

PERSONAL INFORMATION

Martina Kunkl

WORK EXPERIENCE

- 11/2021- Today** **Research fellow, research activity**
 Project Title: *Characterization of CD28/B7 costimulatory axis in response to bacterial SAGs regulating the inflammatory functions of specific Th cell subsets in MS patients.*
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy.
 Supervisor: Professor Loretta Tuosto
- 11/2020-10/2021** **Research fellow, research activity**
 Project Title: *Role of IL-6 e NF- κ B signalling mediators in IL-17A gene expression and CD28-induced Th17 amplification*
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy.
 Supervisor: Professor Loretta Tuosto
- 10/2019-10/2020** **Research fellow, research activity**
 Project Title: *Characterization of the biochemical and molecular mechanisms regulating CD28-induced IL-17A expression in lymphocytes.*
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy.
 Supervisor: Professor Loretta Tuosto
- 10/2016-10/2019** **PhD student, research activity**
 Thesis Title: *Role of CD28 in the regulation of IL-17A expression and in the modulation of the metabolic programs regulating pro-inflammatory T cell functions in Multiple Sclerosis.*
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy. Phd Defence 26/02/2020
 Supervisor: Professor Loretta Tuosto
- 05/2016- 10/2016** **Research fellow, research activity**
 Project Title: *Trasduzione del segnale nella sinapsi fagocitica.*
 Department of Biomedical Science, University of Padua
 Supervisor: Professor Antonella Viola
- 12/2013- 12/2015** **Student Internship at Laboratory of Molecular Immunology, research activity**
 Project Title: *Ruolo della Fosfatidilinositolo 4-Fosfato-5-chinasi α (PIP5K α) nell'attivazione dei linfociti T.*
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy
 Supervisor: Professor Loretta Tuosto

EDUCATION AND TRAINING

- 1/11/2016-31/10/2019** **PhD in Cell and Developmental Biology**
 Department of Biology and Biotechnology "C. Darwin", Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy Phd Defence 26/02/2020
 Supervisors: Prof Loretta Tuosto
- 11/2015-10/2013** **Master's degree in Biology and Cellular Technology** **110/110 cum laude**
 Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Roma, Italia
 Research thesis: "Role of Phosphatidylinositol 4-phosphate 5-kinase α (PIP5K α) in T lymphocytes activation. Training coordinator: Professor Loretta Tuosto"

10/2013-10/2009

Bachelor's degree in Biological Sciences

Sapienza-University of Rome, Piazzale Aldo Moro 5, 00185 Rome, Italy

Research thesis: "Role of T CD4+ regulatory lymphocytes in pathogenesis of cancer". Training coordinator: Professor Loretta Tuosto

07/2009

Scientific High school degree

Liceo Classico "Virgilio", Rome (RM), Italy

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	C1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Job-related skills

- PBMC isolation. Depletion of cellular subpopulations
- Cell Culture
- Isolation of genomic DNA from cells
- RNA isolation and Reverse Transcription
- PCR
- Real-Time PCR
- Protein extraction
- Western blotting
- Immunoprecipitation
- Flow cytometry
- ELISA
- Fluorescent Microscopy
- Confocal Microscopy
- Metabolic Assay with Seahorse Agilent
- Chromatin Immunoprecipitation

Computer skills

- Microsoft Office (Word, Excel, PowerPoint)
- Operating system: Mac, windows
- Adobe Photoshop
- Statistical analysis (R)
- Data analysis (ABI, Fiji, ImageLab, ImageJ, BD CellQuest Pro, FlowJo software, ZEN microscope software, GraphPad Prism)

Publications

- Amormino C, Tedeschi V, Paldino G, Arcieri S, Fiorillo MT, Paiardini A, Tuosto L, Kunkl M. SARS-CoV-2 Spike Does Not Possess Intrinsic Superantigen-like Inflammatory Activity. Cells. 2022 Aug 15;11(16):2526. doi: 10.3390/cells11162526.

