

Dionysia Kefala

Biochemist-Biotechnologist, MSc, PhD

Personal Information

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Work Experience

Oct 2024- Present Postdoctoral Research Fellow

Department of Hematology, Amsterdam UMC, Location VUmc, Netherlands

iPSC-derived CAR-T cell therapies

Principal Investigator: Maria Themeli

Oct 2021- Jun 2024 Research Associate

1. Laboratory Quality Management System (QMS) Organization & Implementation according to Good Manufacture Practice (GMP) Guidelines
2. Equipment & Supply chain management
3. Integral part for the acquisition of the Advanced Therapeutic Medicinal Products (ATMP) manufacturing license (80551/2023/ 29-02-2024) from the National Organisation of Medicines of ICT laboratory
 - Preparation & presentation of the laboratory QMS for the inspection
 - Participation in the on-site inspection by the local regulatory authorities
4. GMP validation of ATMP manufacturing for clinical translation in a phase I/II trial (EUDRACT-2021-006367-26).
5. ATMP documentation under investigation: Drafting of Investigation New Drug dossier and Investigator's Brochure for submission to the competent authorities
6. Preparation & submission of required documents for the audit and approval of commercial ATMPs in a clinical setting by pharmaceutical companies

Director: Alexandros Spyridonidis

GMP Lab, Institute of Cell Therapy (ICT), University of Patras

Bone Marrow Transplantation Unit, University General Hospital of Patras

Jun 2020- May 2024 PhD Thesis

"Preclinical development of an adoptive T cell immunotherapy against GvHD in allo-HSCT patients"

Supervisor: Alexandros Spyridonidis

Bone Marrow Transplantation Lab, Institute of Cell Therapy, University of Patras

Oct 2018- Apr 2019 Master Thesis

"Study hematopoiesis in Acute Myeloid Leukemia: Setting up a model based on Pluripotent Stem Cells"

Supervisor: Laurent David

IPSCDTC core facility, Health Research Institute, University of Nantes, France

- Feb 2018-
Jul 2018** **Master Internship**
 "Evaluation of CD38-CCR affinities for improving the dual BCMA-CD38 targeting strategy by CAR-T cells against multiple myeloma"
Supervisor: Maria Themeli
 Department of Hematology, UMCA, Location VUmc, Netherlands
- Jul 2017-
Aug 2017** **Graduate Trainee Internship**
 "Targeting of multiple myeloma related antigens via engineered CAR-T cells"
Supervisors: Maria Themeli, Richard Groen
 Department of Hematology, UMCA, Location VUmc, Netherlands
- Feb 2016-
Feb 2017** **Bachelor Thesis**
 "Gene silencing of *Orco* and *Snmp1* in the olive fruit fly, *Bactrocera oleae*"
Supervisors: Konstantinos Mathiopoulos, Konstantina Tsoumani
 Laboratory of Molecular Biology and Genomics, University of Thessaly, Larissa, Greece
- Jul 2013-
Aug 2013** **Bachelor Internship**
 Quality Control of food products post-production by evaluation of *E. coli*, coliforms, salmonella & Listeria detection, Tsabassis Golden Tastes S.A, Argos, Greece

Education

- Jun 2020-
May 2024** **PhD**
 School of Medicine, University of Patras, Greece
- Sep 2017-
Dec 2019** **MSc Oncology**
 Faculty of Medicine, Vrije Universiteit Amsterdam, the Netherlands
- Sep 2011-
Feb 2017** **BSc Biochemistry & Biotechnology**
 School of Health Sciences, University of Thessaly, Larissa, Greece

Expertise

1. Primary T cell & iPSC handling
2. Flow Cytometry, FACS Sorting & Analysis
3. Molecular Techniques (Cloning, Bacterial transformation, Transfection, Transduction, PCR, RT-PCR)
4. Genome Editing (CRISPR/Cas9)
5. Aseptic Working under GMP conditions

Languages

Greek: Native
 English: Advanced Level C1

Teaching

Supervision and training

1. MSc Internship: Selina Tzoumari, 1st year student, MSc Oncology, Vrije Universiteit Amsterdam, Feb 2026-July 2026
2. BSc Thesis: "Evaluation of HLA-G expression on hypomethylation-induced HLA-G expressing T regulatory cells after cryopreservation", Selina Tzoumari, 4th year student Department of Biology, University of Patras, May 2023-June 2024
3. Internship: Basic immunology, T cell culturing & Flow Cytometry- Ecem Çerçi, 3rd year student, Molecular Biology & Genetics, Üsküdar University, Jun 2023-Aug 2023

