

CONTACT DETAILS:

Elena Berezhnaya

Academy of Biology and Biotechnology,

Southern Federal University

pr. Stachki 194/1, Rostov-on-Don, 344090, Russia

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EDUCATION:

October 2012 – March 2017: PhD in Biophysics, thesis title: Changes in Mitochondrial Metabolism and the Role of Transcription Factors NF- κ B, AP-1, and HIF-1 upon Photodynamic Damage of Neurons and Glial Cells, supervisor: Professor A. B. Uzdensky

2010 – 2012: Master's degree in physics (diploma with honors), Department of Physics, Southern Federal University, Russia

2006 – 2010: Bachelor's degree in physics (diploma with honors), Department of Physics, Southern Federal University, Russia

FIELD OF RESEARCH & SCIENTIFIC INTERESTS:

Neuroscience, Cell Biology, Fluorescence microscopy, Live-cell imaging, Photodynamic therapy (PDT), Oxidative stress, Mitochondria, Calcium signaling, Signal transduction, Transcription factors, Autophagy, Cell death

PROFESSIONAL APPOINTMENTS:

2017 – present: researcher, Academy of Biology and Biotechnology, Southern Federal University, Russia

2010 – 2016: junior researcher, Academy of Biology and Biotechnology, Southern Federal University, Russia

2007 – 2010: laboratory assistant, Kogan Institute for Neurocybernetics, Southern Federal University, Russia

RESEARCH FUNDING:

Grant for young scientists from the Russian Foundation for Basic Research: The role of autophagy in photo-induced oxidative stress of neurons and glial cells (project no. 16-34-01145 mol_a), 2016-2017

HONORS AND AWARDS:

1. Awards from the Annual student scientific conferences of SFedU in 2011 and 2012
2. Stipend to attend International Scientific School "Frontiers in Modern Neuroscience", Nizhnii Novgorod, Russia, 15-18 June 2014
3. Stipend to attend the winter school "Modern Biology and Biotechnology of the Future", Zvenigorod, Russia, 25-31 January 2015
4. FENS and IBRO-PERC stipend to attend MD/PhD Neuroscience Course, Zurich, Switzerland, 1 - 19 June 2015
5. FENS and IBRO-PERC stipend to attend the 10th Fens Forum 2016, Copenhagen, Denmark, 2-6 July 2016

6. FEBS stipend to attend the 42nd FEBS congress 2017, Jerusalem, Israel, 10-14 September, 2017

PRESENTATION AT MEETINGS:

1. Oral presentation at the International Conference on Neurocybernetics (ICNC), 2012, Rostov-on-Don, Russia
2. Poster presentation at the international conference Biophysics of complex systems. Informational educational processes, Voronezh, Russia 24-27 June 2013
3. Poster presentation at the International Scientific School "Frontiers in Modern Neuroscience", Nizhnii Novgorod, Russia 15-18 June 2014
4. Poster presentation at the winter school "Modern Biology and Biotechnology of the Future", Zvenigorod, Russia, 25-31 January 2015
5. Poster presentation at the international conference "Receptors and Intracellular Signaling", Puschino, Russia 25-28 May, 2015
6. Poster presentation at the 10th Fens Forum 2016, Copenhagen, Denmark, 2-6 July 2016
7. Poster presentation at the International Conference on Neuroprotective Agents (13th ICNA Conference), Bilbao, Spain 18-21 September, 2016
8. Poster presentation at the V congress of the Russian Biochemical Society, Sochi-Dagomys, Russia 4-9 October, 2016
9. Oral presentation at the international conference "Receptors and Intracellular Signaling", Puschino, Russia 22-25 May, 2017

SELECTED PUBLICATIONS:

- 1: Neginskaya M, Berezhnaya E, Uzdensky AB, Abramov AY. Reactive Oxygen Species Produced by a Photodynamic Effect Induced Calcium Signal in Neurons and Astrocytes. *Mol Neurobiol.* 2017 Aug 26. doi: 10.1007/s12035-017-0721-1. [Epub ahead of print] PubMed PMID: 28844112.
- 2: Berezhnaya E, Neginskaya M, Uzdensky AB, Abramov AY. Photo-Induced Oxidative Stress Impairs Mitochondrial Metabolism in Neurons and Astrocytes. *Mol Neurobiol.* 2017 Aug 24. doi: 10.1007/s12035-017-0720-2. [Epub ahead of print] PubMed PMID: 28840566.
- 3: Berezhnaya E, Neginskaya M, Kovaleva V, Sharifulina S, Ischenko I, Komandirov M, Rudkovskii M, Uzdensky AB. On involvement of transcription factors nuclear factor kappa-light-chain-enhancer of activated B cells, activator protein-1 and signal transducer and activator of transcription-3 in photodynamic therapy-induced death of crayfish neurons and satellite glial cells. *J Biomed Opt.* 2015 Jul; 20(7):75004. doi: 10.1117/1.JBO.20.7.075004. PubMed PMID: 26160345.
- 4: Uzdensky A, Berezhnaya E, Khaitin A, Kovaleva V, Komandirov M, Neginskaya M, Rudkovskii M, Sharifulina S. Protection of the Crayfish Mechanoreceptor Neuron and Glial Cells from Photooxidative Injury by Modulators of Diverse Signal Transduction Pathways. *Mol Neurobiol.* 2015 Oct;52(2):811-25. doi: 10.1007/s12035-015-9237-8. PubMed PMID: 26063591.
- 5: Uzdensky AB, Berezhnaya E, Kovaleva V, Neginskaya M, Rudkovskii M, Sharifulina S. Photodynamic therapy: a review of applications in neurooncology and neuropathology. *J Biomed Opt.* 2015 Jun;20(6):61108. doi: 10.1117/1.JBO.20.6.061108. Review. PubMed PMID: 25853368.

6: Neginskaya MA, Berezhnaya EV, Rudkovskii MV, Demyanenko SV, Uzdensky AB. Photodynamic effect of Radachlorin on nerve and glial cells. *Photodiagnosis Photodyn Ther.* 2014 Sep;11(3):357-64. doi: 10.1016/j.pdpdt.2014.06.005. Epub 2014 Jun 26. PubMed PMID: 24981884.

7: Kovaleva V, Berezhnaya E, Komandirov M, Rudkovskii M, Uzdensky A. Involvement of nitric oxide in photodynamic injury of neurons and glial cells. *Nitric Oxide.* 2013 Feb 28; 29:46-52. doi: 10.1016/j.niox.2012.12.006. Epub 2013 Jan 5. PubMed PMID: 23298883.