



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΠΑΤΡΩΝ
UNIVERSITY OF PATRAS

Stavros Topouzis, B.Pharm., Ph.D.

Associate Professor of Pharmacology and Toxicology

Laboratory of Molecular Pharmacology
Department of Pharmacy, Health Sciences School
University of Patras, Rio 26504 GREECE

work phone: (30)-2610-962-364

e-mail: stto@upatras.gr

Website: <http://www.pharmacy.upatras.gr/index.php/en/personell/faculty-members/associate-professors/31-topouzis-stavros>

Curriculum Vitae (February 2020)

Education

- 1985 *Pharmacy Degree*, Aristotelian University of Thessaloniki, Greece
- 1986 *Diplôme d'Etudes Approfondies (DEA) de Pharmacologie et Pharmacochimie*, Université Louis Pasteur, Strasbourg, France
- 1989 *Doctorat de Pharmacologie Moléculaire et Cellulaire*, Université Louis Pasteur, Strasbourg, France

Professional / Research History

<u>Date</u>	<u>Institute</u>	<u>Position/Research</u>
1985-1990	Lab.de Pharmacol. Moléculaire et Cellulaire , Faculte de Pharmacie U. Louis Pasteur and Merrel-Dow Research Institute Strasbourg, FRANCE	Doctoral student / Researcher Nitric Oxide, Endothelin Molecular Mechanisms of Arterial Contractility
1990 - 1992	Dept. of Pharmacology/Toxicology Medical College of Georgia Augusta, Georgia USA	Research Fellow and Graduate School Lecturer Endothelial and Vascular Smooth Muscle cell (SMC) Biology
1992 - 1998	Dept. of Pathology Baylor College of Medicine Houston, Texas, USA	Research Associate Vascular Wall Morphogenesis SMC Lineage Diversity

1998 - 1999	Cell Biology MetaMorphix, Inc. Baltimore, Maryland USA	Research Scientist Myostatin, Skeletal Muscle growth Glucose homeostasis

1999 - 2006	Discovery Biology / Oncology ZymoGenetics Inc. Seattle, Washington, USA	Senior Scientist / Project Leader Protein-based Therapeutics for Cancer, Vascular & Immune Diseases and Regenerative Medicine

2006 -	Lab. Of Molecular Pharmacology Dept. of Pharmacy Univeristy of Patras, Patras, GREECE	Assistant ('06-'15) / Associate Professor ('15-) Biology of arterial smooth muscle and endothelial cells in Vascular and Inflammatory diseases Atherometabolic and fibroproliferative disorders

Teaching duties:

Undergraduate courses: Pharmacology (5th and 6th semesters), Toxicology (8th semester) (Pharmacy curriculum), Pharmaceutical Practice/Pharmaceutical Care (9th and 10th semesters)
Graduate courses: Drug Evaluation and Development, Bioethics, Drug Toxicology / Drug-drug interactions, Discovery and characterization of novel drug targets, Introduction to Pharmaceutical Sciences, Basic Toxicology

Reviewer:

Arteriosclerosis, Thrombosis and Vascular Biology (ATVB, 2008-),
 British Journal of Pharmacology (2009-),
 PloS One (2011-),
 Exp. Cell Res (2013-),
 Pharmacological Reviews (2016-)

