



George C. Rodakis

Born: July 30, 1948

Nationality: Greek

National & Kapodistrian University of Athens
Faculty of Biology
Department of Biochemistry & Molecular Biology
Panepistimioupolis
Athens, 157 01
Greece

Phone: +30-210-7274617 — Fax.: +30-210-7274158

E-mail: grodakis@biol.uoa.gr

Education

1972 **BA in Biology**
University of Patras, Greece

1978 **Ph.D. in Biology**
University of Athens, Greece

Professional positions

1973 – 1978 **Lecturer**
University of Athens, Faculty of Biology

1978 – 1986 **Senior Lecturer**
University of Athens, Faculty of Biology

1986 – 1994 **Assistant Professor**
University of Athens, Faculty of Biology

1994 – 2010 **Associate Professor**
University of Athens, Faculty of Biology

2010 – present **Professor**
of Molecular & Evolutionary Biology
University of Athens, Faculty of Biology

Postgraduate Studies

1975, 1976
5–6 mo. per year

The Biological Laboratories, Harvard University

- *Methods & Techniques on Protein Fractionation, Isolation, Amino acid Analysis and Sequencing*
- *Computational Phylogenetic Analysis of Protein Sequences*

Postdoctoral Research

1978 – 1980
&
1981– 1984
3 mo. per year

The Biological Laboratories, Harvard University

- *Structural and Phylogenetic Analysis of Bombyx mori chorion genes as revealed by cDNA clones and genomic sequences*
- *Methods & Techniques on Recombinant DNA Technology*
- *Computer aided Analysis of DNA and Protein sequences*

1979
1 month

University of California, Irvine
Methods of Rearing and Microdissection of Bombyx mori

Postdoctoral Fellowships

1978 - 1979

EMBO Postdoctoral Research Fellowship

The Biological Laboratories, Harvard University

1978 - 1980

NIH - Fogarty Postdoctoral Research Fellowship

The Biological Laboratories, Harvard University

1981 - 1984
3 months per year

Harvard University Postdoctoral Res. Fellowships

The Biological Laboratories, Harvard University

Member of:

- Hellenic Society of Biological Sciences
- Hellenic Biochemical and Biophysical Society
- The Malacological Society of London
- International Society of Sericology

Teaching Experience

Courses (undergraduate level):

- Evolution - Molecular Evolution
- Molecular Biology
- Advanced Molecular Biology
- Computers in Biology
- General Biology
- Biochemistry (student practicals)
- Cell Biology (student practicals)
- Genetics (student practicals)

Courses (postgraduate level, M.Sc.):

- Molecular Evolution
- Computer aided DNA and protein sequence analysis
- Advanced Molecular Biology
- Recombinant DNA Methods and Techniques
- Bioinformatics

Supervision of Ph.D. students:

- Completed: Six Ph.D. theses (V. Douris, E. Hatzoglou, L. Kravariti, A. Mizi, K. Venetis, F. Ieremiadou) on topics related to Molecular Biology and Molecular Evolution.
- Currently: One full time Ph.D. student (Eleni Kyriakou).
- Up to now, member of about 50 advisory committees and external examiner for more than 60 Ph.D. students.

Research Experience

- Recombinant DNA technology.
- Computer sequence analysis - Phylogenetic analysis.
- Analytical and preparative methods in protein fractionation and isolation.
- Protein sequencing.

Scientific Interests

- Molecular Biology, Molecular Genetics, Evolutionary Genomics.
- Structure, function, gene organization and evolution of Metazoan mtDNA.
- Computational Molecular Phylogeny and Phylogeography.
- Structure, evolution, and regulation of eukaryotic multigene families.

Current Research Projects

- Molecular basis of the unorthodox phenomenon of Doubly Uniparental Inheritance of mtDNA in bivalve mollusks.
- Phylogeographic analysis of the genus *Albinaria* (Gastropoda: Clausiliidae), based on mtDNA and nuclear sequences.
- Structure, evolution, and regulation of eukaryotic multigene families. Focused on *Bombyx mori* chorion genes superfamily.
- Validation of PCR as diagnostic tool for deletions in human mitochondrial DNA.

Research Grants

1978 – 1980

- Fogarty-NIH

1985 – 2010

- Special Account for Research Grants of the National and Kapodistrian University of Athens (annually released research grants)

1994 – 1995

- British Council and University of Athens grant for Anglo-Hellenic Joint Research projects

1984 – 2008

- Seven 2-3 years research grants by General Secretariat of Research and Technology of (currently:) Ministry of Education, Lifelong Learning and Religious Affairs

Research Impact Indexes

- Number of citations: Total, ~800; average per year, 25.2; per article, 25.4.
- Publication's Impact Factor: Total, ~160; average, 5.3.
- *h-index*: 17.

