

Anna Shestakova, M.D., Ph.D.

PERSONAL INFORMATION

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POST-GRADUATE TRAINING

2016 – Present Resident in Anatomical and Clinical Pathology
University of California, Irvine

2011 – 2016 Postdoctoral Researcher
University of Utah, Department of Pathology

EDUCATION

2006 – 2011 **Ph.D.** University of Utah, Department of Biology
Thesis: "Functional and Biochemical Studies of the Vps4 ATPase in *Saccharomyces Cerevisiae*"

2004 – 2006 **M.S.** University of Arkansas for Medical Sciences (UAMS), Department of
Physiology and Biophysics
Thesis: "Role of the COG Complex in the Membrane Trafficking"

2003 – 2004 **M.S.** Microbiology Shupyka L.P. Postgraduate Medical Academy of Ukraine
Thesis: "Definition of an Adsorption Activity of Rota- and Enteroviruses on the
Bentonite Clay"

1997 – 2003 **M.D.** National Medical University of Ukraine
Major: Preventive Medicine

RESEARCH INTERESTS

- Early detection and diagnosis of the Myelodysplastic Syndromes
- Utilization of molecular techniques in augmenting accurate diagnosis in pancreatic neoplasms
- Genotyping using High Resolution Melting technique
- Hypoxia mediated physiological responses
- Intracellular membrane trafficking and regulation of protein targeting and degradation

RESEARCH EXPERIENCE

2016 – Present Utilization of the light scatter parameters in leukocytes in the peripheral blood to diagnose Myelodysplastic syndromes (Dr. Zhao, University of California, Irvine).

2014 – 2016 Collaboration with **Dr. Prchal research group**, University of Utah, Department of

Hematology. Development of the high resolution melting assay to genotype single nucleotide variant of *EGLN1* gene that is enriched in Tibetan population.

- 2013 – 2016 Postdoctoral Researcher, University of Utah, Department of Pathology, **Laboratory of Dr. Carl Wittwer**. Used high resolution melting (HRM) technique to develop genotyping assays. Optimized purification system for the recombinant Taq DNA Polymerase from *Thermus aquaticus*.
- 2011 – 2013 Postdoctoral Researcher, University of Utah, Department of Pathology, **Laboratory of Dr. Jerry Kaplan**. Studied mechanisms that regulate function of the mammalian iron exporter Ferroportin.
- 2006 – 2011 Graduate Student, University of Utah, Department of Biology, **Laboratory of Dr. Markus Babst**. Studied cell surface receptors targeting and trafficking to yeast vacuoles via multivesicular bodies formation and the ESCRT protein complex.
- 2004 – 2006 Graduate Student, University of Arkansas for Medical Sciences, Department of Physiology and Biophysics, **Laboratory of Dr. Vladimir Lupashin**. Studied role of the Conserved Oligomeric Golgi complex in congenital disorders of glycosylation.
- 2003 – 2004 Graduate Student, Department of Virology, Shupyka L.P. Postgraduate Medical Academy of the Ukraine. Studied effectiveness of the adsorption of rotaviruses on the bentonite clay.
- 2002 – 2003 Undergraduate research, National Medical University of Ukraine, Department of Epidemiology. **Laboratory of Yuriy Gotz**. Performed statistical epidemiological analysis of Botulism, Measles and Hepatitis B in Ukraine for the period 1950-1995”.

LABORATORY TECHNIQUES

- High Resolution Melting
- Basic molecular biology, genetics procedures, and recombinant DNA
- Yeast and mammalian cell culture, protein expression, and live fluorescence microscopy
- Protein analysis via immunoblotting, immunoprecipitation, and chromatography (size exclusion, affinity, ion exchange)
- Organelle separation and analysis
- Recombinant proteins---design, expression and purification

CONFERENCE PRESENTATIONS, INVITED TALKS, AND SELECTED ABSTRACTS

- 2018 (USCAP) “Atypical Cells on Pancreatic Endoscopic Ultrasound Guided FNA: A Retrospective Analysis of the Utility of Repeat FNA”, **Anna Shestakova MD, PhD**, Ibe Ifewgu MD and Nicholas Gallegos MD. Poster presentation.

- 2017 (USCAP) “Automated Neutrophil Parameters Are Useful in Assessing Myelodysplastic Syndrome”, Ali Nael, MD, **Anna Shestakova, MD, PhD**, Virgilita Nora, Sherif Rezk, MD, Xiaohui Zhao MD, PhD. Poster presentation.
- 2014 (ASH) “Tibetan PHD2D4E High Altitude Adapted Gene Can be Rapidly Detected By High Resolution Melting Assay”. **Anna Shestakova**, Felipe Lorenzo, Tsewang Tashi, Lucie Lanikova, Carl T Wittwer and Josef T. Prchal. Online abstract, American Society of Hematology (ASH), Blood Journal, December 2014. <http://www.bloodjournal.org/content/124/21/4875>
- 2010 (ASBMB) “Role of the Linker in the Function of Vps4 ATPase”. Poster presentation at the American Society for Biochemistry and Molecular Biology (ASBMB) meeting. The Biochemistry and Cell Biology of ESCRTs in Health and Disease”. Snowbird, UT, October 2010.
- 2008 (ASCB) “Role of the Vps4 ATPase in the MVB Sorting Pathway”. Poster presentation at the American Society of Cell Biology (ASCB) annual meeting, San Francisco, December 13 17, 2008.
- 2005 (ASCB) “The COG Complex Mediated Recycling of Golgi Glycosyltransferases”. Poster presentation at the American Society of Cell Biology (ASCB) annual meeting, San Francisco, December 9 15, 2005.
- 2005 “Role of the COG Complex in the Recycling of Golgi Glycosyltransferases”. Oral presentation at 7th Young Scientists Meeting German Society for Cell Biology, Germany, September 22-24, 2005.

