

PERSONAL INFORMATION

NAME: Despina Smirlis



DATE OF BIRTH: 27-5-1974

WORK ADDRESS:

Molecular Parasitology Laboratory,

Microbiology Dpt, Hellenic Pasteur Institute, 127 Bas. Sofias Ave., Zip:11521,

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EDUCATION

1993-1996 BSc Biochemistry, Imperial College London, University of London (Honours, upper second class)

1997-2001 PhD Biochemistry and Molecular Biology, University College London
Thesis: Transcriptional Regulation of Rat *CYP2B* Genes

EMPLOYMENT RECORD**POSTDOCTORAL POSITIONS**

1-9/2001 Post-doctoral research in the Protein Crystallography Lab, Biology Department, NCRS Democritos

2001-2007 Post-doctoral research training at Molecular Parasitology Lab group of Hellenic Pasteur Institute

ACADEMIC APPOINTMENTS

2007-03/2014 Researcher Grade D (Junior Investigator, Lecturer level) at the Molecular Parasitology Laboratory, Microbiology Department, Hellenic Pasteur.

3/2014-now Researcher Grade C at the Molecular Parasitology Laboratory (Assistant Professor Level), Microbiology Dpt Hellenic Pasteur Institute

1/2016-10/2017 Visiting Scientist at the Molecular Parasitology and Signaling Unit, Institut Pasteur

PROFESSIONAL ACTIVITIES**AWARDS-HONOURS**

1997-2001 Welcome Trust Toxicology PhD Prize Studentship

09/2009 Recipient of the Short Mission Fellowship of the COST BM0802 Action for training in the Trypanosome Cell Biology Laboratory - CNRS URA 2581, Institut Pasteur Paris (Dr P. Bastin)

- 2009-2012 Appointed Greek Management Committee substitute member of the BM0802 action- Life or death of protozoan parasites
- 4-8/2013 Recipient of the Programme Calmette and Yersin traineeship (International Pasteur Network) in the Molecular Parasitology and Signaling Unit of Institut Pasteur: "Generation of conditional *Leishmania* Aurora null mutants for investigating the role of this kinase in the parasitic life-cycle and evaluating its potential as a putative drug target for anti-leishmanial chemotherapy"
- 2013-2015 Coordinator of Actions Concertées des Instituts Pasteur (ACIP, 2013)
- 2015-2017 Appointed Greek Management Committee Substitute Member for Greece in the COST CM1307 ACTION "Targeted chemotherapy towards diseases caused by endoparasites"
- 9-12/2015 Recipient of the Short Mission Fellowship of the COST CM1307 Action "Investigating regulatory & functional elements of *Leishmania infantum* Aurora kinase, and assessment of its role in parasite genomic adaptation" in the Molecular Parasitology and Signaling Unit of Institut Pasteur
- 11-02-2016 Unesco-Hellas Award for Scientific achievement

COMMITTEE ASSIGNMENTS AND INSTITUTIONAL RESPONSIBILITIES

- 2007- Now Head of the FACS Unit of the Hellenic Pasteur Institute
- 2012 Member of the evaluation and recruitment committee for Technical Personnel of the Hellenic Pasteur Institute
- 2014 Member in the PhD evaluation committee of Dr Antonia Efstathiou in the Department of Chemistry at the National Kapodistrian University of Athens

REVIEWER EXPERTISE

Manuscript Reviewer: Plos Pathogens, Plos One, International Journal of Parasitology, Parasitology, Parasites and Vectors, Mini Reviews in Medicinal Chemistry, Asia Pacific Journal of Mol. Biology and Biotechnology

TEACHING EXPERIENCE

- 1997-2000 Demonstrator at the UCL undergraduate Molecular Biology Course B200
- 1998-1999 Demonstrator and tutor at Molecular Biology Practicals of the MSc course: Applied Molecular Biology and Biochemistry
- 12/2012 Lecturer at the Research seminar of the Biology Department of the National Kapodistrian University of Athens: The unusual lives of trypanosomatids

11/2016 Institut Pasteur, Tehran, Iran: International Workshop "*Leishmania* and leishmaniasis immunology, vaccine and drug discovery-therapy" Speaker: Recent approaches in anti-leishmanial drug discovery

THESES/ FINAL YEAR PROJECTS

2007-2008 Anastasios Katopodis Final Year (Biology, National Kapodistrian University) Project Supervisor in a project entitled "Cloning and molecular characterisation of the *Leishmania* protein Ran"

2008 Irene's Daoudadakis BSc Final Year Project Supervisor (Technical University of Athens) in a project entitled "Construction of targeted cassettes for the knockout of *Leishmania* protein Ran"

2009 Evangelos Nomikos BSc Final Year Project Supervisor (Technical University of Athens) in the final Year Project entitled "Expression and purification of a *Leishmania* RCC1 protein fragment"

2010-2013 Co-supervisor of Alexandros Alexandratos PhD thesis (Chemistry, University of Ioannina) "Study of molecules important for cell-cycle progression in the protozoan parasite *Leishmania*"

2010-2014: Co-supervisor of Antonia's Efstathiou PhD thesis entitled (Biology, National Kapodistrian University of Athens) entitled «Study of molecules implicated in the development of *Leishmania* and *T.brucei* parasites»

2016: Final Year Project supervisor Garyfallia Loulou (Technical University of Athens) in the final Year Project "Phenotypic characterization of *Leishmania infantum* parasites knocked out or over-expressing the *Leishmania* dual specificity tyrosine regulated kinase 1 (DYRK1), for the study of its biological role"

2013-2017 Co-supervised with Dr Milena Soares (FIOCRUZ, Bahia, Brazil) Vinicius Pinto Rocha. Dr Rocha "*Leishmania infantum* Dyrk1 in the development of infective promastigotes and in stage differentiation".