- Tedeschi V, Paldino G, Kunkl M, Paroli M, Sorrentino R, Tuosto L, Fiorillo MT. CD8⁺ T Cell Senescence: Lights and Shadows in Viral Infections, Autoimmune Disorders and Cancer. *Int J Mol Sci.* 2022;23(6):3374. Published 2022 Mar 21. doi:10.3390/ijms23063374
- Kunkl M, Amormino C, Tedeschi V, Fiorillo MT, Tuosto L. Astrocytes and Inflammatory T Helper Cells: A Dangerous Liaison in Multiple Sclerosis. *Front Immunol.* 2022;13:824411. Published 2022 Feb 8. doi:10.3389/fimmu.2022.824411
- Kunkl M, Amormino C, Caristi S, et al. Binding of Staphylococcal Enterotoxin B (SEB) to B7 Receptors Triggers TCR- and CD28-Mediated Inflammatory Signals in the Absence of MHC Class II Molecules. *Front Immunol.* 2021;12:723689. Published 2021 Aug 13. doi:10.3389/fimmu.2021.723689
- Kunkl M, Amormino C, Frasca S, Caristi S, Sambucci M, De Bardi M, Arcieri S, Battistini L, Tuosto L. CD28 autonomous signalling orchestrates IL-22 expression and IL-22-regulated epithelial barrier functions in human T lymphocytes. *Front. Immunol.* | doi: 10.3389/fimmu.2020.590964
- Kunkl M, Frasca S, Amormino C, Volpe E, Tuosto L. T Helper Cells: The Modulators of Inflammation in Multiple Sclerosis. *Cells.* 2020;9(2):482. Published 2020 Feb 19. doi:10.3390/cells9020482
- Kunkl M, Sambucci M, Ruggieri S, Amormino C, Tortorella C, Gasperini C, Battistini L, Tuosto L. CD28 Autonomous Signaling Up-Regulates C-Myc Expression and Promotes Glycolysis Enabling Inflammatory T Cell Responses in Multiple Sclerosis. *Cells.* 2019 Jun 11;8(6).
- Kunkl M, Mastrogianni M, Porciello N, Caristi S, Monteleone E, Arcieri S, Tuosto L. CD28 Individual Signaling Up-regulates Human IL-17A Expression by Promoting the Recruitment of RelA/NF- κ B and STAT3 Transcription Factors on the Proximal Promoter. *Front Immunol.* 2019 Apr 24;10: 864.
- Porciello N, Kunkl M, Tuosto L. CD28 between tolerance and autoimmunity: the side effects of animal models. *F1000Res.* 2018 May 30;7. pii: F1000 Faculty Rev-682. doi: 10.12688/f1000research.14046.1. eCollection 2018. Review.
- Porciello N, Grazioli P, Campese AF, Kunkl M, Caristi S, Mastrogianni M, Muscolini M, Spadaro F, Favre C, Nunes JA, Borroto A, Alarcon B, Screpanti I, Tuosto L. A non-conserved amino acid variant regulates differential signalling between human and mouse CD28. *Nat Commun.* 2018 Mar 14;9(1):1080. doi: 10.1038/s41467-018-03385-8.
- Kunkl M, Porciello N, Mastrogianni M, Capuano C, Lucantoni F, Moretti C, Persson JL, Galandrini R, Buzzetti R, Tuosto L. "ISA-2011B, a Phosphatidylinositol 4-Phosphate 5-Kinase A Inhibitor, Impairs CD28-Dependent Costimulatory and Pro-Inflammatory Signals in Human T Lymphocytes." *Frontiers in Immunology* 8 (2017): 502. PMC. Web. 22 Feb. 2018.
- Porciello N, Kunkl M, Viola A, Tuosto L. 2016 May Phosphatidylinositol 4-Phosphate 5-Kinases in the regulation of T cell activation. *Front. Immunol.* doi:10.3389/fimmu.2016.00186