Publications

Ph.D. Thesis

- Rodakis, G. C. (1978). *The Chorion of the insect *Antheraea polyphemus*: A model system for the study of Molecular Evolution*. University of Athens.

Books

1. Rodakis, G.C. (2000). *Evolution*. Hellenic Open University, ed., ISBN: 960-538-243-1
2. Rodakis, G.C. (2001). *Introduction to Evolutionary Biology*. Litsas Medical Publications, ed., ISBN: 960-372-049-6

Abstracts in International and National Conferences

- 78, in eight of them as invited speaker

Publications in International Journals

1. Kafatos, F. C., Efstratiadis, A., Goldsmith, M. R., Jones, C. W., Maniatis, T., Regier, J. C., Rodakis, G. C., Rosenthal, N., Sim, G. K., Thireos, G. and Villa-Komaroff, L. (1978). The developmentally regulated multigene families encoding chorion proteins in silkworms. In *Differentiation and Development*, Miami Winter Symposia, vol. **15** (F. Ahmad, J. Schultz, T. R. Russell and R. Werner, eds). Academic Press, NY pp. 299-315.
2. Jones, C. W., Rosenthal, N., Rodakis, G. C. and Kafatos, F. C. (1979). Evolution of two major multigene families as inferred from cloned cDNA and protein sequences. *Cell* **18**: 1317-1332.
3. Rodakis, G. C., Moschonas, N. K. and Kafatos, F. C. (1982). Evolution of a multigene family of chorion proteins in silkworms. *Mol. Cell. Biol.* **2**: 554-563.
4. Rodakis, G. C. and Kafatos, F. C. (1982). Origin of evolutionary novelty in proteins: How a high-cysteine chorion protein has evolved. *Proc. Natl. Acad. Sci., USA* **79**: 3551-3555.

5. Lecanidou, R., Eickbush, T. H., Rodakis, G. C. and Kafatos F. C. (1983). Novel B family sequence from an early chorion cDNA library of *Bombyx mori*. Proc. Natl. Acad. Sci., USA **80**: 1955-1959.
6. Hamodrakas, S. J., Paulson, J. R., Rodakis, G. C. and Kafatos F. C. (1983). X-ray diffraction studies of a silkmoth chorion. Int. J. Biol. Macromol. **5**: 149-153.
7. Tsitilou, S. G., Rodakis, G. C., Alexopoulou, M., Kafatos, F. C., Ito, K. and Iatrou, K. (1983). Structural features of B family chorion sequences in the silkmoth *Bombyx mori*, and their evolutionary implications. EMBO J. **2**: 1845-1852.
8. Rodakis, G. C., Moschonas, N. K., Regier, J. C. and Kafatos, F. C. (1983). The B multigene family of chorion proteins in Saturniid silkmoths. J. Mol. Evol. **19**: 322-332.
9. Rodakis, G. C., Lecanidou, R. and Eickbush, T. H. (1984). Diversity in chorion multigene family created by tandem duplications and a putative gene - conversion event. J. Mol. Evol. **20**: 265-273.
10. Eickbush, T. H., Rodakis, G. C., Lecanidou, R. and Kafatos, F. C. (1985). A complex set of early chorion DNA sequences from *Bombyx mori*. Developmental Biology **112**: 368-376.
11. Lecanidou, R., Rodakis, G. C., Eickbush, T. H. and Kafatos, F. C. (1986). Evolution of the silk moth chorion gene superfamily: Gene families CA and CB. Proc. Natl. Acad. Sci., USA **83**: 6514-6518.
12. Kafatos, F. C., Spoerel, N., Mitsialis, S. A., Nguyen, H. T., Romano, C., Lingappa, J. R., Mariani, B. D., Rodakis, G. C., Lecanidou, R. and Tsitilou, S. G. (1987). Developmental control and evolution in the chorion gene families of insects. Advances in Genetics **24**: 223-242.
13. Hibner, B. L., Burke, W. D., Lecanidou, R., Rodakis, G. C. and Eickbush, T. H. (1988). Organization and expression of three genes from the silkmoth early chorion locus. Developmental Biology **125**: 423-431.
14. Lecanidou, R. and Rodakis, G. C. (1992). Three copies of the early gene 6F6 are interspersed in and around the late chorion gene cluster of *Bombyx mori*. J. Mol. Evol. **34**: 304-314.
15. Rodakis, G. C. and Lecanidou, R. (1992). The possible evolutionary significance of repeat elements near and within an early chorion gene in the late chorion locus of *Bombyx mori*. J. Mol. Evol. **34**: 315-323.
16. Lecanidou, R., Douris, V. and Rodakis, G. C. (1994). Novel features of metazoan mtDNA revealed from sequence analysis of three mitochondrial DNA segments of the land snail *Albinaria turrita* (Gastropoda: Clausiliidae). J. Mol. Evol. **38**: 369-382.
17. Kravariti, L., Lecanidou, R. and Rodakis, G. C. (1995). Sequence analysis of a small early chorion gene subfamily interspersed within the late gene locus of *Bombyx mori*. J. Mol. Evol. **41**: 24-33.
18. Douris, V., Rodakis, G. C., Giokas, S., Mylonas, M. and Lecanidou, R. (1995). Mitochondrial DNA and morphological differentiation of *Albinaria* populations (Gastropoda: Clausiliidae). J. Moll. Studies **61**: 65-78.
19. Hatzoglou, E., Lecanidou, R. and Rodakis, G. C. (1995). Complete sequence and gene organization of the mitochondrial genome of the land snail *Albinaria coerulea*. Genetics **140**: 1353-1366.
20. Douris, V., Giokas, S., Lecanidou, R., Mylonas, R. and Rodakis, G. C. (1998). Phylogenetic analysis of mitochondrial DNA and morphological characters suggest a need for taxonomic re-evaluation within the Alopiinae (Gastropoda: Clausiliidae). J. Moll. Studies **64**: 81-92.
21. Douris, V., Cameron, R. A. D., Rodakis, G. C. and Lecanidou, R. (1998). Mitochondrial phylogeography of the land snail *Albinaria* in Crete: Long-term geologic and short-term vicariance effects. Evolution **52**: 116-125.