2015- 2017: Final Year Project Student Supervisor: Foteini Kolokous. Project title: "Investigating the role of *LinDYRK1* in *Leishmania Infantum*"

2017-2018 MSc Student supervisor: Dedousis Glymis. MSc Title: Investigation of the role of Aurora kinase of the parasite *Leishmania* via the use of transgenic mutants

2018-2019 Final Year Project Student Supervisor: Georgios Siotas. Project title: Production and purification of *Leishmania* kinases for the development of kinase assays

2018-2019 Final Year Project student: Eirini Meli-Kochyla

INVITED LECTURES -CONFERENCES (ORGANISATION/INVITATIONS)

1. Research seminar of the Biology Department of the National Kapodistrian University of Athens: The unusual lives of trypanosomatids, 19-12-2012
2. UMR8638 CNRS-Université Paris Descartes, "Novel drug targets and drugs for the treatment of leishmaniasis", 19-7-2013
3. Institute Pasteur Paris, Scientific Symposium of the Institut Pasteur International Network "Exploring the role of *Leishmania infantum* DYRK1 and Aurora kinases in the parasitic lifecycle for anti-leishmanial drug discovery", 11-9-14
4. **D. Smirlis** "*Leishmania* and leishmaniasis immunology, vaccine and drug discovery-therapy" Speaker: Recent approaches in anti-leishmanial drug discovery, 9-13 November 2016, Institut Pasteur, Tehran, Iran: International Workshop
5. **D. Smirlis** "Leishmaniasis: Current challenges in research and Public Health. 12th Panhellenic Conference on Public Health & Health Services". 19-21 March 2018, Athens

PUBLICATIONS

1. Muangmoonchai R, **Smirlis D**, Wong SC, Edwards M, Phillips IR, Shephard EA. Xenobiotic induction of cytochrome P450 2B1 (CYP2B1) is mediated by the orphan nuclear receptor constitutive androstane receptor (CAR) and requires steroid co-activator 1 (SRC-1) and the transcription factor Sp1. **Biochem J**. 2001 Apr 1;355(Pt 1):71-8. (IF. 4.28)
2. **Smirlis D**, Muangmoonchai R, Edwards M, Phillips IR, Shephard EA. Orphan receptor promiscuity in the induction of cytochromes p450 by xenobiotics. **J Biol Chem**. 2001 Apr 20;276(16):12822-6.
3. Muangmoonchai R, Wong SC, **Smirlis D**, Phillips IR, Shephard EA. Transfection of liver in vivo by biolistic particle delivery: its use in the investigation of cytochrome P450 gene regulation. **Mol Biotechnol**. 2002 Feb;20(2):145-51.(IF. 136)
4. **Smirlis D**, Bisti SN, Xingi E, Konidou G, Thiakaki M, Soteriadou KP. *Leishmania* histone H1 overexpression delays parasite cell-cycle progression, parasite differentiation and reduces *Leishmania* infectivity in vivo. (IF: 6.04) **Mol Microbiol**. 2006 Jun;60(6):1457-73.
5. Georgopoulou K, Smirlis D, Bisti S, Xingi E, Skaltsounis L, Soteriadou K. In vitro activity of 10-deacetylbaocatin III against *Leishmania donovani* promastigotes and intracellular amastigotes. **Planta Med**. 2007 Aug;73(10):1081-8. (IF. 1.37)
6. Xingi E, **Smirlis D**, Myrianthopoulos V, Magiatis P, Grant KM, Meijer L, Mikros E, Skaltsounis AL, Soteriadou K. 6-Br-5methylindirubin-3'oxime (5-Me-6-BIO) targeting the leishmanial glycogen synthase kinase-3 (GSK-3) short form affects cell-cycle progression and induces apoptosis-like death: exploitation of GSK-3 for treating leishmaniasis. **Int J Parasitol**. 2009 Oct;39(12):1289-303. doi: [10.1016/j.ijpara.2009.04.005](https://doi.org/10.1016/j.ijpara.2009.04.005).

