

Michael N. Alexis

PhD/Researcher Emeritus

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Curriculum Vitae

Education

1974-1978: PhD Biochemistry, King's College, University of London, London UK - Supervisor: Dr
Walter B. Gratzer

1973-1974: Postgraduate training, Department of Biology, NCSR 'Demokritos', Greece –
Supervisor: Dr Christine Zioudrou

1973: Diploma in Chemistry, School of Natural Sciences, University of Athens, Greece

Appointments

2019-present: Researcher Emeritus, Institute of Chemical Biology (ICB), NHRF

1996-2018: Research Director, Molecular Endocrinology Lab, IBRB / IBMCB / ICB, NHRF

1992-1996: Senior Researcher, Molecular Endocrinology Lab, IBRB, NHRF & Adjunct Professor of
Biochemistry, Technological Educational Institute, Athens

1983-1992: Associate Researcher, Molecular Endocrinology Lab, IBRB, NHRF

1980-1983: Research Fellow, Inst Biological Research & Biotechnology (IBRB), NHRF

Professional activities

Author of 71 original full text articles in international referred scientific journals (all listed below).

His publications attracted >2500 citations by March 2021 (Google Scholar:
<https://scholar.google.com/citations?user=t7LG-ucAAAAJ&hl=en>)

Inventor of the patent "Neurosteroid Compounds" (EP2158209B1 and US9777037B2)

Coordinator or collaborator in 18 National and 6 EU competitively funded projects of a total
NHRF budget of approx. 18M € (listed below)

Author of more than 90 peer-reviewed abstracts in National and International Conferences
(listed below are selected recent poster presentations)

Editor of NATO ASI Vol. C295, "Activation of hormone and growth factor receptors: Molecular
mechanisms and consequences" (Springer, Dordrecht, 1990)

Partial or full supervisor of 20 PhD Thesis, 5 MSc Thesis and >40 BSc Thesis:

Fully supervised PhD Thesis: Irene Mavridou (1992), Dimitra J Mitsiou (1996), Lia Baki (1997),
Despina Syriani (2003), Efrosini S Katsanou (2006), Eugen Dhimolea (2006), Niki Chantzi
(2011), Aggeliki K Meligova (2011), Dimitra Siakouli (ongoing)

Partially supervised PhD Thesis: Efthymia Kitraki (1985), Anastasios Georgakopoulos (1996), Nikolas Fokialakis (2004), Maria Halabalaki (2005), George Lambrinidis (2005), Konstantinos M Kasiotis (2005), Johanne Polasek (2005), Job Tchoumtchoua (2015), Maria Makropoulou (2016), Argyro Vontzalidou (2018).

Fully supervised MSc Thesis: Dimitra Siakouli (2013), Vassiliki Kyriakou (2013), Maria Glava (2015), Georgia Mitropoulou (2015), Georgia Charatza (2016).

Selected BSc Thesis: Irene Roussou (1984), Lia Baki (1986), Maria Grigoriou (1986), Chrissa Kioussi (1987), Anastasios Georgakopoulos (1989), Dimitra J Mitsiou (1989), Maria D Lalioti (1992), Symeon Siniossoglou (1993), Georgia Karadima (1993), Christodoulos Xinaris (2001), Xanthippi Alexi (2001), Aggeliki K. Meligova (2005), Christina Mendorou (2005), Emmanouil Katrantzis (2009), Angeliki Angelopoulou (2013), Chrysoula Tsirigoti (2015).

Expert Evaluator for EU and National Research-Funding Agencies

Reviewer in several international scientific journals (23 invitations to review during 2021): British Journal of Cancer, PLoS One, Endocrine-Related Cancer, Molecular and Cellular Endocrinology, Planta Medica, Journal of Agricultural & Food Chemistry, Bioorganic and Medicinal Chemistry, Toxicology Letters, Breast Cancer Research & Treatment, Communications Biology, Theranostics, Breast Cancer Research, Pathology – Research and Practice, Phytotherapy Research, Biomolecules, Journal of Breast Cancer...

Member of the Hellenic Society of Biochemistry and Molecular Biology, the Hellenic Endocrine Society, the Association of Greek Researchers and the Association of Greek Chemists

Lecturer in MSc courses: "Oncology: from oncogenesis to therapy" (jointly organized by ICB-NHRF and the Medical School of the University of Crete) and "Molecular & Applied physiology" (till 2018 - organized by the Medical School of the University of Athens).

