

CURRICULUM VITAE

Name: **MYRTO DENAXA**
Work Address: Development and Homeostasis of the Nervous System
Lab
The Francis Crick Institute,
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EDUCATION

1997: B. Sc., Biology, Univ. of Patras.

1999: M. Sc., Molecular Biology and Biomedicine, Univ. of Crete.

“Upstream regulatory sequences of the human TAX-1 gene drive specific expression to the developing mouse central nervous system”.

Advisor: Prof. Domna Karagogeos

2004: Ph.D., Molecular Biology and Biomedicine, Univ. of Crete.

“The role of the adhesion molecule TAG-1 in the development of the cerebral cortex”.

Advisor: Prof. Domna Karagogeos

RESEARCH EXPERIENCE

2004-2008: Post-Doctoral position, Dpt. Of Molecular Neurobiology, NIMR.

PI: Dr. Vassilis Pachnis

2008-present: Senior Investigator Scientist, Dpt. of Molecular Neurobiology, NIMR

PI: Dr. Vassilis Pachnis

AWARDS & FELLOWSHIPS

1999: First prize for presentation in the Hellenic Society for Neuroscience Conference (HSFN)

2001: One of four prizes for presentation in the Hellenic Society for Neuroscience Conference (HSFN)

2002:FENS Stipendfor the 2002 FENS

2004-2007: MRC Career Development Fellowship

TEACHING EXPERIENCE

1998-1999: Introductory Microbiology practical courses for 1st year Biology students.

2004-2011: Co-supervisor with Dr. Vassilis Pachnis for Dr. Angeliki Achimastou Ph.D

“The role of LHX6 in the specification of interneurons in the mammalian cortex”

2011-2013:Co-supervisorwith Dr. Vassilis Pachnis for Dr. Melanie Kalaitzidou Ph.D

“The role of SATB1 in medial ganglionic eminence-derived cortical interneuron differentiation”

For both Ph.D. students I was responsible for designing experiments, teaching experimental methodology, supervising work progress and thesis writing.

2017: “Cortical interneurons in health and disease: from embryonic development to cell therapy” Seminar-Postgraduate Program in Biomedical Sciences, Department of Medicine, Patras

2017: “Advanced Methods in Developmental and Regenerative Neurobiology” Lecture-Athens International Master’s Programme in Neurosciences, National and Kapodistrian University in Athens

PUBLICATIONS

1. **Denaxa M**, Chan C-H, Schachner M, Parnavelas JG and Karagogeos, D (2001) The adhesion molecule TAG-1 mediates the migration of cortical interneurons along the corticofugal fiber system. **Development** 128 (22)
2. **Denaxa M**, Pavlou O, Tsiotra P, Papadopoulos GC, Liapaki K, Theodorakis C, Karagogeos, D. and Papamatheakis, J. (2003) The upstream regulatory region of the cell adhesion molecule TAG-1 gene contains elements driving neural specific expression in vivo. **Molecular Brain Research** 118 (1-2)
3. Ekonomou A, Kazanis I, Malas S, Wood H, Alifragis P, **Denaxa M**, Karagogeos D, Constanti A, Lovell-Badge R, Episkopou V.(2005) Neuronal migration and ventral subtype identity in the telencephalon depend on SOX1. **PLoS Biology** 3(6)
4. **Denaxa M**, Kyriakopoulou K, Theodorakis K, Trichas G, Vidaki M, TakedaY,Watanabe K, Karagogeos D.(2005) The adhesion molecule TAG-1 is