7. **Smirlis D**, Boleti H, Gaitanou M, Soto M, Soteriadou K. Leishmania donovani Ran-GTPase interacts at the nuclear rim with linker histone H1. **Biochem J**. 2009 Dec 10;424(3):367-74. doi: [10.1042/BJ20090576](https://doi.org/10.1042/BJ20090576).
8. Boleti H, Smirlis D, Dalagiorgou G, Meurs EF, Christoforidis S, Mavromara P. ER targeting and retention of the HCV NS4B protein relies on the concerted action of multiple structural features including its transmembrane domains. **Mol Membr Biol**. 2010 Jan;27(1):45-62. doi: [10.3109/09687680903426208](https://doi.org/10.3109/09687680903426208).
9. **Smirlis D**, Duszenko M, Ruiz AJ, Scoulica E, Bastien P, Fasel N, Soteriadou K. Targeting essential pathways in trypanosomatids gives insights into protozoan mechanisms of cell death. **Parasit Vectors**. 2010 Nov 17;3:107. doi: [10.1186/1756-3305-3-107](https://doi.org/10.1186/1756-3305-3-107).
10. **Smirlis D**, Soteriadou K. Trypanosomatid apoptosis: 'Apoptosis' without the canonical regulators. **Virulence**. 2011 May-Jun;2(3):253-6.
11. Soares MB, Silva CV, Bastos TM, Guimarães ET, Figueira CP, **Smirlis D**, Azevedo WF Jr. Anti-*Trypanosoma cruzi* activity of nicotinamide. **Acta Trop**. 2012 May;122(2):224-9. doi: [10.1016/j.actatropica.2012.01.001](https://doi.org/10.1016/j.actatropica.2012.01.001).
12. Agallou M, **Smirlis D**, Soteriadou KP, Karagouni E. Vaccination with Leishmania histone H1-pulsed dendritic cells confers protection in murine visceral leishmaniasis. **Vaccine**. 2012 Jul 20;30(34):5086-93. doi: [10.1016/j.vaccine.2012.05.075](https://doi.org/10.1016/j.vaccine.2012.05.075).
13. Alexandratos A, **Smirlis D**. Protein sample preparation for proteomic analysis in *L.donovani*. Bioprotocol.Org (Vol. 4, Iss 5, Mar 05, 2014) ([online journal](http://www.bioprotocol.org/pdf/20141123044509778/1058%20Protein%20Sample%20Preparation%20for%20Proteomic%20Analysis%20in%20Leishmania%20donovani.pdf))(<http://www.bioprotocol.org/pdf/20141123044509778/1058%20Protein%20Sample%20Preparation%20for%20Proteomic%20Analysis%20in%20Leishmania%20donovani.pdf>)
14. Vassilaki N, Kalliampakou KI, Kotta-Loizou I, Befani C, Liakos P, Simos G, Mentis AF, Kalliaropoulos A, Doumba PP, **Smirlis D**, Foka P, Bauhofer O, Poenisch M, Windisch MP, Lee ME, Koskinas J, Bartenschlager R, Mavromara P. Low oxygen tension enhances hepatitis C virus replication. **J Virol**. 2013 Mar;87(5):2935-48. doi: [10.1128/JVI.025](https://doi.org/10.1128/JVI.025)
15. Alexandratos A, Clos J, Samiotaki M, Efstathiou A, Panayotou G, Soteriadou K, **Smirlis D**. The loss of virulence of histone H1 overexpressing *Leishmania donovani* parasites is directly associated with a reduction of HSP83 rate of translation. **Mol Microbiol**. 2013 Jun;88(5):1015-31. doi: [10.1111/mmi.1224034-12](https://doi.org/10.1111/mmi.1224034-12)
16. Sacconnay L, **Smirlis D**, Queiroz EF, Wolfender JL, Soares MB, Carrupt PA, Nurisso A Structural insights of SIR2rp3 proteins as promising biotargets to fight against Chagas disease and leishmaniasis. **Mol Biosyst**. 2013 Sep;9(9):2223-30. doi: [10.1039/c3mb70180h](https://doi.org/10.1039/c3mb70180h)
17. Gouzelou E, Haralambous C, Antoniou M, Christodoulou V, Martinković F, Živičnjak T, **Smirlis D**, Pratlong F, Dedet JP, Özbek Y, Toz SÖ, Presber W, Schönian G, Soteriadou K. Genetic diversity and structure in Leishmania infantum populations from southeastern Europe revealed by microsatellite analysis. **Parasit Vectors**. 2013 Dec 5;6:342. doi: [10.1186/1756-3305-6-342](https://doi.org/10.1186/1756-3305-6-342).

18. Efstathiou A, Gaboriaud-Kolar N, **Smirlis D**, Myriantopoulos V, Vougianniopoulou K, Alexandratos A, Kritsanida M, Mikros E, Soteriadou K, Skaltsounis AL. 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 May 20;7:234. doi: [10.1186/1756-3305-7-234](https://doi.org/10.1186/1756-3305-7-234).
19. Stellas D, Souliotis VL, Bekyrou M, **Smirlis D**, Kirsch-Volders M, Degrassi F, Cundari E, Kyrtopoulos SA. Benzo[a]pyrene-induced cell cycle arrest in HepG2 cells is associated with delayed induction of mitotic instability. **Mutat Res**. 2014 Nov;769:59-68. doi: [10.1016/j.mrfmmm.2014.07.004](https://doi.org/10.1016/j.mrfmmm.2014.07.004)
20. M. Becerra, S. Boutefnouchet, O. Cordoba, L. Brehu, I. Lamour, F. Laimay, A. Efstathiou, **D. Smirlis**, S. Michel, M. Kritsanida, M.L. Flores, R. Grougnet. Antileishmanial activity of fucosterol recovered from *lessonia vadosa* by SFE, PSE and CPC **Phytochem Letters**; March 2015; **11**: 418–423; doi:[10.1016/j.phytol.2014.12.019](https://doi.org/10.1016/j.phytol.2014.12.019)
21. Papadaki A, Politou AS, **Smirlis D**, Kotini MP, Kourou K, Papamarcaki T, Boleti H. The *Leishmania donovani* histidine acid ecto-phosphatase LdMAcP: insight into its structure and function. **Biochem J**. 2015 May 1;467(3):473-86. doi: [10.1042/BJ20141371](https://doi.org/10.1042/BJ20141371)
22. Azevedo L, Faqueti L, Kritsanida M, Efstathiou A, **Smirlis D**, Franchi GC Jr, Genta-Jouve G, Michel S, Sandjo LP, Grougnet R, Biavatti MW. Three new trixane glycosides obtained from the leaves of *Jungia sellowii* Less. using centrifugal partition chromatography. **Beilstein J Org Chem**. 2016 Apr 12;12:674-83 doi: [10.3762/bjoc.12.68](https://doi.org/10.3762/bjoc.12.68)
23. Zoidis G, Tsotinis A, Tsatsaroni A, Taylor MC, Kelly JM, Efstathiou A, **Smirlis D**, Fytas G. Lipophilic conformationally constrained spiro carbocyclic 2,6-diketopiperazine-1-acetohydroxamic acid analogues as trypanocidal and leishmanicidal agents: An extended SAR study. **Chem Biol Drug Des**. 2017 Aug 21. doi: [10.1111/cbdd.13088](https://doi.org/10.1111/cbdd.13088).
24. Kyriazis ID, **Smirlis D**, Papadaki A, Koutsoni O, Aligiannis N, Skaltsounis AL, Dotsika E. Leishmanicidal Activity of Oleuropein: *Leishmania donovani* Promastigote Cell Death through a Possibly ROS-Independent Mechanism. **J Pharmacogn Nat Prod** 3: 141, (2017) doi: [10.4172/2472-0992.1000141](https://doi.org/10.4172/2472-0992.1000141)
25. Njock GBB, Grougnet R, Efstathiou A, **Smirlis D**, Genta-Jouve G, Michel S, Mbing JN, Kritsanida M. A Nitrile Glucoside and Biflavones from the Leaves of *Campylospermum excavatum* (Ochnaceae). **Chem Biodivers**. 2018 Feb;91(2):408-421 doi: [10.1002/cbdv.201700241](https://doi.org/10.1002/cbdv.201700241)
26. Efstathiou A, Meira CS, Gaboriaud-Kolar N, Bastos TM, Rocha VPC, Vougianniopoulou K, Skaltsounis AL, **Smirlis D**, Soares MBP. Indirubin derivatives are potent and selective anti-*Trypanosoma cruzi* agents. **Virulence**. 2018;9(1):1658-1668. doi: [10.1080/21505594.2018.1532242](https://doi.org/10.1080/21505594.2018.1532242).
27. Agallou M, Pantazi E, Tsiftsaki E, Toubanaki DK, Gaitanaki C, **Smirlis D**, Karagouni E. Induction of protective cellular immune responses against experimental visceral leishmaniasis mediated by dendritic cells pulsed with the N-terminal domain of *Leishmania infantum* elongation factor-2 and CpG oligodeoxynucleotides. **Mol Immunol**. 2018 Nov;103:7-20. doi: [10.1016/j.molimm.2018.08.004](https://doi.org/10.1016/j.molimm.2018.08.004)