Financial Support of research

- Principal Investigator: K. Karatheodori Research Excellence Grant, “*Modulation of the smooth muscle cell phenotype by alpha-1 adrenergic receptors*”, (**30K** Euros, U of Patras, 2009-12)
- Co-Investigator, Synergasia Consortium Grant (Academia-Industry cooperation) “*Discovery of Plant-Derived Angiogenesis-Modulating Molecules*” (Total Budget: 1.9Million Euros, of which 380K to the Lab. of Mol. Pharmacology, U of Patras (A, Papapetropoulos, St. Topouzis), Coordinator: Lab. of Pharmacognosy, U of Athens, 2011-15)
- National Representative and MC Member, FP7 COST EU-Consortium grant “*ENOG – European Network on Gasotransmitters: from basic science to therapeutic application*”, (Coordinator: Lab of Mol. Pharmacology, U of Patras, 2011-15)
- Co-Investigator REGPOT EU Project “*ESTABLISHMENT OF A CENTRE OF EXCELLENCE FOR STRUCTURE-BASED DRUG TARGET CHARACTERIZATION: STRENGTHENING THE RESEARCH CAPACITY OF SOUTH-EASTERN EUROPE*” (“*SEE-DRUG*”), Total Budget: 3.2Million Euros, of which ~2.9 Millions to the Dept. of Pharmacy (Coordinator: Lab. of Structural Biology, Dept. of Pharmacy, U of Patras, 2011-15)
- Principal Investigator (2014-5), THALIS Consortium “Hydrogen sulfide, a new endogenous regulator of angiogenesis: signaling, physiology/pathophysiology and development of pharmacological inhibitors” (Total budget of Consortium: **600K**Euros, Coordinator: Lab. of Mol. Pharmacology, Dept. of Pharmacy, U of Patras, 2011-15)
- Principal Investigator, Greece-Slovakia Cooperation “Study of the molecular mechanisms of action and functions of the novel endogenous gasotransmitter, hydrogen sulfide (H₂S), in arterial cells (Total budget: **15K**Euros, Coordinator: Lab. of Mol. Pharmacology, Dept. of Pharmacy, U of Patras, 2014-15)
- Scientific Coordinator P/I: EDBM34 / Reduced risk nicotine products: Comparative studies of their effect on pulmonary and fat tissues (Total budget: **50K**Euros, Coordinator: Lab. of Mol. Pharmacology, Dept. of Pharmacy, U of Patras, 2018-19)
- Scientific Coordinator P/I: EDBM34 / Novel functional activators of the soluble guanylate cyclase (sGC) (Total budget: **72K**Euros, Coordinator: Lab. of Mol. Pharmacology, Dept. of Pharmacy, U of Patras, 2018-19)
- Co-Investigator, Consortium «THE NATIONAL RESEARCH INFRASTRUCTURES ON INTEGRATED STRUCTURAL BIOLOGY, DRUG SCREENING EFFORTS AND DRUG TARGET FUNCTIONAL CHARACTERIZATION - INSPIRED» Code# 5002550 “Competitiveness, Entrepreneurship and Innovation” («Ανταγωνιστικότητα Επιχειρηματικότητα και Καινοτομία») 2014-2020» Dept. of Pharmacy, U of Patras, 2018-2021), Individual budget:**90K** Euros.

Managerial experience

- “Negotiating skills” Executive Program, University of Washington, Seattle, WA 2001
- “From Lab to Leadership”, Seattle, WA 2002

PUBLICATIONS

Publications in Peer-Reviewed Journals (newest to oldest)

SCOPUS Author h-index: 19, Total citations number, excluding self-citations: 2000

Google Scholar: 3000 total citations, h-index:20

- Z Zagoriti, MA El Mubarak, K Farsalinos and S Topouzis S (2020)
Effects of Exposure to Tobacco Cigarette, Electronic Cigarette and Heated Tobacco Product on Adipocyte Survival and Differentiation In Vitro **Toxics** 8(1). pii: E9. doi: 10.3390/toxics8010009.
- GI Andrikopoulos., Z Zagoriti, S Topouzis and K Poulas (2019)
Oxidative stress induced by electronic nicotine delivery systems (ENDS): Focus on respiratory system, **Current Opinion in Toxicology**, 13:81-89
- GI Makrynitsa, AA Zompra, AI Argyriou, GA Spyroulias and S Topouzis (2019)
Therapeutic Targeting of the Soluble Guanylate Cyclase **Curr Med Chem**, 26(15), pp. 2730-2747
- C Glynos, S-I Bibli, P Katsaounou , A Pavlidou, C Magkou, V Karavana, S Topouzis , I Kalomenidis, S Zakyntinos and A Papapetropoulos (2018)
Comparison of the effects of e-cigarette vapor with cigarette smoke on lung function and inflammation in mice **Am J Physiol (Lung Cell Mol Physiol)**, 315(5), pp. L662-L672
- AD Spathis, X Asvos, D, T Karampelas, S Topouzis, Z Kournia, X Qing, P Alexakos, LM Smits, C Dalla,HJ Rideout, JC Schwamborn, C Tamvakopoulos, D Fokas and DK Vassilatis (2017)
Nurr1:RXR α heterodimer activation as monotherapy for Parkinson's disease **Proc Natl Acad Sci USA** 114(15):3999-4004
- II Alexandropoulos , AI Argyriou, KD Marousis, S Topouzis, A Papapetropoulos and GA Spyroulias (2016)
(1)H, (13)C, (15)N backbone and side-chain resonance assignment of Nostoc sp. C139A variant of the heme-nitric oxide/oxygen binding (H-NOX) domain **Biomol NMR Assign**, 10(2):395-400
- B Umaru, A Pyriohou, V Kotsikoris, AJ Hobbs, A Papapetropoulos and S Topouzis (2015)
K_{ATP} channel activation mediates angiogenic responses *in vivo* and *in vitro* **J Pharmacol Exp Ther**, 354:79-87
- C Glynos, D Toumpanakis, C Loverdos, V Karavana, Z Zhou, C Magkou, SE Theocharis, M Dettoraki, F Perlikos, A Pavlidou, V Kotsikoris, S Topouzis, P Brouckaert, A Giannis, A Papapetropoulos and T Vassilakopoulos (2015)
Guanylyl cyclase activation reverses resistive breathing-induced lung injury and inflammation. **Am J Resp Cell Mol Biol**, 52(6):762-71
- A Kroustalli, V Kotsikoris, A Karamitri, S Topouzis and D Deligianni (2015)
Mechanoresponses of human primary osteoblasts grown on carbon nanotubes **J Biomed Materials Res**, 103(3):1038-44
- C Pavlidis, A Karamitri, A Barakou, DN Cooper, K Poulas, S Topouzis and GP Patrinos (2012)
Ascertainment and critical assessment of the views of the general public and healthcare professionals on nutrigenomics in Greece **Personalized Medicine**, 9(2):201-210
- IM Tzepe, EJ Giamarellos-Bourboulis, DP Carrer, T Tsaganos, RA Claus, I Vaki, A Pelekanou, A Kotsaki, V Tziortzioti, S Topouzis, M Bauer and A Papapetropoulos (2012)
Angiopietin-2 enhances survival in experimental sepsis induced by multidrug-resistant *Pseudomonas aeruginosa*, **J Pharmacol Exp Ther**, 343(2):278-87.

