BIOGRAPHICAL SKETCH

Thomaidou, Dimirta	**Associate Researcher (Grade B'), Neurobiology** Laboratory of Cellular and Molecular Neurobiology & Imaging Unit, Hellenic Pasteur Institute

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Biology Department, University of Athens, Athens, Greece	BSc	1984-1989	Biology
Hellenic Pasteur Institute, Athens, Greece	PhD	1990-1994	Neuroscience
University College London, London, UK	Post-doc	1994-1996	Neuroscience
Rockefeller Hospital, New York, USA	Post-doc	1997-1998	Molecular Biology
Hellenic Pasteur Institute, Athens, Greece	Post-doc	1998-2001	Neurobiology

Positions and Employment

2002-2006: **Assistant Researcher (Grade C'- tenured track)**, Laboratory of Cellular and Molecular Neurobiology, Hellenic Pasteur Institute
2002- present: **Responsible of the Imaging Unit**, Hellenic Pasteur Institute
May 2006-pres: **Associate Researcher (Grade B' - tenure)**, Laboratory of Cellular and Molecular Neurobiology, Hellenic Pasteur Institute

Other Experience and Professional Memberships

6/1987-7/1987: Summer student, Laboratory of Physiology of Reproduction, Cremlin Bicetre Hospital, Paris, France
1988-1989: Final year research project in Chemical Carcinogenesis, National Hellenic Research Institute, Athens
3/1993-5/1993: Visiting investigator, Dept. of Anatomy and Developmental Biology, University College London, UK
1990-present: Member of the Hellenic Society of Neuroscience
1994-present: Member of Federal European Neuroscience Society (FENS)

Honors

1989-1993: Hellenic Pasteur Institute Fellowship
5/1992: IUBMB grant for participation in the 1st IUBMB Conference, Nagoya, Japan
3/1993-5/1993: Short-term FEBS Fellowship
1994-1996: Welcome Trust Fellowship, UK
1998-2001: "Career Award" Return Grant from General Secreteriat of Research & Technology, Greece.

Scientific Field

Cellular and Molecular Neurobiology – Stem Cells Biology - Imaging:

Signaling mechanisms and molecules involved in cell cycle regulation as well as the migration and differentiation of neurons during CNS development – Mechanisms controlling neuronal cell fate and lineage determination – Virally-mediated gene transfer in primary neural cells and Neural Stem Cells – Use of genetically modified Neural Stem Cells for "cell therapy" approaches of regenenerative medicine.

Development of novel scientific approaches:

- Isolation and culture of NSC from embryonic and adult rodent brain and spinal cord – Establishment of the 1st NSC Unit in Hellenic Pasteur Institute.

- Construction and production of recombinant adenoviral, retroviral and lentiviral vectors.
- *Ex-vivo* use of genetically modified NSCs and Schwann cells in animal models of CNS trauma.
- Use of imaging techniques to study cell cycle exit, neuronal differentiation and neuronal reprogramming
- Development of RNAi technology and production of shRNA lentiviral vectors for permanently silencing proteins of interest in NSC.
- *In vivo* study of adult neurogenesis and proliferation/differentiation potential of adult-derived NSCs.
- Study of astrocytic reprogramming following forced expression of neurogenic molecules

Research Funding

Career Award Grant of GSRT (Code: 97EL-36) 1999-2001. "Molecular and Cellular Mechanisms during Nervous System Development: role of new neuron-specific molecules during cell cycle-apoptosis, migration and differentiation of neurons" Total funding: 100,000 Euro *(grant recipient)*.
IKYDA Greek-German Collaboration Grant 2002-2003. "Involvement of the cell adhesion molecule L1 in migration mechanisms that take place during development and regeneration of the nervous system" .Total funding 10,000 Euro *(principal investigator)*.
Account of the Scientific Committee of HPI. 2003-2004. Involvement of the cell adhesion molecule L1 in migration mechanisms that take place during development and regeneration of the nervous system, 14, 700 Euro *(principal investigator)*.
Greek General Secretariat of Research and Technology Human Networks of Scientific and Technological Training Program, 2004-2005. Applications of light microscopy in Biomedical Research and Diagnosis, 58, 213 Euro *(principal investigator)*.
Institut Pasteur Paris Grand Program Horizontal (GPH), 2004-2008. Stem Cells (Sub-program title: Control of Stem Cells Neurogenesis in the Adult Brain), 60, 000 Euro *(principal investigator)*.
Greek General Secretariat of Research and Technology EPAN-2003 GSRT Grant, YB-26. 2004-2007. "Neural Stem Cell Therapies for Neurodegenerative Diseases: Determination of a "molecular signature" for neuronal fate". 37, 000 Euro *(group leader).*
Greek General Secretariat of Research and Technology and British council Program of Greek-English Collaboration. 2005-2007 Elucidation of the function of the neurogenic gene *bm88* in a mouse knock-out model, 17, 600 Euro *(principal investigator).*
Greek General Secretariat for Research and Technology Programme EPAN YB-11 Grant, 2004-2007. Baculovirus Artificial Chromosomes (BVACs) and Technologies for Gene Therapy and Continuous High-Level Expression of Therapeutic Proteins in Insect Production Systems, 200.000 Euro *(group member)*.
Greek General Secretariat for Research and Technology PENED Grant, 2007-2009. Generation of a lentiviral vector for in vivo and ex vivo gene delivery of insulin-like growth factor-1, 140.000 Euro *(group member)*.
European Union REGPOT-2010 Program 264083 Neurosign, 2011-2013. Development of a Centre of Excellence in Neurosignalling, 1,9M Euro *(WP leader for acquisition of equipment).*
Greek General Secretariat for Research and Technology and Minsistry of Education "Synergasia-2009" Grant, 2011-2015. Mechanisms of Induced Pluripotency: From Transcriptional Noise to Stem Cell Therapies. 1.680.000 Euro *(collaborating group member).*