28. Bussotti G, Gouzelou E, Côrtes Boité M, Kherachi I, Harrat Z, Eddaikra N, Mottram JC, Antoniou M, Christodoulou V, Bali A, Guerfali FZ, Laouini D, Mukhtar M, Dumetz F, Dujardin JC, **Smirlis D**, Lechat P, Pescher P, El Hamouchi A, Lemrani M, Chicharro C, Llanes-Acevedo IP, Botana L, Cruz I, Moreno J, Jeddi F, Aoun K, Bouratbine A, Cupolillo E, Späth GF. *Leishmania* Genome Dynamics during Environmental Adaptation Reveal Strain-Specific Differences in Gene Copy Number Variation, Karyotype Instability, and Telomeric Amplification. **MBio**. 2018 Nov 6;9(6). pii: e01399-18. doi: [10.1128/mBio.01399-18](https://doi.org/10.1128/mBio.01399-18).
29. Giraud E, Rouault E, Fiette L, Colle JH, **Smirlis D**, Melanitou E. Osteopontin in the host response to *Leishmania amazonensis*. **BMC Microbiol**. 2019 Feb 8;19(1):32. doi: [10.1186/s12866-019-1404-z](https://doi.org/10.1186/s12866-019-1404-z). PMID: 30736736 Free PMC Article
30. Hombach-Barrigah A, Bartsch K, **Smirlis D**, Rosenqvist H, MacDonald A, Dingli F, Loew D, Späth GF, Rachidi N, Wiese M, Clos J. *Leishmania donovani* 90 kD Heat Shock Protein - Impact of Phosphosites on Parasite Fitness, Infectivity and Casein Kinase Affinity. **Sci Rep**. 2019 Mar 25;9(1):5074. doi: [10.1038/s41598-019-41640-0](https://doi.org/10.1038/s41598-019-41640-0)
31. Efstathiou A, Gaboriaud-Kolar N, Myrianthopoulos V, Vougianniopoulou K, Subota I, Aicher S, Mikros E, Bastin P, Skaltsounis AL, Soteriadou K, **Smirlis D**. Indirubin analogues inhibit *Trypanosoma brucei* Glycogen Synthase Kinase 3 short and *T. brucei* growth. **Antimicrob Agents Chemother**. 2019 Mar 25. pii: AAC.02065-18. doi: [10.1128/AAC.02065-18](https://doi.org/10.1128/AAC.02065-18). [Epub ahead of print]

Book chapters

32. Edwards M, Wong SC, Chotpadiwetkul R, **Smirlis D**, Phillips IR, Shephard EA. Transfection of primary cultures of rat hepatocytes. **Methods Mol Biol**. 2006;320:273-82. (**Book chapter**)
33. **Smirlis D**, Soares MB. Selection of molecular targets for drug development against trypanosomatids. **Subcell Biochem**. 2014;74:43-76. doi: [10.1007/978-94-007-7305-9_2](https://doi.org/10.1007/978-94-007-7305-9_2). (**Book chapter**)

corresponding author

REFEREED PROCEEDING OF INTERNATIONAL ABSTRACTS

1. E. Xingi, **D.Smirlis**, S.Bisti, V. Myrianthopoulos, P. Magiatis, L. Meijer, E. Mikros, A.L. Skaltsounis, K. Soteriadou. Natural and synthetic indirubins as potent and selective inhibitors of the protozoan parasite *Leishmania donovani*. **Source:** PLANTA MEDICA **Volume:** 73 **Issue:** 9 **Pages:** 942-943 **Meeting Abstract:** P382 **Published:** AUG 2007
2. K. Vougianniopoulou, N. Gaboriaud-Kolar, A. Efstathiou, K. Soteriadou, **D. Smirlis**, L. Skaltsounis. Identification of indirubin derivatives as anti-trypanosomal agents. 32. K. Vougianniopoulou, N. Gaboriaud-Kolar, A. Efstathiou, K. Soteriadou, D. Smirlis, L. Skaltsounis. Identification of indirubin derivatives as anti-trypanosomal agents. Conference: 62nd International Congress and Annual Meeting of the Society-of-Medicinal-Plant-and-Natural-Product-Research Location: Guimaraes, PORTUGAL