- required for proper migration of the superficial migratory stream in the medulla but not of cortical interneurons. **Developmental Biology** 288(1)
5. Brogna S, Bourtzis K, Gomulski LM, **Denaxa M**, Babaratsas A, Gasperi G, Savakis C.(2006) Genomic organization and functional characterization of the alcohol dehydrogenase locus of *Ceratitis capitata* (Medfly). **Insect Molecular Biology**. 15(3)
 6. Liodis P, **Denaxa M**, Grigoriou M, Akufo-Addo C, Yanagawa Y, Pachnis V.(2007). Lhx6 activity is required for the normal migration and specification of cortical interneuron subtypes. **Journal of Neuroscience** 27(12)
 7. **Denaxa M**, Sharpe PT, Pachnis V. (2009) The LIM homeodomain transcription factors Lhx6 and Lhx7 are key regulators of mammalian dentition. **Developmental Biology** 333(2)
 8. Batista-Brito R, Rossignol E, Hjerling-Leffler J, **Denaxa M**, Wegner M, Lefebvre V, Pachnis V, Fishell G. (2009) The cell-intrinsic requirement of Sox6 for cortical interneuron development. **Neuron** 63(4)
 9. **Denaxa M**, Kalaitzidou M, Garefalaki A, Achimastou A, Lasrado R, Maes T, Pachnis V.(2012) Maturation-promoting activity of SATB1 in MGE-derived cortical interneurons. **Cell Reports** 2(5)
 10. Neves G, Shah MM, Liodis P, Achimastou A, **Denaxa M**, Roalfe G, Sesay A, Walker MC, Pachnis V. (2013) The LIM homeodomain protein Lhx6 regulates maturation of interneurons and network excitability in the mammalian cortex. **Cerebral Cortex** 23(8)
 11. Tivodar S, Kalemaki K, Kounoupa Z, Vidaki M, Theodorakis K, **Denaxa M**, Kessarlis N, de Curtis I, Pachnis V, Karagogeos D.(2015) Rac-GTPases Regulate Microtubule Stability and Axon Growth of Cortical GABAergic Interneurons. **Cerebral Cortex** 25(9)
 12. Liu K, Zhang S, Kim J, Kim DW, **Denaxa M**, Bao H, Kim E, Liu C, Pachnis V, Hattar S, Song J, Brown S, Blackshaw S.(2017) Zona incerta Lhx6-positive neurons promote sleep by local inhibition of wake-promoting hypocretin neurons. **Nature** 548(7669)
 13. **Denaxa M***, Neves G, Rabinowitz A, Kemlo S, Liodis P, Burrone J, Pachnis V. Activity-dependent control of inhibitory interneuron number in the mammalian cortex. *corresponding author **Cell Reports-D-17-03127**

14. Achimastou A, Neves G, Pachnis V, **Denaxa M.** A minimal transcriptional network dictates rodent pallial progenitors to become cortical interneurons. (manuscript in preparation).

PARTICIPATION IN CONFERENCES

Poster Presentations:

1. **Denaxa, M.**, Pavlou, O., Papadopoulos, G.C., Tsiotra, P., Liapaki, K., Theodorakis, C., Papamatheakis, J., and Karagogeos, D. (1999)Upstream regulatory sequences of the human TAX-1 gene drive specific expression to the developing mouse central nervous system **HSFN**, Volos, Greece
2. **Denaxa, M.**, Chan, C-H., Parnavelas, J.G. and Karagogeos, D. (2000)The adhesion molecule TAG-1 mediates the migration of cortical interneurons along the corticofugal fiber system **FENS**, Brighton, UK
3. **Denaxa, M.**, Chan, C-H., Schachner, M., Parnavelas, J.G. and Karagogeos, D. (2000)The adhesion molecule TAG-1 mediates the migration of cortical interneurons along the corticofugal fiber system **SFN Meeting**, New Orleans, USA
4. **Denaxa, M.**, Chan, C-H., Schachner, M., Parnavelas, J.G. and Karagogeos, D. (2001)The adhesion molecule TAG-1 mediates the migration of cortical interneurons along the corticofugal fiber system **HSFN**, Thessaloniki, Greece
5. **Denaxa, M.**, Iwakura, Y., Fukamauchi F., Watanabe, K., and Karagogeos, D. (2002)The adhesion molecule TAG-1 is involved in tangential migrations in the developing central nervous system.**Cortical development neurogenesis, migration and epilepsy**, Delfoi, Greece
6. **Denaxa, M.**, Kyriakopoulou, K, Iwakura, Y., Fukamauchi F., Watanabe, K., Wassef, M. and Karagogeos, D. (2002)The adhesion molecule TAG-1 is involved in tangential migrations in the developing central nervous system.**FENS**, Paris, France
7. **Denaxa, M.**, Liodis, P., Grigorieva, E., Sharpe, P. and Pachnis, V. (2005) Developmental deficits of the first branchial arch derivatives in mice deficient for the Lhx6/7 LIM/homeodomain genes.**SDB**, San Francisco, USA
8. **Denaxa, M.**, Liodis, P., Grigorieva, E., Sharpe, P. and Pachnis, V. (2006) Developmental deficits of the first branchial arch derivatives in mice deficient for the Lhx6/7 LIM/homeodomain genes.**Craniofacial Morphogenesis and Tissue Regeneration GRC**, Ventura, USA