Peer-accepted publications

1. Elkouris M, Balaskas N, Poulou M, Politis PK, Panayiotou E, Malas S, **Thomaidou D**, Remboutsika E (2011). Sox1 maintains the undifferentiated state of cortical neural progenitor cells via the suppression of Prox1-mediated cell cycle exit and neurogenesis. *Stem Cell* 29: 89-98.
2. Lavdas AA, Papastefanaki F, **Thomaidou D** and Matsas R (2011). Cell adhesion molecules in gene and cell therapy approaches for nervous system repair *Curr Gene Ther*, *invited review 11: 90-100.*
3. Kouroupi G, Lavdas AA, Gaitanou M, **Thomaidou D**, Stylianopoulou F and Matsas R (2010) Lentivirus-mediated expression of insulin-like growth factor-I promotes neural stem/precursor cell proliferation and enhances their potential to generate neurons *J Neurochem*, *115: 460-74.*
4. Lavdas AA, Efrose R, Douris V, Gaitanou M, Swevers L, **Thomaidou D,** Iatrou K and Matsas R (2010) Soluble forms of the cell adhesion molecule L1 produced by insect and baculovirus-transduced mammalian cells enhance Schwann cell motility *J Neurochem 115: 1137-49.*

5. Lavdas AA., Chen J., Papastefanaki F., Schachner M. Matsas R., and **Thomaidou D.** (2010). Transplantation of Schwann cells over-expressing L1 enhance functional recovery in a mouse spinal cord compression model *Exp. Neurol*. 221:206-216.
6. Makri G., Lavdas A., Katsimpardi L., **Thomaidou D.*** and Matsas R.* ***equal contribution**. (2010). Transplantation of embryonic neural stem/ precursor cells overexpressing BM88/Cend1 enhances the generation of neuronal cells in the injured mouse cortex. *Stem Cells,* 28: 127-139.
7. Masgrau-Juanola R., Hurel, C., Georgopoulou N., **Thomaidou D.** and Matsas R**.** (2009) BM88 protects neural cells from apoptosis by influencing calcium homeostasis *Neuropharmacology,* 56: 598-609.
8. Katsimpardi L., Gaitanou M., Malnou C., Charneau P., Lledo PM., Matsas R. and **Thomaidou D**. (2008) BM88/Cend1 expression levels are critical for proliferation and differentiation of subventricular zone-derived neural precursor cells. *Stem Cells,* 26: 1796-807.
9. Politis PK, **Thomaidou D,** Matsas R (Review) (2008) Coordination of cell cycle exit and differentiation of neuronal progenitors. *Cell Cycle,* 7: 691-7.
10. Lavdas A, Papastefanaki, F., **Thomaidou D**. and Matsas R. (Review) (2008) Schwann cells transplantation for CNS repair. *Current Medicinal Chemistry,* 15(2): 151-60.
11. Politis PK, Makri G, **Thomaidou D,** Geissen M, Rohrer H, Matsas R. (2007) BM88/CEND1 coordinates cell cycle exit and differentiation of neuronal precursors. *Proc Natl Acad Sci U S A,* 104: 17861-6.
12. Papastefanaki, F., Chen J, Lavdas A, **Thomaidou D**, Schachner M and Matsas R (2007) Grafts of Schwann cells engineered to express PSA-NCAM promote functional recovery after spinal cord injury, *Brain*, 130: 2159-74.
13. Georgopoulou, N., Hurel, C., Politis P., Gaitanou, M Matsas R. and **Thomaidou D.** (2006) "BM88 is a dual function molecule inducing cell cycle exit and neuronal differentiation of neuroblastoma cells via cyclin D1 down-regulation and pRb hypophosphorylation" *JBC*, 281: 33606-33620.
14. Koutmani Y., Hurel, C. Patsavoudi E., Haeck M., Gotz M., **Thomaidou D.*** and Matsas R. * ***equal contribution**. (2004) "BM88 is a marker of proliferating neuroblasts that will differentiate into the neuronal lineage", *Eur. J. Neurosci***.** 20:2509-23.
15. Meintanis S., **Thomaidou D.,** Jessen K.R., Mirsky R. and Matsas R. (2004) "EDTA is a potent inhibitor of myelin protein and mRNA expression in vivo during development of the rat sciatic nerve" *GLIA* 48:132-44.
16. **Thomaidou D.,** Meintanis S., Coquillat D., Faivre-Sarrailh C., Rougon G., and Matsas R. (2001) "NCAM and F3 neural cell adhesion molecules promote Schwann cell migration", *J. Neurochem.* 78: 767-778.
17. Chan C.H., Godinho L.N., **Thomaidou D.**, Tan S.-S., Gulisano M. and Parnavelas J.G. (2001) "Emx1 is expressed in pyramidal neurons of the cerebral cortex" *Cerebral Cortex* 11: 1191-1198.
18. Meintanis S., **Thomaidou D.**, Jessen K.R., Mirsky R. and Matsas R. (2001) " The neuron-glia signal beta-neuregulin promotes Schwann cell motility via the MAPK pathway" *GLIA* 34(1): 39-51.
19. Naqui S., Harris B. S, **Thomaidou D.** and Parnavelas J.G. (1999) "The noradrenergic system influences the pattern of development of Cajal-Retzius cells in the cerebral cortex" *Brain Res. Dev Brain Res.* 113(1-2): 75-82.
20. **Thomaidou D.**, Mione M. C., Cavanagh J. F. R.and Parnavelas J. G. (1997) "Apoptosis and its relation to the cell cycle in the developing cerebral cortex." *J. Neurosci*. 17(3): 1075-1085.
21. Nadarajah, B. **Thomaidou**, **D.** Evans W. H. and Parnavelas J. G. (1997) "Gap junctions in the adult cerebral cortex: regional differencies in their distribution and cellular expression of connexins" *J. Comp. Neurol.* 376: 326-342.
22. **Thomaidou D.**, Yfanti E. and Patsavoudi E. (1996) "Expression of the 4C5 antigen in the rat sciatic nerve during development and after regeneration" *J. Neurosci. Res*. 40: 506-518.
23. Patsavoudi E., Merkouri E., **Thomaidou D.**, Sandillon F., Alonso G. and Matsas R. (1995). "Characterization and localization of the BM88 antigen in the developing and adult rat brain". *J. Neurosci. Res*. 40: 506-518.
24. **Thomaidou D.**, Dori I. and Patsavoudi E. (1995) "Developmental expression and functional characterization of the 4C5 antigen in the postanatal rat cerebellar cortex" *J. Neurochem.* 64: 1937-1944.
25. **Thomaidou D.** and Patsavoudi E. (1993) "Monoclonal antibody 4C5 recognizes a novel neuron specific antigen in the developing nervous system" *Neuroscience* 53: 813-827.

