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Andrej Poleev

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Andrej Poleev is a russian scientist-polymath, whose expertise spans a significant number of different areas of knowledge beginning from molecular biology and neurobiology, across natural philosophy, psychoanalysis, linguistics and cultural studies, up to fundamental questions of physics and cosmology. Andrej Poleev was born 30 September 1965 in a russian town Novotroizk. After 10 years of compulsory scholar education, he successfully completed a 5 years study at the Leningrad State University. An academic degree of biologist was conferred 1988. His professional career began 1989 at the Institute of Obstetric and Gynecology in Leningrad (since 1991 renamed to St. Petersburg). In 1991, he moved to Salzburg (Austria), where he worked at the Institute of Molecular Biology. From 1993 to 2003 he worked as a scientist at different biomedical research institutes in Germany. The academic degree of PhD in biology was awarded 1995 at the Institute of Genetics and Breeding of farming animals (St.Petersburg-Pushkin) based on a doctoral thesis on the genomic organization of human PAX8 gene. In 2003, he founded an internet journal Enzymes, where he develops the theory of metascience. He is the author of several books written in Russian and German.



Curriculum vitae.

First and second names	Andrej Poleev
birth date and place	☞ 30.09.65, Novotroizk, Russia
nationality	russian
1973 - 1983	basic and secondary education.
September 1983 - June 1988	Leningrad State University, Dept. Biology.
1989	Institute of Obstetric and Gynecology, St. Petersburg.
October 1991 - December 1992	Scholarship of Austian Academy of Science, Institute of Molecular Biology, Salzburg.
1993 -1996	University of Münster, promotional work.
January 1995	Ph.D. degree in biology at Institute of Genetics and Breeding of farming animals, St.Petersburg-Pushkin.
July 1996 - July 1997	Institute of Cell Biology, Essen.
August 1997- December 1999	Max- Planck-Institute of Neurobiology, Munich.
2000	Free co-operation with the firm GeneCraft, Münster.
February 2001 -July 2001	University of Münster
2001 - June 2002	M.B. Enzymes GmbH, manager.
August 2003 - March 2004	Technical University of Munich.
2003 as yet	writing activity in the field of psychoanalysis and applied interdisciplinary research.
2002 - 2005	Co-ordinator of the European INTAS research group (INTAS 011-0250, Novel hydrolases from hyperthermophilic procaryotes).



Methodical skills in the field of biology.

1. Cytogenetical and hystological methods.

Differential staining (RBA) of mitotical chromosomes from cultured leukocytes (rabbit) and bone marrow (mose). Caryotyp analysis of human chromosomes from chorionbiopsy samples (G-, R- und Q-staining). Preparation of cryosections and microscopical evaluations.

2. Transgenesis techniques.

All methods appropriate to generation of transgenic mice, including isolation of oocytes, cultivation, production of micropipetes, microinjections, embryo transfer, vasectomy, plug check, hormonal superovulation etc. Supervising of mouse facility. Analysis of transgenic mice using Southern-blot, PCR etc.

3. General laboratory works.

Making of stock solutions, cultural media for mammalian cells, bacteria and yeast. Production of competent cells, agar plates, generation of RNase free equipment and environment etc.

4. Molecular biology methods.

4.1 DNA. Plasmid DNA purification (alkali lysis, Quagen columns, CsCl ultracentrifugation), purification of lambda phage DNA und genomic DNA, 1-2D PAAG and agarose gel elektrophoresis, restriction digest, labelling and detection of nucleis acids using radioisotopic and non-radioactive techniques (DIG, ³²P etc), sequencing, different cloning techniques, Southern blot analysis, PCR, "genome walking" etc.

4.2. RNA. Total and mRNA purification. Analysis of mRNA by RT-PCR.

4.3. Genetic screening. Generation and screening of cDNA and genomic libraries, methylome analysis, Restriction Landmark Genomic Scanning (RLGS).

4.4. Functional analysis. Production of expression vectors for transient expression and transgene studies, designing of GFP and other fusion proteins, two-and three hybrid screen techniques in yeast.

5. Cell culture.

Culture of mammalian cell lines, work with prime cell cultures, transient transfections, detection of reporter genes in cell extracts.