Honours, awards, distinctions

Member of the Advisory Working Group of the General Secretariat for Research & Innovation of Greece for Smart Specialization in the "Health & Drug" sector of NSRF2021-2027 (2021-present)

Elected member of the committee that evaluated candidates for the position of NHRF CEO (2018)

Elected President of the Scientific Council of the Institute of Chemical Biology (2016-2018)

Member of the Advisory Working Group of the General Secretariat for Research & Technology of Greece for Smart Specialization in the "Health & Drug" sector of NSRF2014-2020 (2016-2018)

Member of the Hellenic National Council for Research and Technology (1999-2001)

President of the 48th Conference of the Hellenic Society of Biochemistry & Molecular Biology (1997)

Organizer, NATO Advanced Research Workshop on "Molecular mechanisms and consequences of activation of hormone and growth factor receptors", Nafplion, Greece (September 1988)

Awardee of the 1st prize of the pan-Hellenic contest in chemistry of the National Scholarship Foundation for doctoral studies abroad (1974)

Recent Research Activities (2013-2021)

Dr Alexis' research interests aimed at, **A**) developing prognostic and therapeutic approaches to overcome Breast Cancer resistance to adjuvant endocrine therapy (supported by grants TNBC, POM & EΔBM-103), **B**) developing ER modulators for Prevention and/or Treatment of Menopausal Disorders (supported by grants OSTEOPRO, SERMENCO & EATRIS-GR) and, **C**) developing Selective Glucocorticoid Receptor Agonists for the Treatment of Inflammatory Disorders (supported by grants STHENOS & STHENOS-β). More on specific aims & research achievements

in:

http://www.eie.gr/nhrf/institutes/icb/research_groups/MitsiouDimitra_group_en.html

Publications in international referred journals

1. Bereketoglu C, Modig C, Pradhan A, Andersson PL, Stasinopoulou S, Mitsiou DJ, Alexis MN, Olsson PE. The brominated flame retardants TBEC and DPTE alter prostate growth, histology and gene expression patterns in the mouse. **Reprod Toxicol**. 2021 Jun;102:43-55. doi: 10.1016/j.reprotox.2021.04.002.
2. Vougiotiannopoulou K, Corona A, Tramontano E, Alexis MN, Skaltsounis AL. Natural and Nature-Derived Products Targeting Human Coronaviruses. **Molecules**. 2021 Jan 16;26(2):448. doi: 10.3390/molecules26020448.
3. Lambrinidis G, Gouedard C, Stasinopoulou S, Angelopoulou A, Ganou V, Meligova AK, Mitsiou DJ, Marakos P, Pouli N, Mikros E, Alexis MN. Design, synthesis, and biological evaluation of new raloxifene analogues of improved antagonist activity and endometrial safety. **Bioorg Chem**. 2021 Jan;106:104482. doi: 10.1016/j.bioorg.2020.104482.
4. Cheilari A, Vontzalidou A, Makropoulou M, Meligova AK, Fokialakis N, Mitakou S, Alexis MN, Aligiannis N. Isoflavonoid Profiling and Estrogen-Like Activity of Four *Genista* Species from the Greek Flora. **Molecules**. 2020 Nov 24;25(23):5507. doi: 10.3390/molecules25235507.
5. Fokialakis N, Alexi X, Aligiannis N, Boulaka A, Meligova AK, Kalpoutzakis E, Pratsinis H, Cheilari A, Mitsiou DJ, Mitakou S, Alexis MN. Biological evaluation of isoflavonoids from *Genista halacsyi* using estrogen-target cells: Activities of glucosides compared to aglycones. **PLoS One**. 2019 Jan 8;14(1):e0210247. doi: 10.1371/journal.pone.0210247.
6. Potamitis C, Siakouli D, Papavasileiou KD, Boulaka A, Ganou V, Roussaki M, Calogeropoulou T, Zoumpoulakis P, Alexis MN, Zervou M, Mitsiou DJ. Discovery of New non-steroidal selective glucocorticoid receptor agonists. **J Steroid Biochem Mol Biol**. 2018 Oct 12. pii: S0960-0760(18)30097-9. doi: 10.1016/j.jsbmb.2018.10.007.
7. Koukoulitsa C, Villalonga-Barber C, Csonka R, Alexi X, Leonis G, Dellis D, Hamelink E, Belda O, Steele BR, Micha-Screttas M, Alexis MN, Papadopoulos MG, Mavromoustakos T. Biological and computational evaluation of resveratrol inhibitors against Alzheimer's disease. **J Enzyme Inhib Med Chem**. 2016;31(1):67-77. doi: 10.3109/14756366.2014.1003928
8. Thai QD, Tchoumtchoua J, Makropoulou M, Boulaka A, Meligova AK, Mitsiou DJ, Mitakou S, Michel S, Halabalaki M, Alexis MN, Skaltsounis LA. Phytochemical study and biological evaluation of chemical constituents of *Platanus orientalis* and *Platanus × acerifolia* buds. **Phytochemistry**. 2016 Oct;130:170-81. doi: 10.1016/j.phytochem.2016.04.006.

