# **CURRICULUM VITAE**

# Eftihia K. Asprodini, Pharmacist, Ph.D.

## Associate Professor of Pharmacology, Medical School, Univ. of Thessaly

## Personal data

Birthdate Birthplace Marital status	April 24, 1961 Thessaloniki, Greece Married, one child
Work address	Laboratory of Pharmacology, School of Medicine, University of Thessaly, Biopolis, 41110 Larissa
Tel:	+30 2410 685530
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<b>Education</b>	
1980 - 1984	Department of Pharmacy, School of Health Sciences, University of Patras, Greece
1984 - 1985	Professional training as a Pharmacist (mandatory for eligibility to participating in national qualifying exams)
1985	Qualified Pharmacist, Central Health Council, Ministry of Health, (Licence Number 2182, Athens 20-8-1985/2768)
1986 - 1992	Ph.D. Candidate, Department of Pharmacology, University of Texas Medical Branch at Galveston (UTMB), TX, USA
<u>Languages</u>	Greek, English (and only some German and Italian)
<b>Degrees</b>	1984 B.S. Pharmacy
	1992 Ph.D., Pharmacology, UTMB, TX, USA
Acadomic Annointmonte	

### **Academic Appointments**

Sept 1986 - May 1992	Ph.D. Candidate, Department of Pharmacology, University of Texas
	Medical Branch at Galveston (UTMB), TX, USA
Nov 1992 - Feb 1994	Visiting Assistant Professor, Medical School, Univeristy of Crete
March 1994 - Oct 1994	Postdoctoral Fellow, Dept. of Physiology, Medical School, University
	of Wales, College of Cardiff (UWCC), UK
Nov 1994 – March 1995	Visiting Assistant Professor, Medical School, University of Thessaly
April 1995 – Jan 2003	Assistant Professor, Medical School, University of Thessaly
Feb 2003 - todate	Associate Professor, Medical School, University of Thessaly

### **Memberhip in Academic Societies**

European Neuroscience Association (FENS – Federation of European Neuroscience Societies) International Brain Research Organization (IBRO) Hellenic Society for Neurosciences (HSN) Hellenic Society of Pharmacology (HSP)

### **Research Interests**

#### Neuroscience

(intracellular in vitro electrophysiology, stereotaxy, histology, immunocytochemistry, image analysis)

- Investigation of the consequences of a single *in vivo* exposure of the opioid drug fentanyl on GABAergic inhibition in the CA1 area of the rat hippocampus.
- Differentiation of neuronal function between dorsal and ventral hippocampus: membrane properties, excitatory and inhibitory synaptic transmission, differential distribution of opioids, connexins.
- Study of the presumptive beneficial effects of intracranially-administered (CA1 area of the hippocampus) somatostatinergic analogs in rats exhibiting kainic acid-induced epileptic seizures.

#### Pharmacology

#### Pharmacokinetics-Drug Metabolism

(High Performance Liquid Chromatography)

Caffeine metabolic ratios are determined in spot urine samples in order to evaluate the *in vivo* activity of liver enzymes (CYP1A2, CYP2A6, NAT-2, XO) under different physiological or pathological conditions:

- age and gender-specific hormonal variability such as menopause or different phases of the menstrual cycle
- liver disease of varying severity ranging from viral hepatitis to liver chirrosis
- specific diet factors such as vegetables or natural food products (crocus sativus, masticha)

#### **Teaching**

- <u>Undergraduate School courses</u>
- 1992.1994 "Physiology I" and "Basic Neuroscience", School of Medicine, University of Crete.
- 1999-2000 "Agricultural Drug Safety & Toxicity", School of Agricultural Studies, University of Thessaly.
- 1999-2000 "Medical Pharmacology", Department of Biochemistry, University of Thessaly.
- 2000-2001 "Introduction to Neuroscience", Department of Biochemistry, University of Thessaly.
- 1994-todate "Pharmacology I", "Pharmacology II" and "Molecular Pharmacology" School of Medicine, University of Thessaly.
  - Graduate School courses

2004-2009 "Molecular Pharmacology", Medical School, University of Thessaly.

2004-2006 "Neuroscience", Medical School, University of Thessaly.

2007 "Selective Topics in Electrophysiology", Medical School, University of Crete.