Z Zhou, M von Wantoch Rekowski, C Coletta, C Szabo, M Bucci, G Cirino, S Topouzis, A Papapetropoulos and A Giannis (2012) Thioglycine and L-thiovaline: Biologically active H(2)S-donors, *Bioorg Med Chem.*, 20(8):2675-8

JA Thomas, RA Deaton, NE Hastings, Y Shang, CW Moehle, U Eriksson, S Topouzis, BR Whamhoff, BR Blackman and GK Owens (2009) Platelet-Derived Growth Factor PDGF-DD, a novel mediator of smooth muscle cell phenotypic modulation, is upregulated in endothelial cells exposed to atherosclerotic-prone flow patterns, *Am J Physiol Heart Circ Physiol*, 296(2):H442-52

SR Dillon, C Sprecher, A Hammond, J Bilborough, M Rosenfeld-Franklin, SR Presnell, HS Haugen, M Maurer, B Harder, J Johnston, S Bort, S Mudri, JL Kuijper, T Bukowski, P Shea, D Dong, M Dasovich, FJ Grant, L Lockwood, SD Levin, C LeCiel, K Waggle, H Day, S Topouzis, J Kramer, R Kuestner, D Foster, J Parrish-Novak and JA Gross (2004) Interleukin 31, a cytokine produced by T cells, induces dermatitis in mice *Nature Immunol*, 5, 752-760

X Zhu, S. Topouzis, L-f Liang and RL Stotish (2004) Myostatin signaling through Smad2, Smad3 and Smad4 is regulated by the inhibitory Smad7 by a negative regulatory feedback mechanism *Cytokine*, 26, 262-272

Hudkins KL, Gilbertson DG, Carling M, Taneda S, Hughes SD, Holdren MS, Palmer TE, Topouzis S, Haran AC, Feldhaus AL and CE Alpers (2004) Exogenous PDGF-D is a potent mesangial cell mitogen and causes a severe mesangial proliferative glomerulopathy. *J Am Soc Nephrol*, 15, 286-298

S Taneda, KL Hudkins, S Topouzis, DG Gilbertson, V Ophascharoensuk, L Truong, RJ Johnson and CE Alpers (2003) Obstructive uropathy in mice and humans: potential role for PDGF-D in the progression of tubulointerstitial injury. *J. Am. Soc. Nephrol.*, 14, 2544-2555

S Changsirikulchai, KL Hudkins, TA Goodpaster, J Volpone, S Topouzis, DG Gilbertson and CE Alpers (2002) Platelet-derived growth factor-D expression in developing and mature human kidneys. *Kidney Internat.* 62, 2043-2054