9. Tchoumtchoua J, Makropoulou M, Ateba SB, Boulaka A, Halabalaki M, Lambrinidis G, Meligova AK, Mbanya JC, Mikros E, Skaltsounis AL, Mitsiou DJ, Njamen D, Alexis MN. Estrogenic activity of isoflavonoids from the stem bark of the tropical tree *Amphimas pterocarpoides*, a source of traditional medicines. **J Steroid Biochem Mol Biol**. 2016 Apr;158:138-148. doi: 10.1016/j.jsbmb.2015.12.015.
10. Tzoupis H, Leonis G, Avramopoulos A, Reis H, Czyżnikowska Ż, Zerva S, Vergadou N, Peristeras LD, Papavasileiou KD, Alexis MN, Mavromoustakos T, Papadopoulos MG. Elucidation of the binding mechanism of renin using a wide array of computational techniques and biological assays. **J Mol Graph Model**. 2015 Nov;62:138-149. doi: 10.1016/j.jmgm.2015.09.015.
11. Dhimolea E, Tiniakos DG, Chantzi NI, Goutas N, Vassilaros SD, Mitsiou DJ, Alexis MN. Estrogen receptors β 1 and β 2 are associated with distinct responses of estrogen receptor α -positive breast carcinoma to adjuvant endocrine therapy. **Cancer Lett**. 2015 Mar 1;358(1):37-42. doi: 10.1016/j.canlet.2014.12.022
12. Chantzi NI, Palaiologou M, Stylianidou A, Goutas N, Vassilaros S, Kourea HP, Dhimolea E, Mitsiou DJ, Tiniakos DG, Alexis MN. Estrogen receptor β 2 is inversely correlated with Ki-67 in hyperplastic and noninvasive neoplastic breast lesions. **J Cancer Res Clin Oncol**. 2014 Jun;140(6):1057-66. doi: 10.1007/s00432-014-1652-0.
13. Panagiotidou E, Zerva S, Mitsiou DJ, Alexis MN, Kitraki E. Perinatal exposure to low dose bisphenol A affects the neuroendocrine stress response in rats. **J Endocrinol**. 2014 Jan 27;220(3):207-18. doi: 10.1530/JOE-13-0416.
14. Chantzi NI, Tiniakos DG, Palaiologou M, Goutas N, Filippidis T, Vassilaros SD, Dhimolea E, Mitsiou DJ, Alexis MN. Estrogen receptor beta 2 is associated with poor prognosis in estrogen receptor alpha-negative breast carcinoma. **J Cancer Res Clin Oncol**. 2013 Sep;139(9):1489-98. doi: 10.1007/s00432-013-1467-4.
15. Roumeliotis TI, Halabalaki M, Alexi X, Ankrett D, Giannopoulou EG, Skaltsounis AL, Sayan BS, Alexis MN, Townsend PA, Garbis SD. Pharmacoproteomic Study of the Natural Product Ebenfuran III in DU-145 Prostate Cancer Cells: The Quantitative and Temporal Interrogation of Chemically Induced Cell Death at the Protein Level. **J Proteome Res**. 2013 Apr 5;12(4):1591-603. doi: 10.1021/pr300968q.
16. Polasek J, Queiroz EF, Marcourt L, Meligova AK, Halabalaki M, Skaltsounis AL, Alexis MN, Prajogo B, Wolfender JL, Hostettmann K. Peltogynoids and 2-Phenoxychromones from *Peltophorum pterocarpum* and Evaluation of Their Estrogenic Activity. **Planta Med**. 2013 Apr;79(6):480-6. doi: 10.1055/s-0032-1328299.
17. Fokialakis N, Alexi X, Aligiannis N, Siriani D, Meligova AK, Pratsinis H, Mitakou S, Alexis MN. Ester and carbamate ester derivatives of Biochanin A: synthesis and in vitro evaluation of estrogenic and antiproliferative activities. **Bioorg Med Chem**. 2012 May 1;20(9):2962-70. doi: 10.1016/j.bmc.2012.03.012.
18. Alexis MN, Sekeris CE, editors. Activation of Hormone and Growth Factor Receptors: Molecular Mechanisms and Consequences. **Springer Science & Business Media** 2012;295:1-8. doi: 10.1007/978-94-009-1936-5
19. Rao NRA, McCalman MT, Moulos P, Francoijs KJ, Chatziioannou A, Kolisis FN, Alexis MN, Mitsiou DJ, Stunnenberg HG. Co-activation of GR and NF κ B alters the repertoire of their