#### <u>Honors</u>

- 1986 James E. Beall II Memorial Scholarship
- 1991 George I. Ellis Memorial Award
- 1991 The Rose and Harry Walk Research Award
- 1991 Who's Who Among Students in American Universities and Colleges
- 1992 The James Beall II Memorial Award

- 1992 The S. Silverthorne Memorial Award
- 2000 Hellenic Society for Neurosciences Award
- 2004 Hellenic Society for Pharmacology Award

#### **Research Support**

- 1996 "Ontogenetic development of electrophysiological and morphological membrane properties of lateral geniculate thalamic neurons", University of Thessaly Research Committee. PI: E. Asprodini.
- 1997 "Effects of somatostatin on rat and cat thalamic neurons", Greek Ministry of Health, Central Health Council (30-12-98/ A2α/6235). PI: E. Asprodini.
- 1999 "14<sup>th</sup> Meeting of the Hellenic Society for Neurosciences", Greek Ministry of Development, Hellenic Secretariat of Research and Technology, Department of Publications, Conferences and Exhibitions (GSRT, 6-4-1999/2220/222). PI: E. Asprodini.
- 2000 "Determination of caffeine metabolic ratios for the functional evaluation of CYP450 in patients with early or advanced hepatic disease", University of Thessaly Research Committee. PI: E. Asprodini.
- 2002 "Comparison of the excitability of morphologically-identified neurons between dorsal and ventral hippocampus", Greek Ministry of Education, Research fellowship "EPEAEK II, Heraklitos" (Programme Code 51711.05). PI: E. Asprodini.
- 2005 "Opioid-induced hyperalgesia: the role interneurons in the CA1 area of the hippocampus", Greek Ministry of Education, "EPEAEK II, Pythagoras II" (Programme Code 52211.09). PI: D. Michaloudis - E. Asprodini.
- 2009 "The effects of selective somatostatin analogs on synaptic transmission of the epileptic hippocampus", Greek Ministry of Health & Solidarism, Central Health Council, Biomedical Research Committee (Y2β/ 51657/14.4.2009). PI: E. Asprodini.

### Supervised Theses

• Ph.D. Theses

**Maria Bounitsi:** "Chemical analysis of natural products; effects of their constituents on the *in vivo* activity of the metabolic enzyme CYP1A2".

Vassiliki Tsiokou: "Menstrual cycle and in vivo activity of CYP1A2".

**Eleni Paschou:** "Study of the effects of *in vivo* fentanyl treatment on GABAergic neurons of the rat hippocampus".

Eleftheria Kokkinou: "Investigation of somatostatin analogs in kainic acid-induced epilepsy".

Christina Koutsona: "Effects of opioids on neurons of the rat hippocampus".

**Elias Begas:** "Evaluation of the *in vivo* activities of cytochromes CYP1A2, CYP2A6 and the enzymes NAT2 and xanthine oxidase by determining caffeine metabolites in urine samples of chronic liver disease patients using HPLC methods".

Irene Asouchidou: "Opioid-induced hyperalgesia in rats: the effect of ketamine".

**Evaggelos Kouvaras:** "Comparison of morphologically-identified neurons between the dorsal and ventral rat hippocampus".

Wozniak Greta: "Study of the antiepileptic effects of adenosine in an *in vitro* rat brain slice preparation".

• Master Theses

Vassiliki Tsiokou, M.D.: "The effect of menopause in the in vivo activity of CYP1A2".

**Niki Pippidou, M.D.:** "Anatomical and functional differentiation between dorsal and ventral hippocampus: the role of gap junctions".

• <u>Undergraduate theses</u>

#### Department of Medical Biochemistry, University of Thessaly

**Elias Begas:** "Determination of caffeine metabolic ratios for the functional evaluation of cytochrome P450 activity in patients with early or advanced liver disease".

George Vaios: "Analysis of neuronal action potential firing using advanced analysis methodology"

**Paraskevi Adamopoulou:** "Comparison of postsynaptic inhibition between dorsal and ventral hippocampus in an *in vitro* rat brain slice preparation".

**Vassilis Sinopoulos:** "Morphological analysis of hippocampal pyramidal neurons stained intracellularly in an *in vitro* rat brain slice preparation".

**Theodora Menounou:** "Development and optimization of histological methods for the morphological study of neurons of the rat hippocampus".

Leandros Maglaras: "Phenotypic evaluation of N-acetyltransferase activity using caffeine as a metabolic probe".

