

Vasiliki PLETSA

Research Assistant Professor

Institute of Biology, Medicinal Chemistry and Biotechnology

Phone: +302107273754

Fax: +302107273627

E-mail: vpletsa@eie.gr

Website: <http://www.eie.gr/nhrf/institutes/ibrb/cvs/cv-pletsa-en.html>

Education

1991: Ph. D degree in Biological Sciences, Faculty of Biology, School of Sciences, National Kapodistrian University of Athens

PhD Thesis: "Mutagenesis and activation of the human Ha-ras proto-oncogene by alkylating carcinogens"

1984: Bachelor's Degree (BSc), Faculty of Biology, School of Sciences, National Kapodistrian University of Athens

Appointments

2003-present: Researcher (Research Assistant Professor), National Hellenic Research Foundation, Institute of Biology, Medicinal Chemistry and Biotechnology, Chemical Carcinogenesis and Genetic Toxicology Programme

1995-2003: Functional Research Scientist

In charge of the development of the GMO Detection Laboratory of the Institute of Biological Research and Biotechnology of the National Hellenic Research Foundation. In this context novel, sensitive molecular biology-based methods of detection were applied and service to the industry and national authorities was provided while applied research projects concerning GMO detection in food and feed were carried out.

1992-1995: Post doctoral Researcher, National Hellenic Research Foundation, Institute of Biological Sciences and Biotechnology, Chemical Carcinogenesis and Genetic Toxicology Programme

Participation in the following research projects:

- Molecular dosimetry of chemical mutagens, EEC STEP project EVEV-CT91-0012 (1991-1993)

- Dosimetry and modelling of methylating agent genotoxicity in transgenic mice and biomonitoring of human populations environmentally exposed to methylating agents, EEC Environment Project EV5V-CT92-0224 (1993-1995).

1991: Post doctoral Fellow (Fellowship by European Science Foundation, DNA Repair Network and C.N.R.S.), Centre National de Recherches Scientifiques C.N.R.S., Institut de Recherches Scientifiques sur le Cancer, Laboratoire de Genetique Moleculaire, Villejuif, France

Sabbatical Leaves

2004: six months sabbatical leave, Department of Toxicogenetics, Sylvius Laboratories, Leiden University Medical Center, Wassenaarseweg72, 2333AL Leiden, The Netherlands

Work on the mechanisms of mutagenesis induced by the Translesion Synthesis polymerases.

Secondments

May 2008-May 2012: General Secretariat for Research and Technology, Ministry of Education, International S&T Cooperation Directorate, European Union Division

Main tasks regarding the integration of the European Research Area, the Europe 2020 agenda as well as the Science & Technology issues in the Black Sea Economic Cooperation.

Teaching and Supervision experience

2007: supervision of the Graduate Thesis of A. Dimozi, Faculty of Biology, NTUA and the graduate thesis of V. Bartzos, Department of Molecular Biology and Genetics, Democritus University of Thace

2004-2008: teaching of the course "Genetic Technology" in the Health Professions School. Technological Institute of Athens

2006-2010: supervision of the Ph D thesis "Study on the mechanism of cell death induced by methylating agents", A. Koryllou, Medical School of Athenes, NTUA

2006-present: regular lectures on "The Biotechnology Challenge; the recombinant DNA technology in Food, is this a threat for Public Health and Environment?", in the context of the postgraduate training courses "Environmental risks and Food Safety", Harokopian University of Athens and "Microbial Biotechnology", Faculty of Biology, NTUA

2015-present: "Bioenterpreneurship" <http://bioepixirin.bio.uth.gr/>, interdepartmental, interdisciplinary graduate programme, Joint Master's Degree, University of Thessaly/National Hellenic Research Foundation

Current Research Interests

- DNA damage response and mechanisms of cell death
- molecular mechanisms of carcinogenesis,
- molecular epidemiology of cancer, identification and validation of biomarkers for cancer prevention and early diagnosis
- nutrition and cancer

Research projects

"Archimedes" 2004-2006: «Factors affecting the production of safe food – effect of the ionizing radiation in the detection of Genetically Modified Foods»

PENED 2003 03/ED/322 2006-2010: «Study on the cell death mechanisms induced by anticancer genotoxic agents in tumour cells – Methylating agents-induced cell death and apoptosis, possible use of RNA binding proteins alterations as biomarkers of chemo-sensitivity/resistance»

Greece-Tunisia Bilateral S&T Cooperation Programme (GSRT 117-ε) 2007-2008: «Genetic Background, Diet and Cancer: ERBB2 polymorphisms and risk of breast cancer incidence in Mediterranean populations».