9. **Denaxa, M.**, Liodis, P. and Pachnis, V. (2007) The role of Lhx6 in the migration of cortical interneurons.**Generating Neural Diversity in the brain , FEBS workshop**, Capri, Italy
10. **Denaxa, M.**, Neves, G. and Pachnis, V. (2009) The role of Lhx6 in the migration of cortical interneurons.**Cortical interneurons in health and disease, EMBO workshop**, Majorca, Spain
11. **Denaxa, M.** and Pachnis, V. (2011) An Lhx6-controlled gene cascade in cortical interneuron development. Cortical development Meeting, Chania, Greece
12. **Denaxa, M.**, Neves, G., Burrone, J. and Pachnis, V. (2017)Modulation of apoptosis controls inhibitory interneuron number in the cortex.**MRC Inaugural Symposium - The Developing Brain in Health and Disease**, London, UK

Oral Presentations / Invited Talks:

- 1) **Denaxa, M.**, Liodis, P., Grigorieva, E. and Pachnis, V. (2005)Developmental deficits of first branchial arch derivatives in mice deficient for the *Lhx6/7* LIM/homeobox genes.**Craniofacial development-making faces, Anatomical Society of Great Britain and Ireland**, Oxford, UK
- 2) **Denaxa, M.**, Liodis, P., Pachnis, V.(2007)The role of *Lhx6* in the specification of cortical interneurons.**19thHead Group Meeting**, ICH, London, UK.
- 3) **Denaxa, M.**,Pachnis, V. (2009) LIM/homeobox genes and the development of cortical interneurons.**Developmental Biology Seminars**,ICH, London, UK. Invited by Dr. Alan Burns.
- 4) **Denaxa, M.**, Pachnis V. (2011) Towards a transcriptional network for the development and function of cortical interneurons. **ISN**, Athens, Greece
- 5) **Denaxa, M.**, Pachnis V. (2011) Towards a transcriptional network for the development and function of cortical inteneurons. **HSFN**, Patra, Greece.
- 6) **Denaxa M.**, Kalaitzidou M., Garefalaki A., Achimastou A., Lasrado R., Maes T., Pachnis V.(2012)Maturation-promoting activity of SATB1 in MGE-derived cortical interneurons.**Cortical Interneurons in health and disease, EMBO workshop**, Majorca, Spain.
- 7) **Denaxa M.**, Kalaitzidou M., Garefalaki A., Achimastou A., Lasrado R., Maes T., Pachnis V.(2014)Molecular cascades controlling the development and function of inhibitory cortical networks. **IMBB**, Heraklion, Greece. Invited by Prof. DomnaKaragogeos.

9) **Denaxa M.**, Neves G., Kalaitzidou M., Burrone J., Pachnis V. (2015) Non cell-autonomous induction of interneuron survival in Lhx6 conditional mutant brains. **Cortical Interneurons in health and disease, EMBO workshop**, Majorca, Spain.

10) **Denaxa M.**, Pachnis V. (2015) Molecular cascades controlling the development and function of inhibitory cortical networks. **FFRM**, Thessaloniki, Greece.

11) **Denaxa M.**, Neves G., Liodis P., Burrone J., Pachnis V. (2016) Your death, my life: Homeostatic control of interneuron survival. Insitute du Fer à Moulin, Paris, France. Invited by Dr. Christine Metin.

12) **Denaxa M.**, Neves G., Burrone J., Pachnis V. (2017) Modulation of apoptosis controls inhibitory interneuron number in the cortex. **HSFN**, Athens, Greece

MEMBER OF SCIENTIFIC SOCIETIES

1. HSN (Hellenic Society for Neuroscience) since 1999.
2. FENS (Federation of European Neurosciences) since 1999.

PAST AND PRESENT COLLABORATIONS (in alphabetical order)

1. Burrone J, King's College, London, UK
2. Episkopou V, Imperial College, London, UK
3. Fishell G, NYU School of Medecine, NY, USA
4. Karagogeos D, IMBB-UOC, Heraklion, GR
5. Margrie TW, Sainsbury Wellcome Centre, UCL, London, UK
6. Roussos P, Icahn Scholl of Medicine at Mount Sinai, NY, USA
7. Sharpe P, King's College, London, UK
8. Sidiropoulou K, UOC, Heraklion, GR
9. Tekki-Kessarlis N, UCL, London, UK

LANGUAGES

English: Cambridge First Certificate

French: Supérieure II

Greek: Native