MEDICAL LICENSE EXAM

- Step 1: 237
- Step 2 Clinical Knowledge: 243
- Step 2 Clinical Skills: Pass
- Step 3: 223
- ECFMG certified September 16, 2015

CITIZENSHIP

- Citizenship: Ukraine
- Residency status: permanent resident

LANGUAGES

- English, Russian, Ukrainian

TEACHING EXPERIENCE

- 2010 “Molecular Biology of DNA”. Teaching assistant. Senior undergraduate laboratory course, University of Utah, Department of Biology.

2008 "Introductory Cell Biology Course". Teaching assistant. Senior undergraduate course, University of Utah, Department of Biology.

AWARDS

2010 Graduate travel award from the Graduate School, University of Utah.

2008 Graduate travel award from the Department of Biology, University of Utah.

2005 Travel award from American Society of Cell Biology (ASCB).

2005 Travel award from the UAMS Student Research Days.

2002 Best scientific project award at the 57th international student medical conference. Section of epidemiology and virology. "Epidemiology Analysis of Botulism in Ukraine During 1991- 2001 years".

MEDICAL LICENSURE AND CERTIFICATION

- None

COMMITTEE APPOINTMENTS

2017 – 2018 - Safety officer

PROFESSIONAL MEMBERSHIP

- CAP (College of American Pathologists)
- USCAP (The United States and Canadian Academy of Pathology)
- AMP (Association of Molecular Pathologists)

PUBLICATIONS

1. **Anna Shestakova**, Ali Nael, Virgilita Nora, Sherif Rezk and Xiaohui Zhao. "Automated Leukocyte Parameters are Useful in the Assessment of Myelodysplastic Syndromes". *Manuscript in preparation*.
2. Tashi T, Scott Reading N, Wuren T, Zhang X, Moore LG, Hu H, Tang F, **Shestakova A**, Lorenzo F, Burjanivova T, Koul P, Guchhait P, Wittwer CT, Julian CG, Shah B, Huff CD, Gordeuk VR, Prchal JT, Ge R. "Gain-of-Function EGLN1 Prolyl Hydroxylase (PHD2 D4E:C127S) in Combination with EPAS1 (HIF-2 α) Polymorphism Lowers Hemoglobin Concentration in Tibetan Highlanders". *J Mol Med (Berl)*. 2017.
3. Lanikova L, Reading NS, Hu H, Tashi T, Burjanivova T, **Shestakova A**, Siwakoti B, Thakur BK, Pun CB, Sapkota A, Abdelaziz S, Feng BJ, Huff CD, Hashibe M, Prchal JT. "Evolutionary Selected Tibetan Variants of HIF Pathway and Risk of Lung Cancer". *Oncotarget*. 2017.
4. **Shestakova A**, Curtiss M, Davies BA, Katzmann DJ, Babst M. Role of the linker region in the assembly and function of the Vps4 AAA ATPase. "The Linker Region Plays a Regulatory Role in Assembly and Activity of the Vps4 AAA ATPase". *J Biol Chem*. 2013.

5. Davies BA, Azmi IF, Payne J, **Shestakova A**, Horazdovsky BF, Babst M, Katzmann DJ. "Coordination of Substrate Binding and ATP Hydrolysis in Vps4 Mediated ESCRT III Disassembly". Mol Biol Cell. 2010.
6. **Shestakova A**, Hanono A, Drosner S, Curtiss M, Davies BA, Katzmann DJ, Babst M. "Assembly of the AAA ATPase Vps4 on ESCRT III". Mol Biol Cell. 2010.
7. **Shestakova A**, Suvorova E, Pavliv O, Khaidakova G, Lupashin V. "Interaction of the Conserved Oligomeric Golgi Complex with t SNARE Syntaxin5a/Sed5 Enhances Intra Golgi SNARE Complex Stability". J Cell Biol. 2007.
8. Sun Y, **Shestakova A**, Hunt L, Sehgal S, Lupashin V, Storrie B. "Rab6 Regulates both ZW10/RINT 1 and Conserved Oligomeric Golgi Complex Dependent Golgi Trafficking and Homeostasis". Mol Biol Cell. 2007.
9. **Shestakova A**, S. Zolov and V. Lupashin. "COG Complex Mediated Recycling of Golgi Glycosyltransferases is Essential for Normal Protein Glycosylation". Traffic. 2006.