ECNIS 2005-2010: **E**nvironmental **C**ancer Risk, **N**utrition and **I**ndividual **S**usceptibility (www.ecnis.org) EU 6th FP Network of Excellence

KRIPIS - STHENOS ESPA 2007-2013 National Programme : "Targeted therapeutic approaches against degenerative diseases" WP3 and 4, investigation of possible hnRNPs alterations during the p53-dependent apoptotic cell death/WP6 "Management and Dissemination"

STHENOS-b ESPA 2014-2020 National Programme: "Targeted therapeutic approaches against degenerative diseases with special focus on cancer and ageing-optimisation of the targeted bioactive molecules" WP3, 4 and 5.

Publications

1. Troungos, C. & **Pletsa, V.** (1991). Ras oncogenes and human carcinogenesis. Review of Clinical Pharmacology and Pharmacokinetics, 9, 224-233
2. **Pletsa ,V.**, Gentil., A., Margot, A., Armier, J., Kyrtopoulos, S.A. & Sarasin, A., (1992). Mutagenesis by O⁶ meG residues within codon 12 of the human Ha-ras proto-oncogene in monkey cells. Nucleic Acids Research, 20, 4897-4901
3. **Pletsa, V.**, Troungos, C., Souliotis, V.L. & Kyrtopoulos, S.A. (1994). Comparative study of mutagenesis by O⁶ methylguanine in the human Ha-ras oncogene in *E.coli* and *in vitro*. Nucleic Acids Research, 22, 3846-3853
4. Kyrtopoulos, S.A., Anderson, L.M., Chhabra, S.K., Souliotis, V.L., **Pletsa, V.**, Valavanis, C. & Georgiadis, P. (1997). DNA adducts and the mechanism of

carcinogenesis and cytotoxicity of methylating agents of environmental and clinical significance. *Cancer Detection and Prevention*, 21, 391-405

5. **Pletsa, V.**, Valavanis, C., van Delft, J.H.M., Steenwinkel, M.J.T. & Kyrtopoulos, S.A. (1997). DNA damage and mutagenesis induced by procarbazine in lacZ transgenic mice : evidence that bone marrow mutations do not arise primarily through miscoding by O⁶-methylguanine. *Carcinogenesis*, 18, 2191-2196
6. **Pletsa, V.**, Steenwinkel, M.J.T., van Delft, J.H.M., Baan, R.A. & Kyrtopoulos, S.A. (1999). Methylbromide causes DNA methylation in rats and mice but fails to induce somatic mutation in lacZ transgenic mice. *Cancer Letters*, 135, 21-27
7. **Pletsa, V.**, Steenwinkel, M.J.T., van Delft, J.H.M., Baan, R.A. & Kyrtopoulos, S.A. (1999). Induction of somatic mutations but not methylated DNA adducts in lacZ transgenic mice by dichlorvos. *Cancer Letters*, 149, 1-6
8. **Pletsa, V.**, Steenwinkel, M.J.T., Stoikidou, M., van Delft, J.H.M., Baan, R.A., Katsouyanni, K. & Kyrtopoulos, S.A. (2002). Monitoring for DNA damage of humans occupationally exposed to methylbromide. *Anticancer Research*, 22, 997-1000
9. Batrinou AM, Dimitriou E, and Liatsos DN & Pletsa, V (2005). Genetically modified foods: the effect of information. *Nutrition and Food Science*, 35 (3)
10. Pletsas, D., Wheelhouse, R.T., **Pletsa, V.**, Nicolaou, A., Bibby, M.C., Jenkins, T.C. & Kyrtopoulos, S. A. (2006). Polar, functionalized guanine O6 derivatives resistant to repair by alkylguanine-DNA alkyltransferase: implications for the design of DNA-modifying drugs. *European Journal of Medicinal Chemistry* , 41, 330-339
11. **Pletsa, V.**, Korillou, A., Patrino-Georgoula, M, Roos, W, Kyrtopoulos, S.A., Guialis, A. (2006) Molecular mechanism of methylating agent-induced apoptosis: identification of novel chemosensitivity markers. *The FEBS Journal* 273, S (1).
12. Batrinou, AM., Koraki, D., Sinanoglou, V., Karagouni, A. & **Pletsa, V.** (2008) Effect of electron beam irradiation on the quantification of genetically modified foods. *Food Biotechnology*, Vol.22 :338-351.
13. Koryllou, A., Patrino-Georgoula, M., Troungos, C., **Pletsa, V.** (2009) Cell death induced by N-methyl-N-nitrosourea, a model S_N1 methylating agent, in two lung cancer cell lines of human origin. *Apoptosis*, Vol.14 (9):21-33.
14. Georgiadis P, Kaila S, Makedonopoulou P, Fthenou E, Chatzi L, Pletsa V, Kyrtopoulos SA. (2011) Development and validation of a new, sensitive immunochemical assay for O⁶-methylguanine in DNA and its application in a population study. *Cancer Epidemiol Biomarkers Prev.* 20(1):82-9

