R.I., **Dedkova E.N.**, Leont'eva G.A., Abdrasilov B.S., Pak Kh.D., Kim Yu.A., Zinchenko V.P. Mechanism of activation of Ehrlich ascites carcinoma cells using the total fraction of saponins from Korean ginseng. *Antibiot Khimioter.*, **1995**, 40, 25-28.
28. Kuzin A.M., Yurov S.S., Shchelkaeva N.V., **Dedkova E.N.** Mutability of *Sporobolomyces Alborubescence Derx* exposed to long-term chronic γ -irradiation at low dose-rates. *Radiobiology*, **1994**, 3, 419-423 (Russian).

ABSTRACTS:

1. Philip I., Walther S., Blatter L.A., **Dedkova E.N.** Beta-hydroxybutyrate improves cardiac excitation-contraction coupling (ECC) and mitochondrial function in type-2 diabetic hearts. 58th Annual Meeting of Biophysical Society, February 15-19, **2014**, San Francisco, California // *Biophysical Journal*, 2014, 106 (2, Supplement 1): p. 187a.
2. Seidlmayer L.K., Juettner V.V., Blatter L.A., **Dedkova E.N.** Ca²⁺-dependent ROS generation during ischemia triggers mPTP-dependent cell death during reperfusion. 57th Annual Meeting of Biophysical Society, February 2-13, **2013**, Philadelphia, Pennsylvania // *Biophysical Journal*, 2013, 104 (2, Supplement 1): p. 216a.
3. Elustondo P.A., Cohen A.M., Kawalec M., Michalak M., **Dedkova E.N.**, Kurchok P., Pavlov E. Polyhydroxybutyrate Derivative Induces Cyclosporin a Sensitive Mitochondrial Depolarization in Mammalian Cultured Cells. 57th Annual Meeting of Biophysical Society, February 2-13, **2013**, Philadelphia, Pennsylvania//*Biophysical Journal*, 2013,104 (2, Supplement 1): p.660a. DOI: <http://dx.doi.org/10.1016/j.bpj.2012.11.3640>
4. Seidlmayer L.K., Blatter L.A., **Dedkova E.N.** Increased activity of mitochondrial complex II in rabbit heart failure is associated with reactive oxygen species generation and impaired excitation-contraction coupling. 56th Annual Meeting of Biophysical Society, February 25-29, **2012**, San Diego, California // *Biophysical Journal*, 2012, Vol. 102, Issue 3, p. 165a.
5. Lea Seidlmayer, Lothar A. Blatter, Evgeny Pavlov, **Elena N. Dedkova** Changes in mitochondrial calcium and ROS during ischemia-reperfusion in polyphosphate-depleted cardiomyocytes. 56th Annual Meeting of Biophysical Society, February 25-29, **2012**, San Diego, California // *Biophysical Journal*, 2012, Vol. 102, Issue 3, p. 165a.
6. Seidlmayer L., Blatter L.A., **Dedkova E.N.** Increased activity of mitochondrial complex II in rabbit heart failure is associated with reactive oxygen species generation and impaired excitation-contraction coupling. The British Society for Cardiovascular Research, BSCR Autumn Meeting 2011, Mitochondria in Cardiovascular Disease: Emerging Concepts and Novel Therapeutic Targets, September 5-6, 2011//Heart (British Cardiac Society). 12/2011; 97(24):e8.
7. Seidlmayer L., Blatter L.A., **Dedkova E.N.** Increased activity of mitochondrial complex II in rabbit heart failure is associated with reactive oxygen species generation and impaired excitation-contraction coupling. The British Society for Cardiovascular Research, BSCR Autumn Meeting 2011, Mitochondria in Cardiovascular Disease: Emerging Concepts and Novel Therapeutic Targets, September 5-6, 2011// Heart (British Cardiac Society). 12/2011; 97(24):e8.
8. Seidlmayer L., L A Blatter, E Pavlov, **Dedkova E.N.** Role of inorganic polyphosphate for cardiac mitochondria function in ischemia-reperfusion. 65th Annual Meeting and Symposium, Society of General Physiologists, Marine Biological Laboratory, Woods Hole, Massachusetts, September 7-11, 2011.
9. Seidlmayer L., Blatter L.A., Pavlov E., **Dedkova E.N.** Role of inorganic polyphosphate for cardiac mitochondrial function in ischemia/reperfusion. 55th Annual Meeting of Biophysical Society, March 5-9, **2011**, Baltimore, Maryland // *Biophysical Journal*, 2011, 100(3) pp. 45a.
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