4. Internship: Basic immunology, T cell culturing & Flow Cytometry- Mustafa Can Caner, 3rd year student, Molecular Biology & Genetics, Üsküdar University, Jun 2023-Aug 2023
5. BSc Thesis: “Validation of differentially expressed genes of iG-Tregs uncovered by RNA-sequencing”, Selina Tzoumari, 4th year student Department of Biology, University of Patras, May 2023-Oct 2024
6. BSc Thesis: “Evaluation of HLA-G expression on hypomethylation-induced HLA-G expressing T regulatory cells after cryopreservation”, Afroditi Rapti, 4th year student Department of Biology, University of Patras, Nov 2022-Apr 2024
7. BSc Thesis: “Study of the effect of inhibitory cytokines on T cell proliferation” - Anastasia Klimi, 4th year student Department of Biology, University of Patras, Sep 2021-Sep 2022
8. Internship: T cell culturing, Flow Cytometry- Andreakou Agapi, 3rd year student Agricultural University of Athens, Direction - Biotechnology, Greece, Jun 2021- Aug 2021
9. Lab Training: iPSCs manipulation, CRISPR/Cas9 genome editing -Cécile Palao, 3rd year student, iPSC Platform, Health Research Institute of University of Nantes, France, Feb 2019- Mar 2019

Lectures

1. **Module: Cancer-Immune Diseases-Personalized Therapies**, BSc, Faculty of Medicine, Vrije Universiteit Amsterdam, 2025-2026
2. **Module: “Investigational New Drug Dossier. The case study of iG-Tregs”**, MSc Cell & Gene Therapy, School of Medicine, University of Patras, Greece, (<https://mastercgt.com/>), 2022-2026
3. **Module: “Submitting a file for GMP Facility authorization”**, MSc Cell & Gene Therapy, School of Medicine, University of Patras, Greece, 2022-2026
4. **Seminar: Principles of ATMP production, the life cycle of a product, Tracking/ Labelling, Gowning and simulation, Aseptic work and simulation**, MSc Cell & Gene Therapy, School of Medicine, University of Patras, Greece, 2022-2024
5. **Module: “How to get a Cell & Gene Therapy program started?”**, MSc Cell & Gene Therapy, School of Medicine, University of Patras, Greece, 2022-2023

Selected Abstracts Presented in Scientific Meetings

1. M. Lysandrou, **D. Kefala**, P. Christofi, M. Liga, A. Miggos, C. Papagregoriou, E. Vlachonikola, N. Savvopoulos, V. Zacharioudaki, I. Vallianou, E. Sagiadinou, D. Tsokanas, R. Theodorellou, A. Papadopoulou, E. Triantafyllou, I. Sakellari, P. Costeas, A. Chatzidimitriou, E. Yannaki, A. Spyridonidis. First-in-human phase I/II clinical trial of iG-Tregs for GvHD prevention. Congress of the International Society of Gene and Gene Therapy, May 29- June 1, 2024 - Vancouver. **Early-Stage Professionals Award**
2. M. Lysandrou, **D. Kefala**, P. Christofi, M. Liga, A. Miggos, C. Papagregoriou, E. Vlachonikola, N. Savvopoulos, V. Zacharioudaki, I. Vallianou, E. Sagiadinou, D. Tsokanas, R. Theodorellou, A. Papadopoulou, E. Triantafyllou, I. Sakellari, P. Costeas, A. Chatzidimitriou, E. Yannaki, A. Spyridonidis. First-in-human phase I/II clinical trial of iG-Tregs for GvHD prevention. 50th Annual Meeting of the European Society for Blood and Marrow Transplantation, April 14-17, 2024 - Glasgow
3. M. Lysandrou, **D. Kefala**, P. Christofi, C. Pieridou, E. Vlachonikola, P.G. Papayanni, M. Kyriakou, N. Savvopoulos, A. Miggos, A.-L. Chatzidaniil, A. Papadopoulou, K. Stamatopoulos, P. Costeas, E. Yannaki, A. Spyridonidis. Induced HLA-G⁺ regulatory T cells (iG-Tregs) against Graft-versus-Host Disease from bench to bedside. European Hematology Association Hybrid Congress, June 8-11, 2023 - Frankfurt. **Travel Award**
4. P. Christofi, **D. Kefala**, M. Lysandrou, P.G. Papayanni, C. Pieridou, N. Savvopoulos, A.-L. Chatzidaniil, M. Kyriakou, I. Sakellari, P. Costeas, A. Papadopoulou, E. Yannaki, A. Spyridonidis. Characterization and GMP manufacturing of epigenetically reprogrammed HLA-G expressing, T regulatory cells (iG-Tregs), 29th European Society of Gene & Cell Therapy Virtual Congress, October 11-14, 2022 - Edinburgh. **Travel Award**
5. **D. Kefala**, M. Lysandrou, P. Christofi, P.G. Papayanni, C. Pieridou, N. Savvopoulos, A.-L. Chatzidaniil, M. Kyriakou, I. Sakellari, P. Costeas, A. Papadopoulou, E. Yannaki, A. Spyridonidis. Pre-clinical development and characterization of a decitabine-induced regulatory HLA-G⁺CD4⁺ -T cell-enriched cell product against GvHD, 2nd Translational Research Conference Immune & Cellular Therapies: Focus on Advanced Gene-Engineered Immune Cells, September 12-14, 2022 - Berlin. **Selected Oral Presentation**