- binding sites and target genes. **Genome Research** 2011 Sep;21(9):1404-16. doi: 10.1101/gr.118042.110.
20. Koufaki M, Tsatsaroni A, Alexi X, Guerrand H, Zerva S, Alexis MN. Isoxazole substituted chromans against oxidative stress-induced neuronal damage. **Bioorg Med Chem**. 2011 Aug 15;19(16):4841-50. doi: 10.1016/j.bmc.2011.06.074.
21. Chantzi NI, Meligova AK, Dhimolea E, Petrou CC, Mitsiou DJ, Pechtelidou A, Florentin I, Kitraki E, Cordopatis P, Tiniakos DG, Alexis MN. Insights into ectopic estrogen receptor expression, nucleocytoplasmic distribution and interaction with chromatin obtained with new antibodies to estrogen receptor α and β . **Steroids** 2011 Sep-Oct;76(10-11):974-85. doi: 10.1016/j.steroids.2011.05.010.
22. Koukoulitsa C, Durdagi S, Siapi E, Villalonga-Barber C, Alexi X, Steele BR, Micha-Screttas M, Alexis MN, Tsantili-Kakoulidou A, Mavromoustakos T. Comparison of thermal effects of stilbenoid analogs in lipid bilayers using differential scanning calorimetry and molecular dynamics: correlation of thermal effects and topographical position with antioxidant activity. **Eur Biophys J**. 2011 Jul;40(7):865-75. doi: 10.1007/s00249-011-0705-4.
23. Villalonga-Barber C, Meligova AK, Alexi X, Steele BR, Kouzinos CE, Screttas CG, Katsanou ES, Micha-Screttas M, Alexis MN. New hydroxystilbenoid derivatives endowed with neuroprotective activity and devoid of interference with estrogen and aryl hydrocarbon receptor-mediated transcription. **Bioorg Med Chem**. 2011 Jan 1;19(1):339-51. doi: 10.1016/j.bmc.2010.11.018.
24. Koufaki M, Theodorou E, Alexi X, Alexis MN. Synthesis of a second generation chroman/catechol hybrids and evaluation of their activity in protecting neuronal cells from oxidative stress-induced cell death. **Bioorg Med Chem**. 2010 Jun 1;18(11):3898-909. doi: 10.1016/j.bmc.2010.04.042.
25. Koufaki M, Theodorou E, Alexi X, Nikoloudaki F, Alexis MN. Synthesis of tropolone derivatives and evaluation of their in vitro neuroprotective activity. **Eur J Med Chem**. 2010 Mar;45(3):1107-12. doi: 10.1016/j.ejmech.2009.12.006.
26. Tchokouaha RF, Alexi X, Chosson E, Besson T, Skaltsounis AL, Seguin E, Alexis MN, Wandji J. Erymildbraedin A and B, two novel cytotoxic dimethylpyrano-isoflavones from the stem bark of *Erythrina mildbraedii*: evaluation of their activity toward endocrine cancer cells. **J Enzyme Inhib Med Chem**. 2010 Apr;25(2):228-33. doi: 10.3109/14756360903169972.
27. Calogeropoulou T, Avlonitis N, Minas V, Alexi X, Pantzou A, Charalampopoulos I, Zervou M, Vergou V, Katsanou ES, Lazaridis I, Alexis MN, Gravanis A. Novel dehydroepiandrosterone derivatives with antiapoptotic, neuroprotective activity. **J Med Chem**. 2009 Nov 12;52(21):6569-87. doi: 10.1021/jm900468p.
28. Alexi X, Kasiotis KM, Fokialakis N, Lambrinidis G, Meligova AK, Mikros E, Haroutounian SA, Alexis MN. Differential estrogen receptor subtype modulators: assessment of estrogen receptor subtype-binding selectivity and transcription-regulating properties of new cycloalkyl pyrazoles. **J Steroid Biochem Mol Biol**. 2009 Nov;117(4-5):159-67. doi: 10.1016/j.jsbmb.2009.09.006.

