Curriculum vitae

ILGAR Z. MAMEDOV, PhD

Education:
MS, June 2000 - graduated with honour from Moscow State University, Faculty of Biology, Dept. of Molecular Biology, specialisation in molecular biology.

PhD in Molecular Biology, December 2004 - Laboratory of Structure and Functions of Human Genes, Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russ. Acad. Sci.
PhD Thesis: "Methods of retroelements' integration polymorphism identification."

Career/Employment:

1995-2000	Student at Dept. of Molecular Biology, Faculty of Biology, Moscow State University
2000-2003	PhD student at Laboratory of Structure and Functions of Human Genes, Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russ. Acad. Sci.
2003-2005	Junior Scientist at Laboratory of Structure and Functions of Human Genes, Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russ. Acad. Sci.
2006-till now	Senior Scientist at Laboratory of Comparative and Functional Genomics Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russ. Acad. Sci.

Membership in scientific communities:
2002 Member of All-Union Biochemical Society

Research activities:
Cellular and molecular mechanisms of autoimmunity. Basic molecular mechanisms of adaptive immunity. Identification of new polymorphic and somatic insertions of retroelements in human and primate genomes.

Grants and awards:
International Soros Science Education Program award for the outstanding success in science among second year PhD-students, 2002
Academia Europea award for the best of young scientists, 2005
Russian Academy of Sciences award for young academic scientists, 2006
Council for grants from President of Russian Federation award to support Young Russian Scientists, 2008, 2011
Principal investigator of several grants.

Laboratory skills
1) Basic molecular biology skills: DNA/RNA isolation, PCR, RT-PCR, Real-time PCR, DNA sequencing (manual), Southern blot hybridization, DNA and cDNA library construction and analysis, oligonucleotides design and purification, molecular cloning etc.
2) Specific comparative genomics techniques: selective PCR amplification, subtractive hybridization (SSH), differential display.
3) Some experience in protein analysis: Western blotting, PAGE, protein expression and purification.
4) Work with model organisms: mouse, zebrafish
5) Immunological methods: immunohistochemistry, flow cytometry, cell culture
6) Next generation sequencing
7) Computer skills: Programs for DNA/protein analysis and alignment (Clustal, Muscle etc), genomic and protein databases. Specialized programs for NGS data analysis.

Teaching/Supervising Experiences:
Training graduate and PhD students and technical personal;

Selected Publications:

1) Kurdyukov SG, Lebedev YB, Artamonova II, Gorodentseva TN, Batrak AV, **Mamedov IZ**, Azhikina TL, Legchilina SP, Efimenko IG, Gardiner K, Sverdlov ED. (2001) Full-sized HERV-K (HML-2) human endogenous retroviral LTR sequences on human chromosome 21: map locations and evolutionary history. *Gene*, **273**, 51-61.

2) Buzdin A., Khodosevich K., **Mamedov I.**, Vinogradova T., Lebedev Y., Hunsmann G., Sverdlov E. (2002). A Technique for Genome-Wide Identification of Differences in the Interspersed Repeats Integrations between Closely Related Genomes and Its Application to Detection of Human-Specific Integrations of HERV-K LTRs. *Genomics* **79(3)**, 413-22.

3) **Mamedov I.**, Batrak A., Buzdin A., Arzumanyan E., Lebedev Y., Sverdlov E. (2002) Genome-wide comparison of differences in the integration sites of interspersed repeats between closely related genomes., *Nucleic Acids Res.,* **30(14)**, e71

4) Buzdin A, Ustyugova S, Khodosevich K, **Mamedov I**, Lebedev Y, Hunsmann G, Sverdlov E. (2003) Human-specific subfamilies of HERV-K (HML-2) long terminal repeats: three master genes were active simultaneously during branching of hominoid lineages. *Genomics*. **81(2)**, 149-56.

5) **Mamedov IZ**, Lebedev YB, Sverdlov ED. (2004) Unusually long target site duplications flanking some of the long terminal repeats of human endogenous retrovirus K in the human genome. *J Gen Virol.,* **85**, 1485-8.

6) **Mamedov I**, Lebedev Y, Hunsmann G, Khusnutdinova E and Sverdlov E. (2004) A rare event of insertion polymorphism of a HERV-K LTR in the human genome. *Genomics*, **84(3)**, 597-600.

7) **Mamedov IZ**, Arzumanyan ES, Amosova AL, Lebedev YB, Sverdlov ED. (2005) Whole-genome experimental identification of insertion/deletion polymorphisms of interspersed repeats by a new general approach. *Nucleic Acids Res.*, **33(2)**, e16.