#### Department of Biochemistry and Biotechnology, University of Thessaly

**Stavroula Zacharia:** "Determination of the effect of fentanyl on rat hippocampal slices following *in vivo* drug treatment".

#### **Publications**

#### Papers

- 1. D.G. Rainnie, **E.K. Asprodini**, and P. Shinnick-Gallagher: Excitatory trnasmission in the basolateral amygdala. J. Neurophysiol., 66, 986-998, 1991.
- 2. D.G. Rainnie, **E.K. Asprodini**, and P. Shinnick-Gallagher: Inhibitory trnasmission in the basolateral amygdala. J. Neurophysiol., 66, 999-1009, 1991.
- 3. D.G. Rainnie, **E.K. Asprodini**, and P. Shinnick-Gallagher: Kindling-induced long-lasting changes in synaptic transmission in the basolateral amygdala. J. Neurophysiol., 67, 443-454, 1992.
- 4. **E.K. Asprodini**, D.G. Rainnie, and P. Shinnick Gallagher: In vivo kindling does not alter afterhyperpolarizations (AHPs) following action potential firing in vitro in basolateral amygdala neurons. Brain Res., 558, 329-334, 1992.
- E.K. Asprodini, D.G. Rainnie, and P. Shinnick Gallagher: Epileptogenesis reduces the sensitivity of presynaptic GABA<sub>B</sub> receptors on glutamatergic afferents in the amygdala. J. Pharmacol. Exp. Therap., 262, 1011-1021, 1992.
- 6. M.C. Schiess, **E.K. Asprodini**, D.G. Rainnie, and P. Shinnick Gallagher: The central nucleus of the rat amygdala: in vitro intracellular recordings. Brain Res.,604, 283-297, 1993.
- D.G. Rainnie, E.K. Asprodini, and P. Shinnick-Gallagher: Intracellular recordings from morphologically identified neurons of the basolateral nucleus of the amygdala (BLA). J. Neurophysiol., 69, 1350-1362, 1993.
- 8. M. Pirchio, J.P. Turner, **E.K. Asprodini**, and V.Crunelli: Postnatal development of membrane properties and  $\delta$  oscillations in thalamocortical neurons of the cat dorsal lateral geniculate nucleus. J. Neurosci., 17, 5428-5444, 1997.
- 9. N. Leresche, R. Parri, G.Erdemli, A. Guyon, J.P.Turner, S.R. Williams, **E.K. Asprodini**, J. Turner, M. Pirchio, and V. Crunelli: On the action of the anti-absence drug ethosuximide in the rat and cat thalamus. J. Neurosci., 18, 4842-4853,1998.
- 10. E.K. Asprodini, E. Zifa, I. Papageorgiou, and A. Benakis. Determination of N-acetylation phenotyping in a Greek population using caffeine as a metabolic probe. Eur. J. Drug Metab. Pharmacokin., 23, 501-506, 1998.
- 11. Ch. Nepka, **E.K Asprodini** and D. Kouretas. Tannins, Xenobiotic metabolism and cancer chemoprevention in experimental animals (review). Eur. J. Drug. Metab. Pharmacokin., 24, 183-189, 1999.
- 12. N. Leresche, **E.K. Asprodini**, Zs. Emri, D.W. Cope and V. Crunelli: Somatostatin inhibits GABAergic transimission in the sensory thalamus via presynaptic receptors. Neuroscience, 98, 513-522, 2000.

