

Population Council, New York, NY, 10065

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## **EMPLOYMENT HISTORY and RESEARCH INTEREST:**

### The Population Council, New York, NY

Senior Research Investigator, Center for Biomedical Research, HIV/AIDS Program, Jose Romero Lab  
2012 - present

- Screening of potential compounds and formulations in blocking HIV infection *in vitro*
- Production and purification plasmids and HPV pseudoviruses
- Optimization and validation of the ELISA to quantify carrageenan for *in vivo* PK study

### The Rockefeller University, New York, NY

2004 - 2012

Senior Research Associate & Lab Manager, Cellular Physiology and Immunology, Laboratory of Dr. Ralph Steinman - recipient of the 2011 Nobel Prize in Physiology or Medicine

- Evaluation of new vaccines. Antigen targeting to dendritic cells.
- Cloning of different microbial and HIV polypeptides fused to anti-dendritic cells antibody; purification and characterization of recombinant antibodies.

### Memorial Sloan-Kettering Cancer Center, New York, NY

2000- 2004

Research Associate, Molecular Pharmacology & Chemistry, Laboratory of Dr. Neal Rosen

- Anti-cancer drugs development. Biochemical and cell cycle effects of src-selective tyrosine kinase inhibitors in breast cancer cell lines
- Targeting of BCR-ABL isolated from patients with CML via Hsp90 inhibitors

### Cancer Research Center of Russian Academy of Medical Sciences, Moscow, Russia

1993-2000

Senior Research Scientists, Molecular Biology, Institute of Carcinogenesis

- Src tyrosine kinases. New protein targets of v-src oncoprotein. Mechanisms of protein regulations and signal transduction in RSV-transformed cells to understand the molecular events responsible for the metastatic activity.

### A .N. Belozersky Institute of Physico-Chemical Biology, Moscow State University, Moscow, Russia

1990-1993

Research Scientist, Department of Virology

- Mechanisms of RNA-protein interactions in viruses while assembling. Active transport of plant viruses in plants, transgenic plants stable to potato viruses. Virus detection: application of more advanced method ELISA

## **EDUCATION:**

**Certificate** Clinical and Translational Sciences Certificate Program, The Rockefeller University, New York, NY, 2009

**Certificate of Achievement** Social Media, Employees and the Workplace, The Rockefeller University, New York, NY, 2009

**Certificate of Achievement** Legal Issues for Managers; Effective Communications, The Rockefeller University, New York, NY, 2007

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**Ph. D. in Molecular Biology**, Moscow State University, Department of Virology Moscow, Russia, 1984  
Thesis: Nucleic acid- protein interaction in TMV group of viruses and small TMV-like ribonucleoprotein particles.

**B.S. / M.S. in Biochemistry- Virology**, Moscow State University, Department of Virology Moscow, Russia, 1974

### RESEARCH EXPERIENCE:

- **molecular biology:** *Nucl. Acid research* –RNA/DNA isolation and analysis, RNA/DNA hybridization, preparation of DNA genomic library; cloning , screening of DNA libraries, sequencing, sequence analysis, sequence alignment, PCR, Southern blotting, Northern blotting, protein/nucleic acid interactions; *Proteins* – protein expression (in *E.coli*, yeasts, mammalian cells) , protein purification method development (native, endogenous and recombinant, GST-fusion system, His-tag fusion system, Flag-fusion), protein characterization, *in vivo* and *in vitro* phosphorylation assays, kinase assays, experience in handling radioactivity, Western blotting, immunoprecipitation, non-radioactive detection system *Protein/protein interactions*: two-hybrid system: new protein targets, yeast technology; *in vitro* transcription-translation system
- **Cell culture:** extensive experience in working with mammalian cell culture, transfection of mammalian cells (Ca-phosphate, electroporation, lipofectamine), siRNA gene knockdown, , cell proliferation assay, soft agar cloning assay, growth assays, cell proliferation assay , preparation of mouse DCs from spleen
- **Immunology:** antiserum preparation; immunoglobulin purification, preparation of peroxidase and inorganic pyrophosphatase conjugated antibodies, ELISA, immunohistochemistry, cellular immunostaining, sorting of cells from mouse spleen suspension; testing of vaccine activity by vaccinia virus titration immunohistochemistry, cellular immunostaining, sorting of cells from mouse spleen suspension; testing of vaccine activity by vaccinia virus titration
- **plant virology:** purification of different plant viruses and its components; plant cell culture; plant transformation; preparation and screening of plants genomic libraries; transgenic plants technology
- **drug discovery:** influence of pharmacological agents on protein synthesis and activity in signal transduction , cell cycle analysis (DNA content), qualitative apoptosis assay, G2/M checkpoint assay
- **Animals:** mouse handling and breeding, mouse genotyping by PCR