Chapters in Books

Thomaidou D., Politis PK., and Matsas R. (2010) Neurogenesis in the Central Nervous System: Cell cycle progression / exit and differentiation of neuronal progenitors, in "Cell Cycle Regulation and Differentiation in Cardiovascular and Neural Systems", *published by Springer Verlag., Antonio Giordano and Umberto Galderisi editors (Chapter 8)*.

Greek publications

1. **Thomaidou D.** (2007). Following biomolecules' dynamics in live cells. *Med. Review,* 3: 46-49.
2. Papastefanaki F. Lavdas A., **Thomaidou D.,** Matsas R. (2007) Genetically Engineered Schwann Cells: Remyelination therapies of the injured or diseased Central Nervous System. *BIO Magazine,* 22: 36-40.

Organization of Meetings

- Co-Organizer of the FENS Winter School **"Neural Stem Cells: from specification and nervous system patterning to therapies for neurodegenerative diseases"**. Kitzbuhel, Austria 7-14 December 2003.
- Member of the organizing committee of the **18th Hellenic Neuroscience Society Meeting,** October 17-19 2003, Athens.
- Co-organiser of two **Training Courses on "Applications of light microscopy in Biomedical Research and Diagnosis",** Hellenic Pasteur Institute Athens, 17-22 May 2004 and 18-22 April 2005.
- Member of the organizing committee of the **23rd Hellenic Neuroscience Society Meeting,** October 2008, Athens.
- Member of the organizing committee of the **1st 2-days Scientific Meeting of Hellenic Neuroscience Society,** October 2010, Athens.
- Member of the organizing committee of the **5th Meeting of Hellenic Society of Biology (PEV) entitled "The Environment of our Health",** November 2010, Athens

Supervision and Training

- Training of numerous under-graduate and post-graduate students in UCL and Hellenic Pasteur Institute.
- Supervision of the post-graduate students Yassemi Koutmani ,Florentia Papastefanaki, Lida Katsimpardi, Georgia Makri and Katerina Aravantinou-Fatorou, who have performed or are currently performing their Ph.D thesis in the Laboratory of Cellular and Molecular Neurobiology of Hellenic Pasteur Institute.
- Responsible scientist of the Imaging Unit of Hellenic Pasteur Institute.

.