22. Kravariti, L., Thomas, J.-L., Sourmeli, S., Rodakis, G. C., Mauchamp, B. Chavancy, G. and Lecanidou, R. (2001). The biolistic method as a tool for testing the differential activity of putative silkworm chorion gene promoters. *Ins. Bioch. Mol. Biol.* **31**: 473-479.
23. Cao, L., Kenchington, E., Zouros, E. and Rodakis, G. C. (2004). Evidence that the large non-coding sequence is the main control region of maternally and paternally transmitted mitochondrial genomes of the marine mussel (*Mytilus* spp). *Genetics* **137**: 835-850.
24. Mizi, A., Moschonas, N., Zouros, E. and Rodakis, G. C. (2005). The complete maternal and paternal mitochondrial genomes of the Mediterranean mussel *Mytilus galloprovincialis*: Implications for the Doubly Uniparental Inheritance mode of mtDNA. *Mol. Biol. Evol.* **22**: 952-967.
25. Mizi, A., Zouros, E. and Rodakis, G. C. (2006). Multiple events are responsible for an insertion in a paternally inherited mtDNA of the mussel *Mytilus galloprovincialis*. *Genetics* **172**: 2695-2698.
26. Venetis, C., Theologidis, I., Zouros, E. and Rodakis, G. C. (2006). No evidence for presence of maternal mitochondrial DNA in the sperm of *Mytilus galloprovincialis* males. *Proc. Roy. Soc. B* **273**: 2483-2489.
27. Rodakis, G. C., Cao, L., Mizi, A., Kenchington, E. and Zouros, E. (2007). Nucleotide content gradients in the maternal and paternal mitochondrial genomes of *Mytilus galloprovincialis*. *J. Mol. Evol.* **65**: 124-136.
28. Douris, V., Giokas, S., Thomaz, D., Lecanidou, R. and Rodakis, G. C. (2007). Inference of evolutionary patterns of the land snail *Albinaria* in the Aegean archipelago: is vicariance enough? *Mol. Phyl. Evol.* **44**: 1224-1236.
29. Venetis, C., Theologidis, I., Zouros, E. and Rodakis, G. C. (2007). A mitochondrial genome with a reversed transmission route in the Mediterranean mussel *Mytilus galloprovincialis*. *Gene* **406**: 79-90.
30. Ieremiadou, F. and Rodakis, G. C. (2009). Correlation of the 4977 bp mitochondrial DNA deletion with human sperm dysfunction. *BMC Res. Notes* **2**:18.
31. Cao, L., Ort, B. S., Mizi, A., Pogson, G., Kenchington, E., Zouros, E. and Rodakis, G. C. (2009). The control region of maternally and paternally inherited mitochondrial genomes of three species of the sea mussel genus *Mytilus*. *Genetics* **181**: 1045-1056.
32. Giokas, S., Thomaz, D., Douris, V., Lecanidou, R. and Rodakis, G. C. (2010). 5000 years of molecular evolution in a human transported land snail population. *J. Moll. Stud.* **76**: 49-56.
33. Kyriakou, E., Zouros, E. and Rodakis, G. C. (2010). The atypical presence of the paternal mitochondrial DNA in somatic tissues of male and female individuals of the blue mussel species *Mytilus galloprovincialis*. *BMC Res. Notes* **3**:222.