Date: AUG 31-SEP 14. **Source:** PLANTA MEDICA **Meeting Abstract:** 80 - P1L81 DOI: 10.1055/s-0034-1394738

3. E. Gouzelou, M.E. Tsoumani, I.V. Ntalas, A. Efstathiou, **D. Smirlis**, I.A. Goudevenos, A.D. Tselepis, K. Soteriadou. The assessment of genetic polymorphisms and their potential association with aspirin resistance in a population of Greek patients with acute coronary syndrome. *Atherosclerosis*; July 2015, Volume 241, Issue 1, Page e133; EAS-0547
4. J. Tchoumtchoua, S. Theocharis, M. Halabalaki, A. Efstathiou, N. Gaboriaud-Kolar, **D. Smirlis**, A.E. Konstantinidou, E.S. Patsouris, A.-L. Skaltsounis. Toxicological study of the indirubin derivative 7BIO *Planta Med.* 2016 Dec;81(S 01):S1-S381. Epub 2016 Dec 14.

PRESENTATIONS IN INTERNATIONAL CONFERENCES

1. E.A. Shephard, S.C. Wong, M. Edwards, **D. Smirlis**, I. R. Phillips, R. L. Smith, M. H. Smith, I.R. Phillips. Mechanism of Phenobarbital action. 12th International Symposium on Microsomes and Drug Oxidations, Montpellier, France (1998) (Oral presentation)
2. **D. Smirlis**, R. Muangmoonchai, M. Edwards, I. R. Phillips, E.A. Shephard. Transcription factors that regulate xenobiotic induced *CYP2B1* gene expression. 13th International Symposium on Microsomes and Drug Oxidations, Stresa, Italy (2000) (Poster)
3. **D. Smirlis**, E. Xingi, S. Bisti, M. Thiakaki, K. Soteriadou. *Leishmania* histone H1 regulates parasite infectivity and cell-cycle progression (Oral presentation) Third World congress on Leishmaniosis (WorldLeish 3), Palermo-Terrasini, Sicily, Italy (2005)
4. C. Haralambous, **D. Smirlis**, K. Soteriadou. Exploitation of *histone H1* and *K26* gene polymorphisms for genotyping strains belonging to the *Leishmania donovani* complex Third World congress on Leishmaniosis (WorldLeish 3), Palermo-Terrasini, Sicily, Italy (2005) (Poster)
5. C. Haralambous, **D. Smirlis**, K. Soteriadou. Evidence for the presence of cis-regulating elements in the 3' UTRs of histone genes and of protein(s) interacting with this element Third World congress on Leishmaniosis (WorldLeish 3), Palermo-Terrasini, Sicily, Italy (2005) (Poster, **best poster award**)
6. **D. Smirlis**, K. Soteriadou Exploitation of *Leishmania* histone H1 as a novel target for antiparasitic drug development. Cost Action B22. Drug Discovery and development for parasitic diseases. Athens Greece (October 2006) (Oral presentation)
7. E. Xingi, **D. Smirlis**, S. Bisti, V. Myrianthopoulos, P. Magiatis, L. Meijer, E. Mikros, A.L. Skaltsounis, K. Soteriadou. Natural and synthetic indirubins as potent and selective inhibitors of the protozoan parasite *Leishmania donovani*. **Source:** PLANTA MEDICA **Volume:** 73 **Issue:** 9 **Pages:** 942-943 **Meeting Abstract:** P382 **Published:** AUG 2007 (Poster)
8. E. Xingi, V. Myrianthopoulos, **D. Smirlis**, S. Bisti, P. Magiatis, E. Mikros, L. Skaltsounis, K. Soteriadou. Indirubins as potent and selective inhibitors of the protozoan parasite *L. donovani*: *Leishmania*

glycogen synthase kinase 3 a putative target of the 6- bromo-substituted indirubins. Cost Action B22. Drug Discovery and development for parasitic diseases. Athens Greece (October 2006) (Poster)

9. D. Smirlis, H. Boleti, M. Gaitanou, K. Soteriadou; The leishmanial Ran-GTPase system reveals an atypical Ran network. Understanding and controlling infectious diseases: an agenda for the 21st century. Institute Pasteur, Paris, France, 11-11-13 November 2008 (Oral presentation)

10. D. Smirlis, J. Clos, K. Soteriadou. *Leishmania* histone H1 modulates Hsp90 and elongation factor 2 protein levels and induces post-translational modifications in beta-tubulin. Understanding and controlling infectious diseases: an agenda for the 21st century. Institute Pasteur, Paris, France, 11-13 November 2008 (Poster)

11. E. Xingi, D. Smirlis, K-M. Grant , L. Meijer, A-L. Skaltsounis and K. Soteriadou. Exploitation of GSK-3beta for treating leishmaniasis, a trans-trypanosomatid drug target. Understanding and controlling infectious diseases: an agenda for the 21st century. Institute Pasteur, Paris, France, 11-11-13 November 2008 (Poster)

12. D. Smirlis, H. Boleti, M. Gaitanou, K. Soteriadou; The leishmanial Ran-GTPase system reveals an atypical Ran network. 4th World congress on Leishmaniasis 2009, 3-7th February 2009, Lucknow, India (Oral presentation)

13. K. Soteriadou, C. Haralambous, E. Gouzou, P. Smirlis, M-Z Alam, K. Kuhls, F. Paratlong, J-P. Dedet, M. Antoniou, G. Shonian. *Leishmania donovani* emergence in Europe: Cyprus evidence is an alarm call. 4th World congress on Leishmaniasis 2009, 3-7th February 2009, Lucknow, India (Oral presentation)