- A. Domali, E.K. Asprodini, P.A. Molyvdas and I. Messinis: In vitro effects of Endothelin-1 on the contractility of myometrium obtained from pre-and postmenopausal women. J. Endocrinol., 168, 153-162, 2001.
- 14. I.E. Messinis, I. Papageorgiou, S. Milingos, **E. Asprodini**, G. Kolios and K. Seferiadis: Oestradiol and progesterone treatment on serum leptin concentrations in normal women. Human Reproduction, 16, 1827-1832, 2001.
- 15. C. Papatheodoropoulos, **E.K. Asprodini**, I. Nikita, C. Koutsona, and G. Kostopoulos. Weaker synaptic inhibition in CA1 region of ventral compared to dorsal rat hippocampal slices. Brain Research 948(1-2):117-21, 2002.
- 16. Pandis C, Sotiriou E, Kouvaras E, **Asprodini E**, Papatheodoropoulos C, Angelatou F.Differential expression of NMDA and AMPA receptor subunits in rat dorsal and ventral hippocampus. Neuroscience 140(1): 163-75, 2006.
- E. Begas, E. Kouvaras, A. Tsakalof, S. Papakosta, and E.K. Asprodini. *In vivo* evaluation of CYP1A2, CYP2A6, NAT2 and xanthine oxidase activities in a Greek population sample by the RP-HPLC monitoring of caffeine metabolic ratios. Biomedical Chromatography, 21: 190-200, 2007.
- Kouvaras E, Asprodini EK, Asouchidou I, Vasilaki A, Kilindris T, Michaloudis D, Koukoutianou I, Papatheodoropoulos C, Kostopoulos G. Fentanyl treatment reduces GABAergic inhibition in the CA1 area of the hippocampus 24 h after acute exposure to the drug. Neuropharmacology. 2008, 55(7): 1172-82
- 19. K. Tepetes, **E. Asprodini**, G. Christodoulidis, M. Spyridakis, E. Kouvaras, K. Hatzitheophilou. Prevention of postoperative adhesion formation by individual and combined administration of 4 per cent icodextrin and dimetindene maleate. Br J Surg. 2009 Dec;96(12):1476-83.

#### Abstracts

- 1. K.A. Cunningham, **E.K. Asprodini**, N.A. Bernau, C.A. Richard, and J.M. Lakoski: Enhanced inhibitory responses of serotonin neurons in the dorsal raphe nucleus (DRN) after repeated cocaine exposure. Soc. Neurosci. Abstrs. p. 1651, 1987.
- 2. M.C. Schiess, **E.K. Asprodini**, and P. Shinnick Gallagher: The effects of dopamine on central amygdala neurons, in vitro intracellular recording. Soc. Neurosci. Abstrs. p. 932, 1988.
- 3. A.C. Anderson, **E.K. Asprodini**, and P. Shinnick Gallagher: Excitatory amino acid (eaa) antagonists block kindling-induced synaptic excitability in the basolateral amygdala (bla). Soc. Neurosci. Abstrs. p. 529, 1989.
- 4. D.G. Rainnie, **E.K. Asprodini**, and P. Shinnick-Gallagher: Kindling increases the APV and CNQX sensitive components of synaptic responses in basolateral amygdala (BLA). Soc. Neurosci. Abstrs. p. 219, 1990.
- 5. **E.K. Asprodini**, D.G. Rainnie, and P. Shinnick-Gallagher: Kindling reduces the sensitivity of pre- but not postsynaptic GABA<sub>B</sub> receptors in the basolateral amygdala (BLA). Soc. Neurosci. Abstrs. p. 1492, 1991.
- E.K. Asprodini, D.G. Rainnie, and P. Shinnick-Gallagher: Kindling reduces presynaptic GABA<sub>B</sub> receptor inhibition at glutamatergic synapses in the basolateral amygdala (BLA). Abstrs. of the Third IBRO World Congress of Neuroscience, Montreal, Canada, p. 219, 1991.
- E.K. Asprodini, D.G. Rainnie, and P. Shinnick-Gallagher: Epileptogenesis reduces the sensitivity of presynaptic GABA<sub>B</sub> receptors in the basolateral amygdala. IBRO Workshop on "Mechanisms of Neuronal Plasticity", Pío, Πάτρα, 1992.
- 8. Z. Emri, J.P. Turner, G. Juhasz, **E. Asprodini**, and V. Crunelli: Presynaptic GABA<sub>B</sub> receptors regulate rat and cat retino-geniculate transmission in vivo and in vitro. Soc. Neurosci. Abstrs. p. 1233, 1994.
- V. Crunelli, E. Asprodini, A. Guyon, J.P. Turner, M. Vergnes, S.R. Williams, and N. Leresche: On the action of ethosuximide in the rat and the cat thalamus. Soc. Neurosci. Abstrs., p. 1255, 1995.