6. Applied informatics, desktop publishing and software.

DNA sequence programes (DNASar, DNAStrider, BLAST), designing of oligonucleotides for PCR (Primer3, DNASar), databak search (PubMed, GenBank, GMOs, mutants etc.), graphic software (Photoshop, CorelDraw), layout software (PageMaker) database software (FileMaker), web editors&design (Dreamweaver, Flash), MacOS X, phosphoimager, digital photography etc.

7. Management.

Setting up the PCR and molecular biology laboratories, systematisation and organizing the laboratory materials, supervision of students and knowledge support, establishing of business connections, collaborations and interexchanges.



Publications in the field of biology. (available at [NCBI site](#))

1. Poleev A, Hartmann A, Stamm S. A trans-acting factor, isolated by the three-hybrid system, that influences alternative splicing of the amyloid precursor protein minigene. *Eur J Biochem.* 2000 Jul 1;267(13):4002-4010.
2. Plengvidhya N, Antonellis A, Wogan LT, Poleev A, Borgschulze M, Warram JH, Ryffel GU, Krolewski AS, Doria A. Hepatocyte nuclear factor-4gamma: cDNA sequence, gene organization, and mutation screening in early-onset autosomal-dominant type 2 diabetes. *Diabetes.* 1999 Oct;48(10):2099-2102.
3. Poleev A, Okladnova O, Musti AM, Schneider S, Royer-Pokora B, Plachov D. Determination of functional domains of the human transcription factor PAX8 responsible for its nuclear localization and transactivating potential. *Eur J Biochem.* 1997 Aug 1;247(3):860-869.
4. Okladnova O, Poleev A, Fantes J, Lee M, Plachov D, Horst J. The genomic organization of the murine Pax 8 gene and characterization of its basal promoter. *Genomics.* 1997 Jun 15;42(3):452-61.
5. Poleev A, Wendler F, Fickenscher H, Zannini MS, Yaginuma K, Abbott C, Plachov D. Distinct functional properties of three human paired-box-protein, PAX8, isoforms generated by alternative splicing in thyroid, kidney and Wilms' tumors. *Eur J Biochem.* 1995 Mar 15;228(3):899-911.
6. Poleev A, Fickenscher H, Mundlos S, Winterpacht A, Zabel B, Fidler A, Gruss P, Plachov D. PAX8, a human paired box gene: isolation and expression in developing thyroid, kidney and Wilms' tumors. *Development.* 1992 Nov;116(3):611-23.
7. Baranov VS, Lebedev VM, Poleev AV, Mikhailova EP, Rybalko AV, Shved NV. [Fast direct method of obtaining metaphase and prometaphase chromosomes from chorion biopsy cells and human embryos during the 1st semester of pregnancy]. *Biull Eksp Biol Med.* 1990 Aug;110(8):196-8. Russian.

Manuscripts

1. Poleev,A., Vorobjev,E., Fantes,J., Okladnova,O., Plachov,D. Cloning and characterization of a novel murine gene with osteonectin-like EF-hand domain.

Communications to scientific meetings

1. Plachov,D., Fickenscher,H., Poleev,A. Three isoforms created by alternative splicing of the PAX8 gene can act as transcription activators. *Mouse molecular genetics*, 1992, Cold Spring Harbor, New York,163.
2. Tavassoli,K., Poleev,A., Zannini,S., Feliciello,A., Musti,A.M., Plachov,D. Functional analysis of the human PAX2 and PAX8 transcription factors. In: First EMBL meeting on transcription, 28 August - 1 September 1994, EMBL, Heidelberg, p.103.
3. Okladnova,O., Poleev,A., Horst,J., Plachov,D. Functional analysis of the human PAX8 transcription factor: activation by PKA and alternative promoters. In: 11.Wissenschaftliche Tagung der Gesellschaft für Entwicklungsbiologie,21.-23. März 1995, Göttingen, p.88.
4. Poleev,A., Vorobjev,E., Fantes,J., Fickenscher,H., Okladnova,O., Plachov,D. Cloning and characterization of a murine gene with osteonectin-like EF-hand domain. *Mouse molecular genetics*, August 27-31, 1997, EMBL, Heidelberg, p.165.



Interests in the field of biology

1. Enzymology.
2. Genomic scanning techniques.
3. Genetic modified and engineered organisms.
4. Key morphogenetic regulators of development.
5. Epigenetics.
6. Differential splicing.
7. Transcriptome.
8. Genomic diversity and evolution.
9. Differential display and subtraction techniques.
10. Genetic behavioral programs.
11. Individual genetics.
12. Artificial evolution of biomolecules.