### LAB MANAGEMENT:

Take responsibilities for all aspects of the lab operation: equipment purchase and repair, supplies orders and negotiation with supplier companies to get discounts, software and documentation, distribution of duties between lab members and control, control of usage CFS and FACS facility, etc:

*Lab meetings*- forum for problems and announcements, planning and organizing of research seminars with research departments of supplier companies; *Libraries*: organizing and control (Mycoplasma test) of cell lines, antibodies stock , DNA libraries, purified recombinant antibodies; *Chemicals*: list and orders; *Lab methods*: creating the folder with methods used in the lab; *Animal house*: organizing and control of list of mouse strains, control of bills and mouse census, contacts with administration and veterinary service, maintain distribution of rack space; *Lab safety officer*: training and Lab safety training control

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### HONORS AND AWARDS:

- Principal Investigator of the Grant from Russian National Foundation for Basic Research #98-04-48 504, 1998-2000
- Scientist Development Grant INTAS # 96-1292, 1997
- Fellowship of International Union Against Cancer (UICC), 1997
- Postdoctoral Fellowship, I.N.S.E.R.M., Institute Curie, Paris, France, .1996
- Postdoctoral Fellowship from Foundation for Medical Research, Paris, France ,1995
- Diploma with Honor of Biological Faculty, Moscow State University, Moscow, Russia,1974

### PATENTS:

I.G. Atabekov, S.M. Avaeva, A.A.Baikov, A.V. Kulinich, **O.A. Mizenina**, V.N. Kasho, I.N. Smirnova  
Enzyme immunoassay using inorganic pyrophosphatase (1989)  
USA N 4,808,522

### OTHER RELATED EXPERIENCE:

#### Skills

- Laboratory management
- Laboratory Safety Officer
- Interpersonal communication skills and ability to lead and direct lab members
- Project management and team work
- Long term proposal writing, strategic decision- making

#### Computer

- Strong and solid experience in MS Windows, Software and tools (Microsoft Office, Acrobat, Photoshop)

#### Teaching

- Supervised graduate and postgraduate students
- Lecturing in Molecular Biology Course

### LIST OF MAIN PUBLICATIONS (1990- present):

- Ines Matos, **Olga Mizenina**, Ashira Lubkin, Ralph M. Steinman, Juliana Idoyaga, Targeting *Leishmania major* Antigens to Dendritic Cells In Vivo Induces Protective Immunity. PLoS ONE. Jun 8;(6):e67453.
- Godwin Nchinda, David Amadu, Christine Trumfheller, Olga Mizenina, Klaus Überla, and Ralph M. Steinman, Dendritic cell targeted HIV gag protein vaccine provides help to a DNA vaccine including mobilization of protective CD8<sup>+</sup> T cells Proc. Natl. Acad. Sci USA Mar 2;107(9):4281-6. Epub 2010 Feb 16.
- Iwai Y, Hemmi H, **Mizenina O**, Kuroda S, Suda K, Steinman RM. An IFN-gamma-IL-18 signaling loop accelerates memory CD8<sup>+</sup> T cell proliferation. PLoS ONE. 2008 Jun 11; (6):e2404.
- Nchinda, G., Kuroiwa, J., Oks, M., Trumfheller, C., Park, C.G., Huang, Y., Hannaman, D., Schlesinger, S.J., **Mizenina, O.**, Nussenzweig, M.C., Überla, K., and Steinman, R.M. The efficacy of DNA vaccination is enhanced by targeting the encoded protein to dendritic cells. J Clin Invest. 2008 April 1; 118(4): 1427–1436