14. C. Haralambous, D. Smirlis, M. Soto, K. Soteriadou. Molecular characterization of the stem loop binding in *Leishmaniadonovani* and its putative role in histone modulation 4th World congress on Leishmaniasis 2009, 3-7th February 2009, Lucknow, India (Poster)

15. K. Soteriadou, E. Xingi, D. Smirlis, K. M. Grant, L. Meijer, A.-L. Skaltsounis. Exploitation of GSK3-beta for treating Leishmaniasis, a trans-trypanosomatid drug target. 4th World congress on Leishmaniasis 2009, 3-7th February 2009, Lucknow, India (Poster)

16. D. Ruiz, L. Ramirez, M. A. Pineda, C. Haralambous, D. Smirlis, K. Soteriadou, P. Bonay, M. Soto. Identification of cis elements involved in the cell-cycle dependent translation of *Leishmania* histone genes. 4th World congress on Leishmaniasis 2009, 3-7th February 2009, Lucknow, India (Poster)

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19. D. Smirlis , E.Xingi ,V. Myrianthopoulos , P. Magiatis , K.M. Grant, L. Meijer, E. Mikros ,A.L. Skaltsounis ,K. Soteriadou. Leishmanial glycogen synthase kinase-3 (GSK-3) short form affects cell-

cycle progression and induces apoptosis-like death: exploitation of GSK-3 for treating leishmaniasis COST BM0802 Meeting: Lausanne, Switzerland 11- 13 April, 2010 (Oral presentation)

20. N. Vassilaki, K.I. Kalliampakou, I. Kotta-Loizou, **D. Smirlis**, R. Bartenschlager and P. Mavromara. Oxygen tension modulates hepatitis C virus proliferation, 4th European congress of virology, 7-11 April, 2010

21. A. Efstathiou, **D. Smirlis**, A.-L. Skaltsounis, K. Soteriadou

Indirubins a class of CDK/GSK-3 inhibitors, emerge as potential antiparasitics: Effect of indirubin substitutions on anti-trypanosomal and anti-leishmanial activities. COST BM0802 Meeting: Brussels, Belgium 27-29 March 2011 (Poster)

22. A. Alexandratos, J. Clos, M. Samiotaki, G. Panayotou, K. Soteriadou, **D. Smirlis**

The over-expression of *Leishmania* histone H1 renders *L. donovani* promastigotes more sensitive to apoptotic triggers: a proteomics screen for the identification of factors implicated in stress/drug induced cell death. COST BM0802 Meeting: Brussels, Belgium 27-29 March 2011 (Poster)

23. A. Efstathiou, **D. Smirlis**, A.-L. Skaltsounis, K. Soteriadou. The anti-parasitic effect of indirubin analogues on *L. donovani* and *T. brucei* parasites. COST BM0802 Meeting, Milan, 19-20 January, 2012 (Poster)

24. A. Alexandratos, J. Clos, M. Samiotaki, G. Panayotou, K. Soteriadou, **D. Smirlis**

The over-expression of *Leishmania* histone H1 renders *L. donovani* promastigotes more sensitive to apoptotic triggers: a proteomics screen implicates HSP90 in modulating sensitivity to stress/drug induced cell death. COST BM0802 Meeting, Milan, 19-20 January, 2012 (Oral presentation)

25. A. Efstathiou, A.-L. Skaltsounis, K. Soteriadou, **D. Smirlis**; Evaluation of the *in vitro* antiparasitic activity of indirubins identifies a new class of anti-trypanosomal lead drug candidates. 8th Brazilian Symposium of Pharmacognosy and 11th International Symposium of the Brazilian Society of Pharmacognosy, Illheus-Bahia, Brazil: 18-22/4/2012) (Poster)

26. V. Pinto Costa Rocha, A. Efstathiou, M. B. P. Soares, **D. Smirlis**; Evaluation of a leishmanial DYRK kinase as a molecular target for the development of antileishmanial drugs. 5th World congress on Leishmaniasis, Porto de Galinhas, Pernambuco, Brazil 13 to 17 May 2013 (Poster)

27. A. Efstathiou, L. Skaltsounis, K. Soteriadou, and **D. Smirlis**; Exploitation of parasitic kinases for the development of indirubin-based antitrypanosomatids, COST 4th Annual Meeting of Action CM0801 "New Drugs for Neglected Diseases" 19-21 September, 2012, Kolymbari, Chania, Greece (Oral presentation)

28. I.D. Kyriazis, **D. Smirlis**, A. Papadaki, N. Aligiannis, P. Polychronopoulos, A.-L. Skaltsounis, E. Dotsika; Leishmanicidal activity assessment of olive tree extracts: Oleuropein a powerful antioxidant is able to promote *L. donovani* promastigote cell-death, COST 4th Annual Meeting of Action CM0801 "New Drugs for Neglected Diseases" Kolymbari, Chania, Greece (Poster)

29. V. Rocha, **D. Smirlis**, F.-R. Nonato, N. Aligiannis, K. Argyropoulou, I. Koloura, S. Amoah, M. Halabalaki, K. Soteriadou, A.-L. Skaltsounis, Milena B. P. Soares; Greek biodiversity as an important

source of bioactive molecules to fight Leishmaniasis. 5th World congress on Leishmaniasis, Porto de Galinhas, Pernambuco, Brazil 13 to 17 May 2013 (Poster)

30. A. Efstathiou, **D. Smirlis**, V. Myrianthopoulos, N. Gaboriaud-Kolar, K. Vougianniopoulou, E. Mikros, A.-L. Skaltsounis, K. Soteriadou; 3' bulky substitutions of 6-Br-indirubin-3'-oxime (6-BIO) primarily targeting CRK-3, shift specificity towards GSK-3. 5th World congress on Leishmaniasis, Porto de Galinhas, Pernambuco, Brazil 13 to 17 May 2013 (Poster)