29. Djiogue S, Halabalaki M, Alexi X, Njamen D, Fomum ZT, Alexis MN, Skaltsounis AL. Isoflavonoids from *Erythrina poeppigiana*: evaluation of their binding affinity for the estrogen receptor. **J Nat Prod**. 2009 Sep;72(9):1603-7. doi: 10.1021/np900271m.
30. Koufaki M, Kiziridi C, Alexi X, Alexis MN. Design and synthesis of novel neuroprotective 1,2-dithiolane/chroman hybrids. **Bioorg Med Chem**. 2009 Sep 1;17(17):6432-41. doi: 10.1016/j.bmc.2009.07.010.
31. Ioannou E, Abdel-Razik AF, Alexi X, Vagias C, Alexis MN, Roussis V. 9,11-Secosterols with antiproliferative activity from the gorgonian *Eunicella cavolini*. **Bioorg Med Chem**. 2009 Jul 1;17(13):4537-41. doi: 10.1016/j.bmc.2009.05.004.
32. Ioannou E, Abdel-Razik AF, Zervou M, Christofidis D, Alexi X, Vagias C, Alexis MN, Roussis V. 5alpha,8alpha-Epidioxysterols from the gorgonian *Eunicella cavolini* and the ascidian *Trididemnum inarmatum*: isolation and evaluation of their antiproliferative activity. **Steroids**. 2009 Jan;74(1):73-80. doi: 10.1016/j.steroids.2008.09.007.
33. Halabalaki M, Alexi X, Aligiannis N, Alexis MN, Skaltsounis AL. Ebenfurans IV-VIII from *Onobrychis ebenoides*: Evidence that C-Prenylation is the Key Determinant of the Cytotoxicity of 3-Formyl-2-arylbenzofurans. **J Nat Prod**. 2008 Nov;71(11):1934-7. doi: 10.1021/np800134h.
34. Ioannou E, Abdel-Razik AF, Alexi X, Vagias C, Alexis MN, Roussis V. Pregnanes with antiproliferative activity from the gorgonian *Eunicella cavolini*. **Tetrahedron** 2008; 64:11797-11801. Doi: 10.1016/j.tet.2008.09.078
35. Tenta R, Pitulis N, Tiblalex D, Consoulas C, Katopodis H, Konstantinidou E, Manoussakis M, Kletsas D, Alexis MN, Poyatzi A, Koutsilieris M. Mechanisms of the action of zoledronic acid on human MG-63 osteosarcoma cells. **Horm Metab Res**. 2008 Nov;40(11):737-45. doi: 10.1055/s-2008-1078753.
36. Bakas P, Liapis A, Vlahopoulos S, Giner M, Logotheti S, Creatsas G, Meligova AK, Alexis MN, Zoumpourlis V. Estrogen receptor alpha and beta in uterine fibroids: a basis for altered estrogen responsiveness. **Fertil Steril**. 2008 Nov;90(5):1878-85. doi: 10.1016/j.fertnstert.2007.09.019.
37. Voutsas IF, Gritzapis AD, Alexis MN, Katsanou ES, Perez S, Baxevas CN, Papamichail M. A novel quantitative flow cytometric method for measuring glucocorticoid receptor (GR) in cell lines: correlation with the biochemical determination of GR. **J Immunol Methods**. 2007 Jul 31;324(1-2):110-9. doi: 10.1016/j.jim.2007.05.007.
38. Skretas G, Meligova AK, Villalonga-Barber C, Mitsiou DJ, Alexis MN, Micha-Screttas M, Steele BR, Screttas CG, Wood DW. Engineered chimeric enzymes as tools for drug discovery: generating reliable bacterial screens for the detection, discovery, and assessment of estrogen receptor modulators. **J Am Chem Soc**. 2007 Jul 11;129(27):8443-57. doi: 10.1021/ja067754j.
39. Koufaki M, Kiziridi C, Nikoloudaki F, Alexis MN. Design and synthesis of 1,2-dithiolane derivatives and evaluation of their neuroprotective activity. **Bioorg Med Chem Lett**. 2007 Aug 1;17(15):4223-7. doi: 10.1016/j.bmcl.2007.05.036.
40. Katsanou ES, Halabalaki M, Aligiannis N, Mitakou S, Skaltsounis AL, Alexi X, Pratsinis H, Alexis MN. Cytotoxic effects of 2-arylbenzofuran phytoestrogens on human cancer cells:

- modulation by adrenal and gonadal steroids. **J Steroid Biochem Mol Biol.** 2007 May;104(3-5):228-36. doi: 10.1016/j.jsbmb.2007.03.028.
41. Lambrinidis G, Halabalaki M, Katsanou ES, Skaltsounis AL, Alexis MN, Mikros E. The estrogen receptor and polyphenols: Molecular simulation studies of their interactions, a review. **Environ Chem Lett.** 2006; 4:159-174. DOI 10.1007/s10311-006-0065-y
 42. Apostolopoulos V, Pietersz GA, Tsibanis A, Tsikkinis A, Drakaki H, Loveland BE, Piddlesden SJ, Plebanski M, Pouniotis DS, Alexis MN, McKenzie IF, Vassilaros S. Pilot phase III immunotherapy study in early-stage breast cancer patients using oxidized mannan-MUC1 [ISRCTN71711835]. **Breast Cancer Res.** 2006;8(3):R27. doi: 10.1186/bcr1505.
 43. Halabalaki M, Alexi X, Aligiannis N, Lambrinidis G, Pratsinis H, Florentin I, Mitakou S, Mikros E, Skaltsounis AL, Alexis MN. Estrogenic activity of isoflavonoids from *Onobrychis ebenoides*. **Planta Med.** 2006 May;72(6):488-93. doi: 10.1055/s-2005-916261.
 44. Koufaki M, Theodorou E, Galaris D, Nousis L, Katsanou ES, Alexis MN. Chroman/catechol hybrids: synthesis and evaluation of their activity against oxidative stress induced cellular damage. **J Med Chem.** 2006 Jan 12;49(1):300-6. doi: 10.1021/jm0506120.
 45. Kasiotis KM, Mendorou C, Haroutounian SA, Alexis MN. High affinity 17alpha-substituted estradiol derivatives: synthesis and evaluation of estrogen receptor agonist activity. **Steroids.** 2006 Mar;71(3):249-55. doi: 10.1016/j.steroids.2005.10.004.
 46. Roberts ML, Drosopoulos KG, Vasileiou I, Stricker M, Taoufik E, Maercker C, Guialis A, Alexis MN, Pintzas A. Microarray analysis of the differential transformation mediated by Kirsten and Harvey Ras oncogenes in a human colorectal adenocarcinoma cell line. **Int J Cancer.** 2006 Feb 1;118(3):616-27. doi: 10.1002/ijc.21386.
 47. Mitsiou DJ, Florentin I, Baki L, Georgakopoulos A, Alexis MN. Pronounced enhancement of glucocorticoid-induced gene expression following severe heat shock of heat-conditioned cells hints to intricate cell survival tactics. **J Steroid Biochem Mol Biol.** 2005 Feb;94(1-3):209-17. doi: 10.1016/j.jsbmb.2005.01.008.
 48. Siriani D, Mitsiou DJ, Alexis MN. Heat-induced degradation of overexpressed glucocorticoid receptor Separate protective roles of hsp90 and hsp70. **J Steroid Biochem Mol Biol.** 2005 Feb;94(1-3):93-101. doi: 10.1016/j.jsbmb.2005.01.013.
 49. Kitraki E, Kremmyda O, Youlatos D, Alexis M, Kittas C. Spatial performance and corticosteroid receptor status in the 21-day restraint stress paradigm. **Ann N Y Acad Sci.** 2004 Jun;1018:323-7.
 50. Fokialakis N, Lambrinidis G, Mitsiou DJ, Aligiannis N, Mitakou S, Skaltsounis AL, Pratsinis H, Mikros E, Alexis MN. A new class of phytoestrogens; evaluation of the estrogenic activity of deoxybenzoins. **Chem Biol.** 2004 Mar;11(3):397-406. doi: 10.1016/j.chembiol.2004.02.014.
 51. Kitraki E, Kremmyda O, Youlatos D, Alexis MN, Kittas C. Gender-dependent alterations in corticosteroid receptor status and spatial performance following 21 days of restraint stress. **Neuroscience.** 2004;125(1):47-55. doi: 10.1016/j.neuroscience.2003.12.024.
 52. Siriani D, Mitsiou DJ, Alexis MN. Overexpressed glucocorticoid receptor negatively regulates gene expression under conditions that favour accumulation of non-hormone-