8) Lebedev YB, Amosova 1 AL, **Mamedov IZ**, Fisunov GY, Sverdlov ED. (2007) Most recent AluY insertions in human gene introns reduce the content of the primary transcripts in a cell type specific manner. *Gene,* **390(1-2):** 122-9.

9) **Mamedov IZ**, Ustyugova SV, Amosova AL, Lebedev YB (2007) Retroelement insertion polymorphism and modulation of human genes activity. in "Human molecular polymorphism" ed. by S. D. Varfolomeev, pp. 154-203, University of people friendship Press, Moscow

10) **Mamedov IZ**, Amosova AL, Fisunov GIu, Lebedev IuB. (2008) A new database on polymorphic retroelements in human genome (PRED). *Mol Biol (Mosk).*;**42(4):** 721-7.

11) **Mamedov IZ**, Britanova OV, Chkalina AV, Staroverov DB, Amosova AL, Mishin AS, Kurnikova MA, Zvyagin IV, Mutovina ZY, Gordeev AV, Khaidukov SV, Sharonov GV, Shagin DA, Chudakov DM, Lebedev YB. (2009) Individual characterization of stably expanded T cell clones in ankylosing spondylitis patients. *Autoimmunity*, **42(6):** 525-36.

12) A. L. Amosova, A. Yu. Komkov, S. V. Ustyugova, **I. Z. Mamedov**, and Yu. B. Lebedev. (2009) Retrotransposons in modern human genome evolution. *Russian Journal of Bioorganic Chemistry,* **35 (6):** 702–710.

13) **Ilgar Z Mamedov**, Irina A Shagina, Marya A Kurnikova, Sergey N Novozhilov, Dmitry A Shagin and Yury B Lebedev. (2010) A new set of markers for human identification based on 32 polymorphic Alu insertions. *Eur J Hum Genet*, **18:** 808–814

14) Irina Shagina, Ekaterina Bogdanova, **Ilgar Z Mamedov**, Yury Lebedev, Sergey Lukyanov, Dmitry Shagin (2010) Normalization of genomic DNA using duplex-specific nuclease. *BioTechniques* **48(6)**: 455–459

15) I.V. Zvyagin, **I.Z. Mamedov**, O.V. Britanova, D.B. Staroverov, E.L. Nasonov, A.G. Bochkova, A.V. Chkalina, A.A. Kotlobay, D.O. Korostin, D.V. Rebrikov, S. Lukyanov, Y.B. Lebedev, D.M. Chudakov. (2010) Contribution of functional KIR3DL1 to ankylosing spondylitis. *Cellular and Molecular Immunology*, **7(6)**:471-6

16) Teh C, Chudakov DM, Poon KL, **Mamedov IZ**, Sek JY, Shidlovsky K, Lukyanov S, Korzh V. (2010) Optogenetic in vivo cell manipulation in KillerRed-expressing zebrafish transgenics, *BMC Dev Biol.* **10(1)**:110.

17) **Mamedov IZ**, Britanova OV, Bolotin DA, Chkalina AV, Staroverov DB, Zvyagin IV, Kotlobay AA, Turchaninova MA, Fedorenko DA, Novik AA, Sharonov GV, Lukyanov S, Chudakov DM, Lebedev YB. (2011) Quantitative tracking of T cell clones after haematopoietic stem cell transplantation. *EMBO Mol Med*. **3(4)**:201-7.
18) Britanova OV, Bochkova AG, Staroverov DB, Fedorenko DA, Bolotin DA, **Mamedov IZ**, Turchaninova MA, Putintseva EV, Kotlobay AA, Lukyanov S, Novik AA, Lebedev YB, Chudakov DM. (2012) First autologous hematopoietic SCT for ankylosing spondylitis: a case report and clues to understanding the therapy. *Bone Marrow Transplant*.
19) Bolotin DA, **Mamedov IZ**, Britanova OV, Zvyagin IV, Shagin D, Ustyugova SV, Turchaninova MA, Lukyanov S, Lebedev YB, Chudakov DM (2012) Next generation sequencing for TCR repertoire profiling: platform-specific features and correction algorithms. *Eur J Immunol*. 42(11):3073-83**.**
20) Turchaninova MA, Britanova OV, Bolotin DA, Shugay M, Putintseva EV, Staroverov DB, Sharonov G, Shcherbo D, Zvyagin IV, **Mamedov IZ**, Linnemann C, Schumacher TN, Chudakov DM. Pairing of T-cell receptor chains via emulsion PCR. *Eur J Immunol*. 2013 doi: 10.1002/eji.201343453
21) Bolotin DA, Shugay M, **Mamedov IZ**, Putintseva EV, Turchaninova MA, Zvyagin IV, Britanova OV, Chudakov DM. (2013) MiTCR: software for T-cell receptor sequencing data analysis .*Nat Methods*. 10(9):813-4

References

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