- E. Asprodini, Z. Emri, J.P. Turner, και V. Crunelli: GABA<sub>B</sub> presynaptic control of retinal synaptic transmission to lateral geniculate nucleus. Proceedings of 11<sup>th</sup> HSN Meeting, Metsovo, Greece, p. 11, 1995.
- 11. **E. Asprodini**, Zs. Emri, and V. Crunelli: Somatostatin decreases inhibitory postsynaptic potentials in kitten dorsal lateral geniculate nucleus in vitro. Soc. Neurosci. Abstrs., p. 1607, 1996.
- 12. **E. Asprodini**, Zs. Emri, and V. Crunelli: Somatostatin decreases inhibitory postsynaptic potentials in the kitten thalamus. Abstracts of the 12<sup>th</sup> Annual Meeting of the Hellenic Society for Neuroscience, Anogia, Crete, p. 21, 1996.
- E.K. Asprodini, E. Zifa, and A.G. Benakis: Caffeine acetylation phenotyping for rational TB treatment: the potential role of gender on the metabolic pathway of caffeine. Abstracts of the 27<sup>th</sup> Annual Gordon Research Conference on Drug Metabolism, Plymouth, New Hampshire, p. B14, 1997.
- E.K. Asprodini, E. Zifa, and A.G. Benakis: Phenotyping for acetylation using caffeine in a Greek population. Abstracts of the 3<sup>rd</sup> Xenobiotic Metabolism and Toxicity Workshop of Balkan Countries, Varna, Bulgaria, p. 4, 1997.
- 15. **E. Asprodini:** The perspectives of Pharmacology in the Medical School of the University of Thessaly. Proceedings of the 1<sup>st</sup> Pharmacy Meeting of Central Greece and Islands of the Aegean, Larissa, 1997.
- 16. G. Georgiou, K. Starantzis, E. Asprodini, E. Ziffa, και A. Benakis: Phenotype determination of N-acetylation using caffeine as a metabolic probe. Proceedings of the 4<sup>th</sup> Scientific Meeting of Medical Students of Greece, Ioannina, p. 126, 1998.
- 17. **E.K. Asprodini**, I Papageorgiou, E. Zifa and A. Benakis: Determination of N-acetylation phenotyping in a Greek using caffeine as a metabolic probe. Epitheorese Klinikes Farmakologias kai Farmakinetikes, International Edition 13: 126, 1999.
- 18. A. Domali, P.A. Molyvdas, **E.K. Asprodini**, and I.E. Messinis. Endothelin-1 (ET1) modifies the in vitro contractile response of human uterine myometrium to KCl. ESHRE 1999.
- I. Papageorgiou, S. Milingos, E. Asprodini, G. Kolios, K. Seferiadis and I.E. Messinis: Effect of treatment with oestrogen and progesterone on serum leptin concentrations in normal women.16<sup>th</sup> Annual Meeting of the European Society of Human Reproduction and Embryology, Bologna, 25-28 June, 2000.
- 20. A. Benakis, and **E.K. Asprodini**. Pharmacogenetics: A new approach to the study of the PD/PK relation and the side effects of drugs. 4<sup>th</sup> Xenobiotic Metabolism and Toxicity Workshop of Balkan Countries, Antalya, Turkey, 12-16 April, 2000.
- G. Wozniak, V. Crunelli, and E. Asprodini: Intracellular recordings from morphologically indetified neurons of the cat and the rat nucleus reticularis thalaimi (NRT). Abstracts of the 15<sup>th</sup> Annual Meeting of the Hellenic Society for Neuroscience, Rio, Patra, p. 91, 2000.
- 22. C. Papatheodoropoulos, C. Koutsona, and **E. Asprodini**: Comparison of neuronal excitability and synaptic inhibition between dorsal and ventral rat hippocampus: an in vitro intracellular study. Abstracts of the 15<sup>th</sup> Annual Meeting of the Hellenic Society for Neuroscience, Rio, Patra, p. 92, 2000.
- A.G. Benakis, and E.K. Asprodini. Evaluation of Enzymatic Induction of Gliclazide a hypoglycemia drug – in the rat. Abstracts of the 31<sup>st</sup> Gordon Research Conference on Drug Metabolism, Plymouth, New Hampshire, July 8-13, 2001.
- 24. S. Maniati, N. Panagopoulos, V. Tondikidou, N. Matsokis, M. Margarity, **E. Asprodini**, and F. Angelatou. Changes in dopamine/adenosine interactions at multiple levels in the striatum of the 'weaver' mutant mice. Soc. Neurosci. Abstrs., 2001.
- 25. Wozniak G., **Asprodini E.**, Kouvaras E., Papatheodoropoulos C., and Kostopoulos G.K. Resting and active membrane properties of morphologically identified pyramidal neurons: in vitro intracellular recordings from ventral and dorsal rat hippocampus. 17<sup>th</sup> Meeting Hellenic Society for Neuroscience Abtrsts. Rethymno, Crete, p. 37, 2002.