31. **D. Smirlis**, Factors that modulate *Leishmania* infectivity and cell-cycle: Novel paradigms for antiparasitic drug discovery, Program of the Departmental days 2013, Parasitology and Mycology Department, Institut Pasteur, Paris, 18-19 June 2013 (Oral presentation)

32. A. Efstathiou, N. Gaboriaud-Kolar, V. Myrianthopoulos, K. Vougianniopoulou, M. Kritsanida, E. Mikros, A.-L. Skaltsounis, K. Soteriadou, **D. Smirlis**. Indirubin analogues target trypanosomatid kinases: challenges and opportunities for treating trypanosomatid diseases. INsPiRE Workshop: Cell cycle and natural products, Athens, Greece, 8-9 May 2014 (Oral presentation)

33. K. Vougianniopoulou, N. Gaboriaud-Kolar, A. Efstathiou, K. Soteriadou, **D. Smirlis**, L. Skaltsounis. Identification of indirubin derivatives as anti-trypanosomal agents. Conference: 62nd International Congress and Annual Meeting of the Society-of-Medicinal-Plant-and-Natural-Product-Research Location: Guimaraes, PORTUGAL Date: AUG 31-SEP 04, 2014 Sponsor(s): Soc Med Plant & Nat Prod Res Source: PLANTA MEDICA Meeting Abstract: 80 - P1L81 DOI: 10.1055/s-0034-1394738 (2014)

34. **D. Smirlis**, M. Dacher, A. Efstathiou, G.F. Späth. Investigation of the biological role of *Leishmania infantum* dual-specificity tyrosine (Y) regulated kinase 1 (DYRK1) and evidence for its requirement in stress response, 4th conference on protein kinases of parasitic protozoa: targeting signaling pathways in parasitic protozoa & COST CM1307 meeting, Technion Institute of Research and Technology, Haifa, Israel, 22-25th March 2015

35. V. Pinto Costa Rocha, M. Dacher, F. Kolokousi, A. Efstathiou, G. F. Späth, M. B. P. Soares, **D. Smirlis**. Investigation of the biological role of *Leishmania infantum* dual-specificity tyrosine-regulated kinase (*Lin*DYRK1) and evidence for its participation in parasite specific pathways": XXXI Annual Meeting of the Brazilian Society of Protozoology, 09 a 11 de Novembro de 2015 – Caxambu – MG – Brazil, **Award for best oral presentation**

36. **D. Smirlis**, P. Pescher, V. Hourdel, T. Douché, M. Matondo, N. Rachidi and G. F. Späth. Proteome and phosphoproteome profiling of *L. donovani* infected macrophages informs on new mechanisms of host immune subversion, Journées départementales, 13-15 June, 2016 (Poster)

37. **D. Smirlis** *In vitro* and *in vivo* antitrypanosomatid efficacy of GSK-3 inhibitors, PIV DRUG DEVELOPMENT Workshop, Institut Pasteur Paris, 28th April 2016 (Oral Presentation)

38. V. Pinto Costa Rocha, M. Dacher, F. Kolokousi, A. Efstathiou, G. F. Späth, M. B. P. Soares, **D. Smirlis**. Genetic analysis of *Leishmania infantum* Aurora and DYRK1 kinases reveals their role in parasite

survival and virulence respectively, TRYPANOSOMATID PARASITES FROM THE FIELD TO THE LAB, Institut Pasteur Paris, 26-27 May 2016 (Oral Presentation)

39. Efstathiou A., Gaboriaud-Kolar N., Bouziotis D., Agallou M., Karagouni E., Skaltsounis A.-L., Soteriadou K. and **Smirlis D.** *In vitro* and *in vivo* anti-trypanosomatid efficacy of GSK-3 inhibitors, The new microbiology, EMBO Course, Spetses, Greece, 24-8/ 1-09-2016 (Poster)

40. V. Pinto Costa Rocha, M. Dacher, F. Kolokousi, A. Efstathiou, G. F. Späth, M. B. P. Soares, **D. Smirlis.** *Leishmania infantum* DYRK1 in the development of infective promastigotes and in stage differentiation, BSP Autumn Symposium 2016, Durham, UK Microbial protein targets: towards understanding and intervention, 14-16 September 2016 (Oral presentation)

41. Tchoumtchoua J.; Theocharis S.; Halabalaki M.; Efstathiou A; Gaboriaud-Kolar N; Smirlis D; Konstantinidou AE ; Patsouris ES; Skaltsounis AL. Toxicological study of the indirubin derivative 7BIO Conference: 9th Joint Meeting of AFERP, ASP, GA, JSP, PSE and SIF Location: Copenhagen, DENMARK Date: JUL 24-27, 2016 **PLANTA MEDICA** Volume: 82 Supplement: 1 Meeting Abstract: P952 Published: DEC 2016

42. E. Gouzelou, P. Pescher, G. Bussotti², M. Antoniou, G. Späth, **D. Smirlis** Comparative analysis of genetically and phenotypically variable *Leishmania donovani* complex putative hybrids allows to explore their capacity for adaptive evolution 6th World Congress on Leishmaniasis, 16-20 May 2017 Toledo, Spain (Oral presentation)

43. **D. Smirlis**, F. Dingli, D. Loew, G. F. Späth, N. Rachidi. Development of a new systems-wide screen to identify host substrates of the *Leishmania* excreted casein kinase isoform 1.2 6th World Congress on Leishmaniasis, 16-20 May 2017 Toledo, Spain (Oral presentation)

44. A. Efstathiou, D. Bouziotis, N. Gaboriaud-Kolar, E. Karagouni, A.-L. Skaltsounis, K. Soteriadou, **D. Smirlis** GSK-3 inhibitors emerge *in vitro* and *in vivo* as new potential antitrypanosomatid therapy. 6th World Congress on Leishmaniasis, 16-20 May 2017 Toledo, Spain (Poster)

