

CURRICULUM VITAE

PERSONAL DATA

Surname: Vougianniopoulou

First Name: Konstantina

Academic Position: Post-Doctoral
Researcher

Place of Birth: Greece

Professional Address: Department of
Pharmacy, Division of Pharmacognosy and

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EDUCATIONAL QUALIFICATIONS

10/2005–12/2009 PhD in Pharmacognosy and Natural Product Chemistry

Division of Pharmacognosy and Natural Products Chemistry, Department of Pharmacy, School of Health Sciences, National and Kapodistrian University of Athens, Panepistimiopolis Zografou, 15771, Athens (Greece)

Title of thesis: **Synthesis of water soluble indirubin analogues as kinase inhibitors and phytochemical investigation of *Raputia simulans* Kallunki (Rutaceae).** Supervisor: Prof. Leandros Skaltsounis

Oct 2003–Jun 2005 Master in Science (MSc) in "Isolation, Development, Production and Control of Bioactive Natural Products"

Division of Pharmacognosy and Natural Products Chemistry, Department of Pharmacy, School of Health Sciences, National and Kapodistrian University of Athens, Panepistimiopolis Zografou, 15771, Athens (Greece)

Title of Thesis: **Isolation of indole type pigments from gasteropod *Thais haemastoma*. Synthesis of water-soluble derivatives of indirubins as kinase inhibitors.** Supervisor: Prof. Leandros Skaltsounis

09/1998–07/2003 Bachelor Degree in Chemistry

Department of Chemistry, School of Science, University of Ioannina, Ioannina (Greece)

RESEARCH INTERESTS

I am keenly interested in the chemical investigation of plants of global biodiversity, focusing on new isolation techniques and structural elucidation of complex molecules especially indole alkaloids, sesquiterpene lactones, secoiridoids. A significant part of my work focuses on the exploitation of olive derived natural products aiming to their isolation, structural elucidation with NMR, chemical modification and biotransformation. During the last 5 years, I am a reviewer for peer-reviewed scientific journals in the topic of natural product chemistry. I have a strong background in the preparation, implementation and management of funded research projects.

PARTICIPATION IN CONFERENCES

Poster presentation: Sammut Bartolo N, Zoidis G, Vougianniopoulou K, Ferrito V, Vella J, Serracino-Inglott A. **evelopment of a semi-preparative HPLC method for difluprednate.** 10th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Glasgow, United Kingdom, April 2016

Poster presentation: Brillatz T, Ferreira Queiroz E, Marcourt L, Vougoqiannopoulou K, Jacmin M, Crawford AD, Skaltsounis L, Wolfender J-L. **Bioguided isolation of anticonvulsant principles from *Helleborus cyclophyllus* using the zebrafish epilepsy model.** Annual Meeting of GA and 9th Joint Natural Product Conference 2016 (Joint Meeting with ASP, AFERP, JSP, PSE and SIF) and 64th International Conference, Copenhagen, Denmark, July 2016

Poster presentation: Brillatz T, Ferreira Queiroz E, Marcourt L, Vougoqiannopoulou K, Jacmin M, Crawford AD, Skaltsounis L, Wolfender J-L. **Bioguided isolation of anticonvulsant principles from *Helleborus cyclophyllus* using the zebrafish epilepsy model.** 10th International Symposium on Chromatography of Natural Products, Lublin, Poland, June 2016

Poster presentation: Vougoqiannopoulou K, Brieudes V, Sklirou AD, Angelis A, Betinakis S, Mikropoulou E, Mitakou M, Trougakos IP, Halabalaki M, Skaltsounis A-L **Cooked edible greens of Greece: “chórta” and their decoctions as sources of valuable water-soluble phytonutrients.** 7th International Symposium on Recent Advances on Food Analysis, Prague, Czech Republic, November 2015

Poster presentation: Vougoqiannopoulou K, Angelopoulou MT, Pratsinis H, Grougnet R, Halabalaki M, Kletsas D, Deguin B, Skaltsounis L. **Isolation of a hydroxytyrosol lactone conjugate from olive mill waste water with antioxidant activity.** 62nd International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research, Guimaraes, Portugal, August 2014