15. Koryllou, A., Patrino-Georgoula, M., Dimozi, A., Kyrtopoulos, S.A., **Pletsa, V.** (2011) Investigation of Cell Death Induced by *N*-Methyl-*N*-Nitrosourea in Cell Lines of Human Origin and Implication of RNA Binding Protein Alterations. *Anticancer Res.* 31(12): 4291-9.
16. Papadodima, O, Chatziioannou A, Patrino-Georgoula M, Kolisis FN, **Pletsa V**, Guialis A. (2013) HuR-regulated mRNAs associated with nuclear hnRNP A1-RNP complexes. *Int J Mol Sci.* 14(10):20256-81.
17. Michailidi C, Theocharis S, Tsourouflis G, **Pletsa V**, Kouraklis G, Patsouris E, Papavassiliou AG, Troungos C. Expression and promoter methylation status of hMLH1, MGMT, APC, and CDH1 genes in patients with colon adenocarcinoma. *Exp Biol Med (Maywood).* 2015 Dec;240(12):1599-605. doi: 10.1177/1535370215583800.
18. Turunen KT, **Pletsa V**, Georgiadis P, Triantafillidis JK, Karamanolis D, Kyriacou A. Impact of β -glucan on the Fecal Water Genotoxicity of Polypectomized Patients. *Nutr Cancer.* 2016 May-Jun;68(4):560-7. doi:10.1080/01635581.2016.1156713.
19. Papadodima O, Moulos P, Koryllou A, Piroti G, Kolisis F, Chatziioannou A, **Pletsa V**. Modulation of Pathways Underlying Distinct Cell Death Mechanisms in Two Human Lung Cancer Cell Lines in Response to SN1 Methylating Agents Treatment. *PLoS One.* 2016 Jul 28;11(7):e0160248. doi: 10.1371/journal.pone.0160248.

Book Chapters in collective volumes

1. Βασιλική Πλέτσα «Η Πρόκληση των Γενετικά Τροποποιημένων», στο βιβλίο «Η ΔΙΑΤΡΟΦΗ ΣΤΟΝ 21^ο ΑΙΩΝΑ : Γεωγραφίες της αφθονίας και της στέρησης», Εκδόσεις Παπαζήση, Αθήνα 2005.
2. Ανθιμία Μπατρίνου και Βασιλική Πλέτσα «Γενετικά Τροποποιημένα Τρόφιμα. Πόσο απειλούν τη δημόσια υγεία; » Κεφάλαιο 25 στο βιβλίο ΚΛΙΝΙΚΗ ΔΙΑΤΡΟΦΗ, επιμέλεια Ν. Κατσιλάμπρος, ΒΗΤΑ Ιατρικές Εκδόσεις ΜΕΠΕ, www.betamedarts.gr
3. T. Varzakas and V. Pletsa "Genetically Modified Herbicide-Tolerant Crops and Sugar Beet-Environmental and Health Concerns" Chapter in "Sweeteners: Nutritional Aspects, Applications, and Production Technology, published May 14, 2012 by CRC Press

Professional Activities

Expert of the National Accreditation System for the GMO Detection Laboratories

Evaluator/Reviewer in National and EU Calls

Science communication to the public, students and pupils regularly, within the frame of dedicated events (i.e. Researcher's Night, Science and Technology Festival, etc; www.eie.gr/nhrf/institutes/ibmcb/index-en-ibcmb.html).

Commitee membership

Member of the Greek Delegation in the EU ERAC (European Research Area Committee)-
High Level Groups GPC, SFIC and Steering Group on Human Resources and Mobility.

Member of the European Enviromental Mutagen Society (EEMS).

Member of the Hellenic Society for Biochemistry and Molecular Biology (HSBMB)