- binding forms of the receptor. **J Steroid Biochem Mol Biol.** 2003 Feb;84(2-3):171-80. doi: 10.1016/s0960-0760(03)00027-x.
53. Mitsiou DJ, Siriani D, Katsanou ES, Florentin I, Georgakopoulos A, Alexis MN. Maintenance of glucocorticoid receptor function following severe heat-shock of heat-conditioned cells. **Mol Cell Endocrinol.** 2003 Mar 28;201(1-2):97-108. doi: 10.1016/s0303-7207(02)00428-8.
 54. Gritzapis AD, Baxevanis CN, Missitzis I, Katsanou ES, Alexis MN, Yotis J, Papamichail M. Quantitative fluorescence cytometric measurement of estrogen and progesterone receptors: correlation with the hormone binding assay. **Breast Cancer Res Treat.** 2003 Jul;80(1):1-13. doi: 10.1023/A:1024462416640.
 55. Baki L, Alexis MN. Regulation of tyrosine aminotransferase gene expression by glucocorticoids in quiescent and regenerating liver. **Biochem J.** 1996 Dec 15;320 (Pt 3):745-53. doi: 10.1042/bj3200745.
 56. Kitraki E, Alexis MN, Papalopoulou M, Stylianopoulou F. Glucocorticoid receptor gene expression in the embryonic rat brain. **Neuroendocrinology.** 1996 Apr;63(4):305-17. doi: 10.1159/000126971.
 57. Mitsiou DJ, Alexis MN. Temporary loss of glucocorticoid receptor-mediated regulation of gene expression in heat-shocked cells. **FEBS Lett.** 1995 Apr 10;362(3):309-15. doi: 10.1016/0014-5793(95)00263-9.
 58. Kitraki E, Alexis MN, Stylianopoulou F. Glucocorticoid regulation of glycerolphosphate dehydrogenase expression in the developing rat brain. **Neurochem Res.** 1995 Mar;20(3):285-90. doi: 10.1007/BF00969544.
 59. Baki L, Alexis MN. The efficiency of nuclear processing of the tyrosine aminotransferase mRNA transcript increases after partial hepatectomy. **Eur J Biochem.** 1994 Nov 1;225(3):797-803. doi: 10.1111/j.1432-1033.1994.0797b.x.
 60. Alexis MN, Mavridou I, Mitsiou DJ. Subunit composition of the untransformed glucocorticoid receptor in the cytosol and in the cell. **Eur J Biochem.** 1992 Feb 15;204(1):75-84. doi: 10.1111/j.1432-1033.1992.tb16607.x.
 61. Alexis MN, Kitraki E, Spanou K, Stylianopoulou F, Sekeris CE. Ontogeny of the glucocorticoid receptor in the rat brain. **Adv Exp Med Biol.** 1990;265:269-76. doi: 10.1007/978-1-4757-5876-4_25.
 62. Alexis MN, Baki L, Elefteriou C, Sekeris CE. Glucocorticoid receptor structure as probed by endogenous proteases. **J Steroid Biochem.** 1988;30(1-6):225-31. doi: 10.1016/0022-4731(88)90097-0.
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 64. Kitraki E, Alexis MN, Stylianopoulou F. Glucocorticoid receptors in developing rat brain and liver. **J Steroid Biochem.** 1984 Jan;20(1):263-9. doi: 10.1016/0022-4731(84)90215-2.
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Selected Recent Poster Presentations

- Makropoulou M, Vontzalidou A, Alexis MN, Aligiannis N, Mitakou S. The beneficial effects of Iris natural compounds on bone metabolism. 2016, 16th International Congress on Ethnopharmacology, Yulin, Guangxi, China (supported by OSTEOPRO) **First Prize award**
- Vlachavas EI, Pilalis E, Mersinias V, Boulaka A, Meligova AK, Mitsiou DJ, Alexis MN, Chatziioannou A. Gene expression profiling of combinatorial targeting of estrogen receptor and PI3K pathways in metastatic breast cancer cells. 2016, 1st International Conference on Pharmaceutical Bioinformatics, Pattaya, Thailand (supported by POM) **First Prize award**

Patents

- Gravanis A, Calogeropoulou T, Kastanas E, Margioris A, Charalambopoulos I, Avlonitis N, Minas V, Alexaki VI, Tsatsanis C, Alexis MN, Remboutsika E, Vergou B, Neophytou C. "Neurosteroid compounds". EP2158209B1 (2019-02-27)
<https://patents.google.com/patent/EP2158209B1/en-20US4325121.pdf>
and US9777037B2 (2017-10-03)
<https://patents.google.com/patent/US9777037B2/en>

Competitively Funded Projects

1. Operational Program 'Human Resources Development, Education and Lifelong Learning 2014-2020: Project **ERBETA** (EΔBM-103): "Validation-reinforcement of the prognostic significance of estrogen receptor beta in early breast cancer", 2020-2022
2. Operational Program 'Strengthening Research and Innovation Infrastructures - B' Round': Project **EATRIS-GR**: "Infrastructure for Preclinical and early-Phase Clinical Development of Drugs, Therapeutics and Biomedical Devices", 2019-2021
3. Research Funding Program KRIPIS: Project **STHENOS-β**: "Targeted therapeutic approaches against degenerative diseases, cancer included – optimization of targeted bioactive compounds", 2017-2021.
4. Research Funding Program KRIPIS: Project **STHENOS**: "Targeted therapeutic approaches against degenerative diseases, cancer included", 2013-2015.