6. M. Lysandrou, **D. Kefala**, P. Christofi, P.G. Papayanni, C. Pieridou, N. Savvopoulos, A.-L. Chatzidaniil, M. Kyriakou, P. Costeas, A. Papadopoulou, E. Yannaki, A. Spyridonidis. Pre-clinical development and characterization of a decitabine-induced regulatory HLA-G⁺CD4⁺ -T cell-enriched cell product against GvHD, 9th International Conference on HLA-G, July 4-5, 2022 - Paris
7. **D. Kefala**, M. Lysandrou, P. Christofi, C. Pieridou, P. Papayanni, N. Savvopoulos, M. Kyriakou, A. Chatzidaniil, P. Stamou, A. Anagnostopoulos, A. Papadopoulou, P. Costeas, E. Yannaki, A. Spyridonidis. Pre-clinical development of a decitabine-induced regulatory HLA-G⁺CD4⁺ -T cell-enriched cell product (iG-Tregs) against Graft-versus-Host Disease, Congress of the International Society of Gene and Gene Therapy, May 4-7, 2022 - San Francisco
8. P. Christofi, **D. Kefala**, M. Lysandrou, P.G. Papayanni, C. Pieridou, N. Savvopoulos, A.-L. Chatzidaniil, M. Kyriakou, I. Sakellari, P. Costeas, A. Papadopoulou, E. Yannaki, A. Spyridonidis. Pre-clinical development and characterization of a decitabine-induced regulatory HLA-G⁺CD4⁺ -T cell-enriched cell product against GvHD, 5th Congress of the Hellenic Society of Gene Therapy and Regenerative Medicine, May 27-29, 2022 - Thessaloniki
9. **D. Kefala**, P. Christofi, M. Lysandrou, P.G. Papayanni, N. Savvopoulos, A. Papadopoulou, A. Anagnostopoulos, E. Yannaki, A. Spyridonidis. *Ex vivo* production of HLA-G⁺ T regulatory cells through pharmacological hypomethylation as a treatment against Graft versus Host Disease (GvHD), 32nd Annual Congress of the Hellenic Society of Haematology, November 10-14, 2021 - Athens

Publications (in peer reviewed journals)

1. Beli X, Savvopoulos N, **Kefala D**, Lysandrou M, Liga M and Spyridonidis A (2025) Harnessing the immunomodulatory properties of HLA-G for advanced immunotherapies. *Front. Immunol.* 16:1716778. doi: 10.3389/fimmu.2025.1716778
2. Lysandrou, M., **Kefala, D.**, Vinnakota, J.M. *et al.* Regulatory T cell therapy for Graft-versus-Host Disease. *Bone Marrow Transplant* **60**, 933-939 (2025)
3. Lysandrou M, Stamou P, **Kefala D**, Pierides C, Kyriakou M, Savvopoulos N, Christofi P, Papadopoulou A, Yannaki E, Costeas P, Spyridonidis A. Hypomethylation-induced regulatory programs in T cells unveiled by transcriptomic analyses. *Front Immunol.* 2023 Sep 27;14:1235661. doi:10.3389/fimmu.2023.1235661. PMID: 37828996; PMCID: PMC10565652.
4. Savvopoulos N., Stampolitis K., Alexandropoulos G., **Kefala D.**, Lysandrou M., Zacharioudaki V., Tsolakos N., Spyridonidis A. A GMP-Compliant Procedure for the Generation of Gene-Modified T cells. *J. Vis. Exp.* (200), e65097, doi:10.3791/65097 (2023).
5. M. Lysandrou*, **D. Kefala***, P. Christofi, N. Savvopoulos, P.G. Papayanni, R. Theodorellou, E. Sagiadinou, V. Zacharioudaki, M. Moukouli, D. Tsokanas, G. Karavalakis, M. Liga, K. Stavrinos, A. Papadopoulou, E. Yannaki, A. Spyridonidis. Study Protocol: Phase I/II trial of induced HLA-G⁺ regulatory T cells (iG-Tregs) in patients undergoing allogeneic hematopoietic cell transplantation from an HLA-matched sibling donor. *Front. Med.* 2023 May 19;10:1166871. doi: 10.3389/fmed.2023.1166871. eCollection 2023. PMID: 37275377 PMCID: PMC10237041
6. Katsarou A, Sjöstrand M, Naik J, Mansilla-Soto J, **Kefala D**, Kladis G, Nianias A, Ruiter R, Poels R, Sarkar I, Patankar YR, Merino E, Reijmers RM, Frerichs KA, Yuan H, de Bruijn J, Stroopinsky D, Avigan D, van de Donk NWCJ, Zweegman S, Mutis T, Sadelain M, Groen RWJ, Themeli M. Combining a CAR and a chimeric costimulatory receptor enhances T cell sensitivity to low antigen density and promotes persistence. *Sci Transl Med.* 2021 Dec 8;13(623):eab91962. doi: 10.1126/scitranslmed.ab91962. Epub 2021 Dec 8. PMID: 34878825; PMCID: PMC9869449.