

Dr. Marco Cippitelli.**CURRICULUM VITAE ET STUDIORUM****Education and professional experience**

1990. Graduated in Biological Science (summa cum laude), University of Rome "La Sapienza".

1992-1995. Visiting Scientist at the "Biological Carcinogenesis and Development Program, "Molecular Immunology Section" (Laboratory of Experimental Immunology) National Cancer Institute (NCI) Frederick, Maryland, USA.

1996. PhD, University of Rome "La Sapienza".

1996-2000. Research Scientist at the Laboratory of Immunology (Dept. Experimental Medicine and Pathology) and Laboratory of Pathophysiology, CRS, Regina Elena, Rome.

2000-2007. Research Associate - General Pathology (Med-04), Dept. of Experimental Medicine and Pathology, University of Rome "La Sapienza".

2007-2021. Associate Professor - General Pathology (Med-04), Dept. of Molecular Medicine, University of Rome "La Sapienza".

2022. Full Professor - General Pathology (Med-04), Dept. of Molecular Medicine, University of Rome "La Sapienza".

Dr. Cippitelli is member of the Società Italiana di Immunologia, Immunologia Clinica ed Allergologia (S.I.I.C.A.) and referee of different international journals such as: Journal of Immunology, European Journal of Immunology, Immunology letters, Haematologica, Molecular Pharmacology, International Journal of Medical Sciences, Oncotarget, Annals of Hematology, Carcinogenesis, Molecular Cancer, Cancers, Cells, Cancer Immunology and Immunotherapy, Journal of Hematology and Oncology, Frontiers in Immunology, Faseb J, Plos One.

- Project reviewer by national (MIUR / PRIN), and international (Irish Research Council) agencies.

- Lead Investigator of research grants from Ministry of Education, University and Research (MIUR) and Ministry of Health (Ministero della Salute), Università degli Studi di Roma "La Sapienza" - Italy, CNR.

- Lecturer in Immunology and Immunopathology, General Pathology (Faculty of Pharmacy and Medicine University of Rome - La Sapienza, Italy).

- Supervisor of Graduate Students, PhD Students and Postdoctoral Fellows.

Dr. Cippitelli research activity has been mainly conducted in the field of transcriptional regulation and tumor immunology, aimed at understanding the mechanisms underlying the regulation of genes involved in NK cell antitumor effector functions.

Main areas of interest over the years:

1992/95: - Transcriptional events that regulate IFN-gamma, IL-2 and IL-4 genes in activated T cells. Analysis of the role of AP1/CREB-ATF, NF-AT, NF-kB transcription factors involved in these events. These studies have given important contributions to understand the intracellular pathways that regulate these genes in T cells.

1996/98: - Molecular mechanisms that modulate the transcription of the IFN-gamma and IL-12 genes, activated by the nuclear receptor vitamin D3 in T cells and monocytes/dendritic cells.
- Signaling pathways involved in the activation of the IFN-gamma gene, mediated by integrin receptors, in NK cells.

- The anti-apoptotic protein Bcl-2 as a molecule able to regulate NF-kB transcriptional activity and MMP-9 metallo-proteinase gene expression, in human breast carcinoma cells.

2000/2003: - Study of the molecular mechanisms that modulate the transcription and function of the FasL gene by different nuclear receptors and specific ligands in activated T cells: modulation mediated by Calcitriol (Vitamin D3)/VDR, and by activators of the PPAR-gamma.

2003/2005: - Molecular mechanisms regulated by hyperthermia, that enhance the transcription of the FasL gene in activated T cells.

2005/2007: - Study of the molecular mechanisms that modulate the transcription and function of the Rank-L and TRAIL genes by nuclear receptors and specific ligands in activated T cells: modulation mediated by activators of the PPAR-gamma.

2007/Present: Molecular mechanisms that regulate the transcription, expression and function of NK cell-activating ligands by different chemotherapeutics, in Multiple Myeloma cells.

- Heat shock protein-90 inhibitors and expression of MHC class I-related chain A and B ligands on multiple myeloma cells: upregulation of NK cell degranulation against MM.

- Immunoregulatory activity of IMiDs in Multiple Myeloma: mechanisms involved and focus on MEIS2/CRBN.

- Liver X Receptors as regulators of cholesterol metabolism and NK cell-activating ligands in Multiple Myeloma.