Poster presentation: Vougoqiannopoulou K, Lemus C, Michel S, Smith, AB III, Skaltsounis L, Deguin B. **Methodology for the preparation of olive oil secoiridoids.** ICNPR, International Congress on Natural Products Research, New York, USA, July 2012

Poster presentation: Travasariou A, Vougoqiannopoulou K, Fokialakis N, Cantrell C, Skaltsounis A-L. **Phytochemical investigation of the Neotropical plant *Strychnos aff. Darienensis*.** 59th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research, Antalya, Turkey, September 2011

Oral presentation: Vougoqiannopoulou K, Fokialakis N, Aligiannis N, Cantrell C, Skaltsounis AL. **Novel indole alkaloids from *Raputia simulans*.** Awarded Lecture in Young Researcher Workshop, 58th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research, Berlin, Germany, September 2010

Poster presentation: Vougoqiannopoulou K, Fokialakis N, Aligiannis N, Cantrell C, Skaltsounis AL. **Phytochemical investigation of *Raputia simulans* Kallunki.** 7th Joint Meeting of AFERP, ASP, GA, PSE & SIF, Athens, Greece, August 2008

Poster presentation: Magiatis P, Vougoqiannopoulou K, Kritsanida M, Skaltsounis L, Meijer L. **New Indirubin Derivatives as Kinase Inhibitors.** American Society of Pharmacognosy 48th Annual Meeting, Portland, Maine. 2007

Oral presentation: Magiatis P, Polychronopoulos P, Vougoqiannopoulou K, Kritsanida M, Skaltsounis L, Meijer L, Greengard P. **New water soluble indirubin derivatives as selective GSK-3 inhibitors.** 53rd Annual Congress of GA, Florence, Italy, 2005

LANGUAGES

Greek (mother tongue)

English (C2)

French (B1)