W Xu, SR Presnell, J Parrish-Novak, W Kindsvogel, S Jaspers, Z Chen, SR Dillon, Z Gao, T Gilbert, K Madden, S Schultzmeyer, L Yao, TE Whitmore, Y Chandrasekher, FJ Grant, M Maurer, L Jelinek, H Storey, T Brender, A Hammond, S Topouzis, CH Clegg and DC Foster (2001) A soluble class II cytokine receptor, IL-22RA2, is a naturally occurring IL-22 antagonist. *Proc Natl Acad Sci USA*, 98, 9511-9116

S Topouzis and MW Majesky (1996) Smooth muscle lineage diversity in the chick embryo: Two types of aortic smooth muscle cell differ in growth and receptor-mediated transcriptional responses to transforming growth factor- β . *Dev Biol*, 178, 430-445

CY Chen, J Croissant, M Majesky, S Topouzis, T McQuinn, MJ Franskovsky and RJ Schwartz (1996) Activation of the cardiac α -actin promoter depends upon serum response factor, *tinman* homologue, Nkx-2.5, and intact serum response elements. *Dev Genetics*, 19, 119-130

JM Miano, S Topouzis, MW Majesky and EN Olson (1996) all-trans Retinoic acid antagonizes smooth muscle cell mitogenesis through an AP-1-dependent pathway. *Circulation*, 93, 1886-1895

V Kapur, S Topouzis, MW Majesky, LL Li, MR Hamrick, RJ Hamill, JM Patti and JM Musser (1993) A conserved *Streptococcus pyogenes* extracellular cysteine protease cleaves human fibronectin and vitronectin. *Microb Pathogen*, 15, 327-346

A Papapetropoulos, SE Burch, S Topouzis and JD Catravas (1993) Radiation-induced alteration in

Angiotensin-Converting Enzyme (ACE) activity in cultured bovine pulmonary arterial endothelial cells. **Toxicol Applied Pharmacol**, 120, 96-105

S Topouzis, JD Catravas, JW Ryan and TH Rosenquist (1992) Influence of vascular smooth muscle heterogeneity on Angiotensin-Converting enzyme (ACE) activity in chicken embryonic aorta. **Circ Res**, 71, 923-931

S Topouzis, C Schott and J-C Stoclet (1991) Participation of endothelium-derived relaxing factor and role of cyclic GMP in inhibitory effects of endothelium on contractile responses elicited by α -adrenoceptor agonists in rat aorta **J Cardiovasc Pharmacol**, 18, 670-678

S Topouzis, JT Pelton JP Huggins and RC Miller (1991) Modulation by endothelium of the responses induced by endothelin-1 and some of its analogues in rat isolated aorta. **Br J Pharmacol**, 102, 545-549

S Topouzis, TJ Pelton and RC Miller (1989) Effects of calcium entry blockers on contractions evoked by endothelin, [Ala^{3,11}]endothelin and [Ala^{1,15}]endothelin in rat isolated aorta. **Br J Pharmacol**, 98, 669-677

Reviews (peer-reviewed)

GI Andrikopoulos, Z Zagoriti, S Topouzis and K Poulas
Oxidative stress induced by electronic nicotine delivery systems (ENDs): focus on respiratory system, **Curr Opin Toxicol**, In Press

S-I Bibli, G Yang, Z Zhou, R Wang, S Topouzis and A Papapetropoulos (2015)
Role of cGMP in hydrogen sulfide signaling, **Nitric Oxide**, 46:7-13

A Papapetropoulos, AJ Hobbs and S Topouzis (2015)
Extending the translational potential of targeting nitric oxide/cGMP-regulated pathways in the cardiovascular system. **Br J Pharmacol**, 172(6):1397-414

Perspectives (peer-reviewed)

G Potamias, K Lakiotaki, T Katsila, M Lee, S Topouzis, DN Cooper and GP Patrinos (2014)
Deciphering next-generation pharmacogenomics: An information technology perspective. **Open Biology**;4(7). pii: 140071

Book Chapters

MW Majesky, XR Dong and S Topouzis (1996)
Smooth muscle cell diversity and extracellular matrix in a rat model of restenosis. **PRHSJ** 15, pp 187-191

MW Majesky and S Topouzis (1995)
Smooth muscle lineage diversity and atherosclerosis. In *Proceedings of the Xth Atherosclerosis Symposium*, Elsevier, Amsterdam, pp56-60

X Chen, S Topouzis and JD Catravas (1991)
Endothelial ectoenzyme as an inhibitor of pulmonary microvascular function. In *Appl. Cardiovasc. Biol.*, edited by P Zilla, R Fasol and A Callow, Karger, Basel, vol. 2, pp 277-306.