- 26. Evaluation of CYP1A2 *in vivo* activity using caffeine: determination of the metabolick probe (AFMU+1U+1X)/17U in urine samples using HPLC. Proceedings of 4<sup>th</sup> Panhellenic Meeting of Clinical Chemistry, Athens, p. 57, 2002.
- 27. E. Begas, A. Tsakalof, A. Benakis, **E. Asprodini.** Analysis of caffeine metabolites in urine samples for the determination of CYP1A2 *in vivo* activity using HPLC analytical methods. Epitheorisi Klinikis Pharmakologias kai Pharmacokinitikis Vol 21(1), 30, 2003.
- E. D. Kouvaras, E. K. Asprodini, C. Koutsona, G. Wozniak, C. Papatheodoropoulos, and G. Kostopoulos. Differentiation of intrinsic membrane properties between dorsal and ventral CA1 hippocampal neurons. Sixth IBRO World Congress of Neuroscience, July 10-15, Prague, Czech Republic, 2003.
- 29. E. Kouvaras, E Asouchidou, D Michalouis, N Sakellaridis and **E Asprodini.** Ketamine reverses the fentanyl induced increase in NMDA-mediated synaptic transmission in CA1 area of the rat hippocampus. Epitheorisi Klinikis Pharmakologias kai Pharmacokinitikis Vol 18(1), 133-134, 2004.
- I. Koukoutianou, E. Kouvaras, V. Tsinogos, E. Asprodini, A. Vasilaki. Fentanyl induces long-lasting alterations in GABAergic immunoreactivity in the rat hippocampus. 20<sup>th</sup> Meeting Hellenic Society for Neurosciences, Heraklion, Crete, Greece, 2006.
- 31. I. Koukoutianou, V. Tsinogos, E. Kouvaras, **E. Asprodini**, A. Vasilaki. Fentanyl treatment alters NADPH-diaphorase activity in the rat hippocampus 24h after exposure to the drug. 20<sup>th</sup> Meeting Hellenic Society for Neurosciences, Heraklion, Crete, Greece, 2006.
- 32. Kouvaras E., **Asprodini E.K**, Asouchidou E, Vasilaki A, Michaloudis D, Papatheodoropoulos C, and. G Kostopoulos. Effect of in vivo fentanyl treatment on excitatory and inhibitory synaptic transmission within the CA1 area of the rat hippocampus. 21<sup>th</sup> Meeting Hellenic Society for Neurosciences, Thessaloniki, Greece, 2007.
- 33. Kouvaras E., Kilindris T., Vasilaki A., Asprodini E.K. In vivo fentanyl treatment reduces GABA immunoreactivity in the CA1 area of the rat hippocampus. 21<sup>th</sup> Meeting Hellenic Society for Neurosciences, Thessaloniki, Greece, 2007.
- 34. Kokkinou E, Vasilaki A, Kouvaras E, **Asprodini EK.** Protective effect of somatostatin against kainic acid-induced seizures in the rat hippocampus; possible involvement of nitric oxide. 22th Meeting Hellenic Society for Neurosciences, Athens, Greece, 2008.
- 35. Begas, E., Kouvaras, E., Tsiokou, V., Asprodini, E.K. In vivo evaluation of CUP1A2 and CYP2A6 activities in a Greek population during menopause. 5<sup>th</sup> Panhellenic Meeting of the Greec Society of Pharmacology, Athens, 2008.

#### **Textbooks & Lecture Notes – Invited articles**

E.K. Asprodini. "Lecture Notes on Pharmacology Practicals", Larissa, 1999.

E.K. Asprodini. "Pharmacological actions of drugs of abuse", Larissa, 1997.

**E. Asprodini.** "Idiosyncrasy: Are we all equal towards drugs?" Pharmaceutical World Journal, 50, 76-79, 1998.

E. Kouvaras and **E. Asprodini**. Opioid-induced hyperalgesia: the role of NMDA receptors. Hellenic Medical and Pharmaceutical Review, 1(3): 34-45, 2004.