PUBLICATIONS

1. Rafrafi M, Ben Salah H, Vougianniopoulou K, Angelis A, Skaltsounis LA, Allouche N. Sesquiterpene lactones and flavonoids with chemotaxonomic significance from *Volutaria lippii* (L.) Cass. *Biochemical Systematics and Ecology*, 2021, 96, art. no. 104249. DOI: 10.1016/j.bse.2021.104249
2. Vougianniopoulou K, Corona A, Tramontano E, Alexis MN, Skaltsounis A-L. Natural and Nature-Derived Products Targeting Human Coronaviruses. *Molecules*, 2021, 26 (2). DOI: 10.3390/molecules26020448
3. Czapka A, König S, Pergola C, Grune C, Vougianniopoulou K, Skaltsounis A-L, Fischer D, Werz O. The indirubin derivative 6-bromoindirubin-3'-glycerol-oxime ether (6BIGOE) potently modulates inflammatory cytokine and prostaglandin release from human monocytes through GSK-3 interference. *Biochemical Pharmacology*, 2020, 180, art. no. 114170. DOI: 10.1016/j.bcp.2020.114170
4. Brillatz T, Jacmin M, Vougianniopoulou K, Petrakis EA, Kalpoutzakis E, Houriet J, Pellissier L, Rutz A, Marcourt L, Queiroz EF, Crawford AD, Skaltsounis A-L, Wolfender J-L. Antiseizure potential of the ancient Greek medicinal plant *Helleborus odoratus* subsp. *cyclophyllus* and identification of its main active principles. *Journal of Ethnopharmacology*, 2020, 259, art. no. 112954. DOI: 10.1016/j.jep.2020.112954
5. Nikolaou PE, Boengler K, Efentakis P, Vougianniopoulou K, Zoga A, Gaboriaud-Kolar N, Myrianthopoulos V, Alexakos P, Kostomitsopoulos N, Rerras I, Tsantili-Kakoulidou A, Skaltsounis AL, Papapetropoulos A, Iliodromitis EK, Schulz R, Andreadou I. Investigating and re-evaluating the role of glycogen synthase kinase 3 beta kinase as a molecular target for cardioprotection by using novel pharmacological inhibitors. *Cardiovascular Research*, 2019, 115 (7), pp. 1228-1243. DOI: 10.1093/cvr/cvz061
6. Efstathiou A, Gaboriaud-Kolar N, Myrianthopoulos V, Vougianniopoulou K, Subota I, Aicher S, Mikros E, Bastin P, Skaltsounis A-L, Soteriadou K, Smirlis D. Indirubin analogues inhibit trypanosoma brucei glycogen synthase kinase 3 short and T. Brucei growth. *Antimicrobial Agents and Chemotherapy* 2019, art. no. e02065-18. DOI: 10.1128/AAC.02065-18
7. Travasarou A, Angelopoulou MT, Vougianniopoulou K, Papadopoulou A, Aligiannis N, Cantrell CL, Kletsas D, Fokialakis N, Pratsinis H. Bioactive metabolites of the stem bark of *Strychnos aff. darienensis* and evaluation of their antioxidant and UV protection activity in human skin cell cultures. *Cosmetics* 2019, 6: art. no. 7. DOI: 10.3390/cosmetics6010007
8. Stagos D, Balabanos D, Savva S, Skaperda Z, Priftis A, Kerasioti E, Mikropoulou EV, Vougianniopoulou K, Mitakou S, Halabalaki M, Kouretas D. Extracts from the Mediterranean Food Plants *Carthamus lanatus*, *Cichorium intybus*, and *Cichorium spinosum* Enhanced GSH Levels and Increased Nrf2 Expression in Human Endothelial Cells. *Molecules* 2018, 23: E1541. DOI: 10.1155/2018/6594101
9. Efstathiou A, Meira CS, Gaboriaud-Kolar N, Bastos TM, Rocha VPC, Vougianniopoulou K, Skaltsounis A-L, Smirlis D, Soares MBP. Indirubin derivatives are potent and selective anti-Trypanosoma cruzi agents. *Virulence* 2018, 9: 1658-1668. DOI: 10.1080/21505594.2018.1532242
10. Mikropoulou EV, Vougianniopoulou K, Kalpoutzakis E, Sklirou AD, Skaperda Z, Houriet J, Wolfender JL, Trougakos IP, Kouretas D, Halabalaki M, Mitakou S. Phytochemical Composition of the Decoctions of Greek Edible Greens (Chórta) and Evaluation of Antioxidant and Cytotoxic Properties. *Oxidative Medicine and Cellular Longevity* 2018, Article ID 6594101. DOI: 10.3390/molecules23071541
11. Samara P, Christoforidou N, Lemus C, Argyropoulou A, Ioannou K, Vougianniopoulou K, Aligiannis N, Paronis E, Gaboriaud-Kolar N, Tsitsilonis O, Skaltsounis AL. New semi-synthetic analogs of oleuropein show improved anticancer activity in vitro and in vivo. *European Journal of Medicinal Chemistry* 2017, 137: 11-29. DOI: 10.1016/j.ejmech.2017.05.029
12. Brièudes V, Apostolis A, Vougianniopoulou K, Pratsinis H, Kletsas D, Mitakou S, Halabalaki M, Skaltsounis A-L. Phytochemical analysis and antioxidant potential of the phytonutrient-rich decoction of *Cichorium spinosum* and *C. intybus*. *Planta Med* 2016, 82: 1070-1078. DOI: 10.1055/s-0042-10747