- Kunkl M, Amormino C, Frascolla S, Sambucci M, De Bardi M, Caristi S, Arcieri S, Battistini L and Loretta Tuosto. CD28 individual signaling up-regulates IL-22 expression and IL-22-mediated effector functions in human T lymphocytes. ECI 2021 1-4 September 2021. Poster
- Kunkl M, Amormino C, Caristi S, Tedeschi V, Fiorillo MT, Levy R, Popugailo A, Kaempfer R, Tuosto L. Staphylococcal enterotoxin B (SEB) activates TCR- and CD28-mediated inflammatory signals in the absence of MHC class II molecules. ECI 2021 1-4 September 2021. Poster
- Kunkl M, Sambucci M, Amormino C, Ruggieri S, Tortorella C, Gasperini C, Battistini L, and Loretta Tuosto CD28 and associated class 1A PI3K regulates the glycolytic metabolic program associated to pro-inflammatory T cell responses in Multiple Sclerosis. The Romanian Association of Cytometry is organizing an online (virtual) National Congress during 16-18th of December, 2020. On-line congress. Oral presentation
- Martina Kunkl, Manolo Sambucci, Serena Ruggieri, Carola Amormino, Silvana Caristi, Claudio Gasperini, Luca Battistini and Loretta Tuosto. CD28 and associated class 1A PI3K regulates the glycolytic metabolic program associated to pro-inflammatory T cell responses in Multiple Sclerosis. II Joint Meeting of the German Society for Immunology (DGfI) and the Italian Society of Immunology, Clinical Immunology and Allergology (SIICA) 10-13 September 2019 • Munich (DE). Poster
- Martina Kunkl, Marta Mastrogiovanni, Nicla Porciello, Silvana Caristi, Emanuele Monteleone, Stefano Arcieri, Loretta Tuosto. RelA/NF- κ B and STAT3 transcription factors cooperate in trans-activating the human IL-17A proximal promoter in response to CD28 individual stimulation. II Joint Meeting of the German Society for Immunology (DGfI) and the Italian Society of Immunology, Clinical Immunology and Allergology (SIICA) 10-13 September 2019 • Munich (DE). Poster
- Martina Kunkl, Manolo Sambucci, Serena Ruggieri, Carola Amormino, Silvana Caristi, Claudio Gasperini, Luca Battistini and Loretta Tuosto. CD28 and associated class 1A PI3K regulates the glycolytic metabolic program associated to pro-inflammatory T cell responses in Multiple Sclerosis. Congresso Annuale FISM 2019. 29-31 Maggio 2019. Hotel A.Roma Lifestyle. Roma. Poster
- Nicla Porciello, Martina Kunkl, Paola Grazioli, Antonio F. Campese, Silvana Caristi, Marta Mastrogiovanni, Michela Muscolini, Francesca Spadaro, Cédric Favre, Jacques A Nunès, Aldo Borroto, Balbino Alarcon, Isabella Screpanti and Loretta Tuosto The importance of being Proline: biochemical and functional difference between human and mouse CD28 cytoplasmic tail. XV FISV congress 2018. Sapienza University. Poster.
- Nicla Porciello, Martina Kunkl, Paola Grazioli, Antonio F. Campese, Silvana Caristi, Marta Mastrogiovanni, Michela Muscolini, Francesca Spadaro, Cédric Favre, Jacques A Nunès, Aldo Borroto, Balbino Alarcon, Isabella Screpanti and Loretta Tuosto The importance of being Proline: biochemical and functional difference between human and mouse CD28 cytoplasmic tail. EMBO Workshop Lymphocyte antigen receptor signalling. 25 – 29 August 2018 | Siena, Italy. Poster.
- Martina Kunkl, Manolo Sambucci, Serena Ruggieri, Luisa Loconte, Silvana Caristi, Claudio Gasperini, Luca Battistini and Loretta Tuosto. Role of CD28 and associated class 1A PI3K in the regulation of the cellular metabolic programs associated to pro-inflammatory T cell responses in Multiple Sclerosis. Congresso Annuale FISM 2018. 28-30 Maggio 2018. l'Auditorium Antonianum in viale Manzoni. Roma. Poster
- Martina Kunkl, Nicla Porciello, Marta Mastrogiovanni, Cristina Capuano, Federica Lucantoni, Chiara Moretti, Jenny L. Persson, Ricciarda Galandrini, Raffaella Buzzetti and Loretta Tuosto. Inhibition of phosphatidylinositol 4-phosphate 5-kinase- α impairs CD28-dependent costimulatory and pro-inflammatory signals in human T lymphocytes. XI National Congress of the Italian Society of Immunology, Clinical Immunology and Allergology Bari, 27-28 May 2016. Poster.
- Martina Kunkl, Nicla Porciello, Marta Mastrogiovanni, Cristina Capuano, Federica Lucantoni, Chiara Moretti, Jenny L. Persson, Ricciarda Galandrini, Raffaella Buzzetti and Loretta Tuosto. Inhibition of phosphatidylinositol 4-phosphate 5-kinase- α impairs CD28-dependent costimulatory and pro-inflammatory signals in human T lymphocytes. ENII Summer School of Immunology 6-13 May 2017 Porto Cervo. Oral presentation/poster
- N Porciello, M. Kunkl, M. Muscolini, C. Camperio, S. Caristi, C. Capuano, A. Viola, R. Galandrini, L. Tuosto; Phosphatidylinositol 4-phosphate 5-kinase α is a critical regulator of CD28 signaling functions. X National Congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Abano Terme, 25-28 May 2016. Oral presentation.

Data
21/09/2022

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