45. V. Rocha, M. Dacher, A. Efstathiou, F. Kolokousi, G. F. Späth, M. B. P. Soares, **D. Smirlis** The *Leishmania* Dual Specificity Tyrosine Regulated Kinase 1: the positive side of a negative regulator 2 6th World Congress on Leishmaniasis, 16-20 May 2017 Toledo, Spain (Poster)

46. Efstathiou, N. Gaboriaud-Kolar, C. Santana Meira, M. Agallou, M. B. P. Soares, E. Karagouni, A.-L. Skaltsounis, **D. Smirlis** Indirubins analogues as potent antikinoplastids via the inhibition of the parasitic Glycogen Synthase Kinase 3-short, Joint Retreat, Stapa Yupi 21-23 June 2018, Hellenic Pasteur Institute Athens, Greece (Poster)

47. A. Efstathiou, N. Gaboriaud-Kolar, V. Myrianthopoulos, E. Mikros, M. Agallou, D. Bouziotis, E. Karagouni, A.-L. Skaltsounis, **D. Smirlis** Indirubin analogues are promising compounds for the treatment of Leishmaniasis and Human African Trypanosomiasis, 30th International Symposium on the Chemistry of Natural Products, 25-29 November 2018, Athens, Greece (Poster)

PARTICIPATION IN RESEARCH PROJECTS AS COORDINATOR OR AS PI

BM0802 COST ACTION: 2009 -appointed Greek **MC substitute member** of the BM0802 action- Life or death of protozoan parasites

Foundation for Education and European Culture (IPEP) award: “Evaluation of the antileishmanial action of new indirubin analogues”(2011-2012) Budget:3000€ (**Main Recipient of Grant**)

ACIP 2013 International Pasteur Network: “Evaluation of *Leishmania* DYRK family of kinases as molecular targets for the development of antileishmanial drugs” (Hellenic Pasteur Institute, IP Paris, IP Montevideo, FIOCRUZ) (**Coordinator**) Budget: 15000 € (Program budget: 59 000€)

International Pasteur Network: LeisHield: A new collaborative action to determine prevalence, anticipate emergence and assess urbanization of cutaneous and visceral leishmaniasis in LeishRIIP partner countries (HPI PI) (2014-2015) Budget: 7000 €(**PI**)

FP7-PEOPLE-2010-IRSES: Exploring Chemical Biodiversity with Innovative Approaches for Fighting Chagas and Leishmaniasis. PIRCES-GA-2010-269301 (01/04/2011 – 28/03/2015) Budget: 48 300 € (**Co-PI**)

General Secretariat of Research and Technology KRIPIS:Infectious and neurodegenerative diseases of the 21st Century: From the study of basic mechanisms to translational research and development of cutting-edge technologies aiming towards prevention, diagnosis and treatment (WP leader), (2012-2015) Budget: 60241€ (**WP Leader**)

CM1307 COST ACTION “Targeted chemotherapy towards diseases caused by endoparasites”: 2015-appointed Greek **MC substitute member** (2014-2017)

General Secretariat of Research and Technology KRIPIS: Infectious, autoimmune and neurodegenerative diseases: Study of Pathogenic Mechanisms and development of diagnostic, prognostic and therapeutic approaches” Budget: 25000€ (**WP leader**), (2017-2019)

FUNDING OF LABORATORY MEMBERS**Dr Antonia EFSTATHIOU**

Recipient of the Post-doctoral fellowship of Excellence- SIEMENS (2016-2017) supported by the **Hellenic State Scholarships Foundation IKY-SIEMENS** [grant no: 2016-017-0173-10398], entitled “Investigation of the antiparasitic activity of drugs for the discovery of new treatments against parasitic diseases whose aetiological agents are parasites of the family of trypanosomatids” (Budget: 20000€), 30th June 2016- 31th August 2017)

PARTICIPATION IN RESEARCH PROJECTS AS A MEMBER

KESY 2008 (Hellenic Ministry of Health and Social Solidarity, Central Health Council-KESY): Differentiation and gene flow of strains belonging to the *Leishmania donovani* complex in the Eastern Mediterranean region (2008-2010). Budget: 10,000 € (**member**)

BILATERAL GREECE_TURKEY GSRT: "Participating as a member in the bilateral program between Greece and Turkey "(Re-) emergence and spread of the parasite *L. donovani* s.l. in Europe:". Coordinators: KettySoteriadou, Ozensoy Toz S., Ege, University. (2010-2012) Budget: 15,000 €(member)

NATIONAL ACTION COOPERATION GSRT:Exploring new markers for diagnosis of resistance to antiplatelet drugs in patients with cardiovascular disease. Alternative therapeutic approach to the development of new antiplatelet agents (2011-2014) Budget:150 000€ (member)

PARTICIPATION IN RESEARCH PROJECTS AS EXTERNAL COLLABORATOR

EDITAL No 005/2013 APOIO A PROJETOS ESTRATÉGICOS PARA O ESTADO DA BAHIA (Fundação de Amparo à Pesquisa do Estado da Bahia – Fapesb) Project title: Identificação de alvosmoleculares e avaliação das propriedadesfarmacológicas de moléculas para o tratamento de doenças de Chagas, leishmanioses e malária (Identification of molecular targets and pharmacological evaluation of molecules for treatment of Chagas disease, leishmaniosis and malaria). (Coordinator: Dr. Milena Botelho Pereira Soares)

PROJETANR: Découverte de nouvelles protéines kinases chez *Leishmania donovani* à partir des inhibiteurs tête de série issus d'un criblage phénotypique (Coordinator Dr G.Spaeth)