13. Durieu E, Prina E, Leclercq O, Oumata N, Gaboriaud-Kolar N, Vougianniopoulou K, Aulner N, Defontaine A, No JH, Ruchaud S, Skaltsounis A-L, Galons H, Späth GF, Meijer L, Rachidi N. From drug screening to target deconvolution: A target-based drug discovery pipeline using *Leishmania* casein kinase 1 isoform 2 to identify compounds with antileishmanial activity. *Antimicrob Agents Chemother* 2016; 60: 2822-2833. DOI: 10.1128/AAC.00021-16
14. Gaboriaud-Kolar N, Myrianthopoulos V, Vougianniopoulou K, Gerolymatos P, Horne D, Jove R, Mikros E, Nam S, Skaltsounis A-L. Natural based Indirubins display potent Cytotoxicity towards Wild Type and T315I resistant Leukemia Cell Lines. *J Nat Prod* 2016; 79: 2464-2471. DOI: 10.1021/acs.jnatprod.6b00285
15. Vougianniopoulou K, Angelopoulou MT, Pratsinis H, Grougnet R, Halabalaki M, Kletsas D, Deguin B, Skaltsounis L. Chemical and biological investigation of Olive Mill Waste Water secoiridoid lactones. *Planta Med* 2015; 81:11205-1212. DOI: 10.1055/s-0035-1546243
16. Gaboriaud-Kolar N, Vougianniopoulou K, Skaltsounis L. Indirubin derivatives : A patent review (2010-present). *Expert Opin Ther Pat* 2015 ; 25 : 583-593. DOI: 10.1517/13543776.2015.1019865
17. Liu L, Gaboriaud N, Vougianniopoulou K, Tian Y, Wu J, Wen W, Skaltsounis A-L, Jove R. MLS-2384, a new 6-bromoindirubin derivative with dual JAK/Src kinase inhibitory activity, suppresses growth of diverse cancer cells. *Cancer Biol Ther* 2014; 15:178-84. DOI: 10.4161/cbt.26721
18. Efstathiou A, Gaboriaud-Kolar N, Smirlis D, Myrianthopoulos V, Vougianniopoulou K, Alexandratos A, Kritsanida M, Mikros E, Soteriadou K, Skaltsounis A-L. An inhibitor-driven study for enhancing the selectivity of indirubin derivatives towards leishmanial Glycogen Synthase Kinase-3 over leishmanial cdc2-related protein kinase 3. *Parasit Vectors* 2014; 7:Article Number 234. DOI: 10.1186/1756-3305-7-234
19. Vougianniopoulou K, Lemus C, Halabalaki M, Pergola C, Werz O, Smith AB, Michel S, Skaltsounis A-L, Deguin B. One-step semisynthesis of oleacein and the determination as a 5-lipoxygenase inhibitor. *J Nat Prod* 2014; 77:441-5. DOI: 10.1021/np401010x
20. Halabalaki M, Vougianniopoulou K, Mikros E, Skaltsounis A-L. Recent advances and new strategies in the NMR-based identification of natural products. *Curr Opin Biotechnol* 2014; 25:1-7. DOI: 10.1016/j.copbio.2013.08.005
21. Vougianniopoulou K, Travarou A, Fokialakis N, Skaltsounis A-L. Rare bisindole alkaloids from the amazonian tree *Raputia simulans*. *Chem Biodiv* 2014; 11:126-32. DOI: 10.1002/cbdv.201300071
22. Vougianniopoulou K, Skaltsounis A-L. From Tyrian Purple to kinase modulators: Naturally halogenated indirubins and synthetic analogues. *Planta Med* 2012; 78:1515-28. DOI: 10.1055/s-0032-1315261
23. Vougianniopoulou K, Fokialakis N, Aligiannis N, Cantrell C, Skaltsounis AL. Simple indole alkaloids from the neotropical rutaceous tree *Raputia simulans*. *Planta Med* 2011; 77:1559-61. DOI: 10.1055/s-0030-1270850
24. Vougianniopoulou K, Fokialakis N, Aligiannis N, Cantrell C, Skaltsounis AL. The raputindoles: novel cyclopentyl bisindole alkaloids from *Raputia simulans*. *Org Lett* 2010; 12:1908-11. DOI: 10.1021/ol100584w
25. Vougianniopoulou K, Ferandin Y, Bettayeb K, Myrianthopoulos V, Lozach O, Fan Y, Johnson CH, Magiatis P, Skaltsounis AL, Mikros E, Meijer L. Soluble 3',6'-substituted indirubins with enhanced selectivity toward glycogen synthase kinase -3 alter circadian period. *J Med Chem* 2008; 51:6421-31. DOI: 10.1021/jm800648y
26. Karapanagiotis I, De Villemereuil V, Magiatis P, Polychronopoulos P, Vougianniopoulou K, Skaltsounis A-L. Identification of the coloring constituents of four natural indigoid dyes. *J Liq Chromatog R. T.* 2006; 29:1491-502. DOI: 10.1080/10826070600674935