RC Miller, S Topouzis, JT Pelton and CR Hiley (1990)
Effects of endothelin and of some endothelin analogues on isolated smooth muscle preparations. In *Endothelium-Derived Contracting Factors*, edited by GM Rubanyi and PM Vanhoutte, Karger-Verlag, Basel, pp 88-97

ISSUED US PATENTS

United States Patent 7,172,757 February 6, 2007 **Method of treating fibroproliferative disorders** Inventors: Hart; Charles E. (Woodinville, WA); Topouzis; Stavros (Seattle, WA), Gilbertson; Debra G. (Seattle, WA) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent 7,045,498 May 16, 2006 **Soluble Zcytor11 cytokine receptors** Inventors: Kindsvogel; Wayne R. (Seattle, WA); Topouzis; Stavros (Seattle, WA) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent 6,827,938 December 7, 2004 **Compositions and methods for improving kidney function** Inventors: Hart; Charles E. (Woodinville, WA); Topouzis; Stavros (Seattle, WA) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent 6,630,142 October 7, 2003 **Method of treating fibroproliferative disorders** Inventors: Hart; Charles E. (Woodinville, WA); Topouzis; Stavros (Seattle, WA), Gilbertson; Debra G. (Seattle, WA) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent 6,368,597 April 9, 2002 **Methods of treating diabetes** Inventors: Strassmann; Gideon (Washington, DC), Liang; Li-fang (Elkridge, MD); Topouzis; Stavros (Elkridge, MD) Assignee: MetaMorphix, Inc. (Baltimore, MD)

PUBLISHED US PATENT APPLICATIONS

WO2007033140 September 11, 2008 **PROK2 antagonists and methods of use** Inventors: THOMPSON PENNY J (US); SIADAK ANTHONY W (US); NORIEGA CLAIRE R (US); FRANKLIN HENRY R (US); OGUZ SECIL (US); THOMPSON DEBORAH L (US); TOPOUZIS STAVROS (US); FRUEBIS JOACHIM (US); BRASEL KENNETH (US); YAO YUE (US)

United States Patent Application 20070048317 March 1, 2007 **Method of treating fibroproliferative disorders** Inventors: HART; CHARLES E.; (*Woodinville, WA*) ; Topouzis; Stavros; (*Seattle, WA*) ; Gilbertson; Debra G.; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20070048316 March 1, 2007 **Method of treating fibroproliferative disorders** Inventors: HART; CHARLES E.; (*Woodinville, WA*) ; Topouzis; Stavros; (*Seattle, WA*) ; Gilbertson; Debra G.; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20060121035 March 1, 2007 **Methods for treating diabetes** Inventors: Strassmann; Gideon; (*Washington, DC*) ; Liang; Li-fang; (*Savage, MD*) ; Topouzis; Stavros; (*Seattle, WA*) Assignee: MetaMorphix, Inc. (Baltimore, MD)

United States Patent Application 20060068471 March 30, 2006 **Soluble zcytor 11 cytokine receptors** Inventors: Kindsvogel; Wayne R.; (*Seattle, WA*); Topouzis; Stavros; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20050049217 March 3, 2005 **Compositions and methods for improving kidney function** Inventors: Hart, Charles E.; (*Woodinville, WA*) , Stavros; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20040043027 August 21, 2003 **Method of treating fibroproliferative disorders** Inventors: H Hart, Charles E.; (*Woodinville, WA*) , Topouzis; Stavros; (*Seattle, WA*) ; Gilbertson, Debra G.; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20030157096 March 4, 2004 **Soluble Zcytor11 cytokine receptors** Inventors: Kindsvogel, Wayne R.; (*Seattle, WA*) , Topouzis; Stavros; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20020183273 December 5, 2002 **Compositions and methods for improving kidney function** Inventors: Hart, Charles E.; (*Woodinville, WA*) , Stavros; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (Seattle, WA)

United States Patent Application 20020064832 May 30, 2002 **Method of treating fibroproliferative disorders** Inventors: Hart, Charles E.; (*Woodinville, WA*) , Topouzis; Stavros; (*Seattle, WA*) ; Gilbertson, Debra G.; (*Seattle, WA*) Assignee: ZymoGenetics, Inc. (*Seattle, WA*)

United States Patent Application 20020031517 March 14, 2002 **Methods for treating diabetes** Inventors: Strassmann, Gideon; (*Washington, DC*) ; Liang, Li-Fang; (*Elkridge, MD*) , Topouzis; Stavros; (*Elkridge, MD*) Assignee: MetaMorphix, Inc. (*Baltimore, MD*)