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- Trumpfheller, C., Caskey, M., Nchinda, G., Longhi, M.P., **Mizenina, O.**, Huang, Y., Schlesinger, S.J., Colonna, M., and Steinman, R.M. The microbial mimic poly IC induces durable and protective CD4<sup>+</sup> T cell immunity together with a dendritic cell targeted vaccine. Proc. Natl. Acad. Sci. USA 105:2574-2579, 2008.
- Helena Soares, HaeNa Waechter, Nicholas Glaichenhaus, Evelyne Mougneau, Hideo Yagita, **Olga Mizenina**, Diana Dudziak, Michel C. Nussenzweig, and Ralph M. Steinman , A subset of dendritic cells induces CD4<sup>+</sup> T cells to produce IFN- $\gamma$  by an IL-12-independent but CD70-dependent mechanism *in vivo*, A subset of dendritic cells induces CD4<sup>+</sup> T cells to produce IFN- $\gamma$  by an IL-12-independent but CD70-dependent mechanism *in vivo*. J Exp Med. 2007 May 14;204(5):1095-106. Epub 2007 Apr 16
- **Mizenina OA**, Moasser MM, S-phase inhibition of cell cycle progression by a novel class of pyridopyrimidine tyrosine kinase inhibitors, Cell Cycle (2004) Jun;3(6):796-803
- **O.Mizenina**, Yu. Yanushevitch, E. Musatkina, A. Rodina, M.Krasil'nikov, J. de Gunzburg, J. Camonis, A. Tavitian, A. Tatosyan, A novel group IIA phospholipase A2 interacts with v-src oncoprotein from RSV-transformed cells, JBC, (2001), 276 (36), 34006-34012
- A. Tatosyan, **O. Mizenina**, Kinases of the Src Family: structure and functions, Review, (2000), Biochemistry (Moscow), 65, 57-67
- **O. Mizenina**, Yu. Yanushevitch, E. Musatkina, A. Rodina, J. Camonis, A. Tavitian, A. Tatosyan, C-terminal end of v-src protein interacts with peptide coded by gadd7/adapt15-like RNA in two-hybrid system (1998), FEBS Letters, 422, 79-84
- A. Tatosyan, B. Yatsula, M. Shtutman, E. Moinova, I. Kaverina, E. Musatkina, K. Leskov, **O. Mizenina**, E. Zueva, G. Caloty, Ph. Dezelee, Two novel variants of the v-src oncogene isolated from low and high metastatic RSV-transformed hamster cells (1996) Virology, 216, 347-356
- G. Deichman, L. Kashkina, **O. Mizenina**, E. Gorojanskaya, A.Nikiforov, A. Gudkov, N. Dyakova, A. Komelkov, M. Prilutskaya, N. Kushlinsky, A. Tatosyan, Mechanisms of unusually high antioxidant activity of RSV-SR- transformed cells and of its suppression by activated p21ras (1996) Int. J. Cancer, 66, 747-752
- M.A. Krasil'nikov, V.A. Shatskaya, **O.A. Mizenina**, A.G. Tatosyan, Effect of specific activation of phosphatidylcholine turnover in embryonic hamster fibroblasts transformed by RSV (1996) Biochemistry (Moscow), 61, 525-531
- E.M. Tchevkina, N.P. Kissel'jova, M.S. Shtutman, E.A. Musatkina, **O.A. Mizenina**, K.V. Leskov, A. Tavitian, F.L. Kissel'jov, Suppression and restoration of v-src expression in RSV transformed cells after transfection with N-ras and its antagonist (1995) Int. J. Oncology, 7, 453-459
- Merits, D.A. Zelenina, **O.A. Mizenina**, B.K. Chernov, S.Yu. Morozov, Poly (A) addition site mapping and polyadenylation signal analysis in a plant circovirus replication-related gene (1995) Virology, 211, 345-349
- Chernov B.K., Merits A., **Mizenina O.A.**, Morozov S.Yu, Chemical-enzymatic synthesis and cloning of the full-length of a DNA-containing plant virus (1992) Bioorganic Chemistry, 18, 1487-1494 (Russ.)
- Dorochov Yu.L., **Mizenina O.A.**, Efimov V.A., Reverdatto S.V., Atabekov J.G. Identification of tobacco DNA of sequences highly homologues to the transport gene of TMV (1991) The plant virus genome: structure and expression. FEBS advanced course, Riga, 21

**PRESENTATIONS:** The results of my work were presented on different scientific meetings: Congresses of Biochemical Society, FEBS Meetings, AACR Meetings, DC Meetings and others.