5. Research Funding Program **THALES: Project 80038**: "Development of new selective estrogen receptor modulators for preventing menopause consequences (SERMENCO)", 2012-2015.
6. Research Funding Program **THALES: Project 85355**: "Molecular sub-typing of Triple Negative Breast Cancer (TNBC)", 2012-2015.
7. National action 'Cooperation' – Sub-action I: Medium & Small Scale Cooperative Projects: "Development of natural products and analogues for osteoporosis prevention: transcriptomic, proteomic and metabolomic approaches (OSTEOPRO)", **09ΣΥΝ-11-1076**, 2011-2015.
8. National action 'Cooperation' – Sub-action II: Large Scale Cooperative Projects: "PIK3CA Oncogenic Mutations in Breast and Colon Cancers: Development of Targeted Anticancer Drugs and Diagnostics (POM)", **09ΣΥΝ-11-675**, 2010-2015.
9. EU Initial Training Network (ITN), "A European Research Training Site for the Design and Synthesis of Novel Neuroprotective and Hypoglycaemic Agents through a Multi-disciplinary approach", **MTKD-CT-2006-020575**, 2006-2010.
10. EU Network of Excellence "ECNIS – Environmental Cancer risks, Nutrition and Individual Susceptibility", **FOOD-CT-2005-513943**, 2005-2010.
11. Greek Framework Program Competitiveness- Research Network PENED, "In search of a role for estrogen receptor beta in breast cancer", **03ΕΔ644**, 2006-2009.
12. EU Transfer of Knowledge (TOK) Program, "Macromolecular assemblies involved in regulated gene expression", **MTKD-CT-2004-509836**, 2004-2008.
13. Greek Framework Program Competitiveness - Research Network DSBEPRO, "Assessment of the estrogenic activity of natural compounds and derivatives thereof", **02DSBEPRO32**, 2006-2008.
14. Greek Framework Program Competitiveness - Research Network EUREKA, "Novel Selective Estrogen Receptor Modulators: Synthesis and evaluation of biological activities", **EUREKA E!3060-SERMS**, 2004-2007.
15. Greek Framework Program Competitiveness- Research Network PENED, "Neurosteroids; Investigation of the mechanism of action of neurosteroids as neuroprotective agents; Development of new neurosteroids of high neuroprotective and marginal hormonal activity", **01ΕΔ258**, 2002-2006.
16. Greek Framework Program Competitiveness - funding scheme PRAKSE, "Tissue-specific antiestrogens", **02PRAKSE97**, 2003-2005.
17. Greek Framework Program Competitiveness - funding scheme PRAKSE, "Immunodiagnosics for breast cancer prognosis", **02PRAKSE98**, 2003-2005.
18. Greek Framework Program Competitiveness - research network PAVET, "Immunochemical tools for breast cancer prognosis", **PAVET2000-00BE199**, 2001-2004.
19. EU Marie Curie Development Host (HD) Research Program, "Regulation of transcription and mRNA processing by oncogenic signals", **HPMD-CT-2001-00116**, 2002-2005.
20. EU Marie Curie Training and Mobility Program, "Effect of glucocorticoid receptor beta isoform on glucocorticoid signaling", **HPMF-CT-2000-00904**, 2001-2002.
21. Greek Framework Program EPET-II – research network EKVAN, "Development of new methods for prognosis and treatment of hormone-dependent cancer", **EKVAN66**, 1998-2001.
22. Greek Framework Program EPET-II – funding scheme EPY, "Development of New Diagnostic Methods and Analysis Products for Hormone-dependent neoplasias", **96EPY39**, 1997-2000.

23. Greek Framework Program EPET-II – funding scheme PENED, “The Thermotolerant Human Cell as a Protein Production System”, **95ED784**, 1996-1997.
24. Greek Framework Program EPET-I – funding scheme 1.4, “Steroid Receptors as Biological Markers of Tumor Responsiveness to Endocrine Therapy”, **14EIE5**, 1990-1993