- Bromodomain and extra-terminal (BET) inhibitors and immunomodulation in Multiple Myeloma: focus on the role of cMYC-IRF4-miR-125b interplay.

- Immunomodulatory effect of NEDD8-activating enzyme inhibition in Multiple Myeloma: upregulation of NKG2D ligands and sensitization to Natural Killer cell recognition.

2019/Present: - Study of the role mediated by the ribonuclease RNASET2 in the regulation of the immune innate response-mediated mechanisms against multiple myeloma.

As project leader, has obtained research grants from different sources. Within these (selected):

2001/2003 - Ministry of Health Project. “Identificazione di molecole coinvolte nello stress ossidativo quali bersagli per la terapia antitumorale”. Coordinator: Dr. Gabriella Zupi, Istituto Regina Elena, CRS, Roma.

2001/2002 - CNR, “Regolazione trascrizionale del ciclo cellulare: ruolo di Rb e dei segnali di co-regolazione”. Program “CNR-Agenzia 2000”, Coordinator: Prof. Alberto Gulino, University of Rome “La Sapienza”, Roma.

2003/2005 - Ministry of Health Project. “Alterazioni fenotipiche e molecolari associate alla risposta a terapie ormonali in pazienti affette da carcinoma mammario”. Coordinator: Dr.ssa Marcella Mottolose, Istituto Regina Elena, CRS, Roma.

2006/2008 - Ministry of the University, PRIN, “Analysis of GITR gene expression in T lymphocytes and specific pharmacological modulation.” Coordinator Prof. Carlo Riccardi, Univ. of Perugia, Italy.

2008/2010 - Ministry of the University, PRIN, “Microenvironment and responses to therapy in Multiple Myeloma: alteration of pathologic osteoclastogenic potential.” Coordinator Prof. Antonio Sica, Univ. of Piemonte Orientale "Amedeo Avogadro"-Vercelli, Italy.

2010/2013 - Ministry of the University, PRIN, "Multiple Myeloma Immune Microenvironment as Target To Understand And Overcome Mechanisms Of Clinical Relapse And Resistance". Coordinator Prof. Angelo Vacca, Univ. of BARI "ALDO MORO", Italy.

2017 - Ministry of the University, PRIN, "RNASET2 as new player in the modulation of the innate immune system in cancer and autoimmunity: potential diagnostic and therapeutic implications". Coordinator Prof. Douglas Noonan, Univ. of “Insubria”, Italy.

2019/2021 - Progetti di Ricerca Grandi Ateneo, Univ. La Sapienza, Rome, Italy. “Harnessing NK cells by genetic and epigenetic rerouting to overcome Multiple Myeloma immune evasion”.

Main Bibliometric Indicators:

H index: 34 (Scopus)

Citations: 4186 (Scopus)

ORCID ID: orcid.org/0000-0002-9620-538X

Dr. Marco Cippitelli: selected publications (last 5 Years):

Vulpis E, Loconte L, Peri A, Molfetta R, Caracciolo G, Masuelli L, Tomaipitnca L, Peruzzi G, Petillo S, Petrucci MT, Fazio F, Simonelli L, Fionda C, Soriani A, Cerboni C, **Cippitelli M**, Paolini R, Bernardini G, Palmieri G, Santoni A, Zingoni A.

Impact on NK cell functions of acute versus chronic exposure to extracellular vesicle-associated MICA: Dual role in cancer immunosurveillance.

J Extracell Vesicles, 2022 Jan;11(1):e12176. doi: 10.1002/jev2.12176.

Sara Petillo, Cristina Capuano, Rosa Molfetta, Cinzia Fionda, Abdelilah Mekhloufi, Chiara Pighi, Fabrizio Antonangeli, Alessandra Zingoni, Alessandra Soriani, Maria Teresa Petrucci, Ricciarda Galandrini, Rossella Paolini, Angela Santoni and **Marco Cippitelli**.

Immunomodulatory effect of NEDD8-activating enzyme inhibition in Multiple Myeloma: upregulation of NKG2D ligands and sensitization to Natural Killer cell recognition.

Cell Death and Disease, 2021, 12(9), 836

Fionda C, Stabile H, Molfetta R, Kosta A, Peruzzi G, Ruggeri S, Zingoni A, Capuano C, Soriani A, Paolini R, Gismondi A, **Cippitelli M**, Santoni A.

Cereblon regulates NK cell cytotoxicity and migration via Rac1 activation.

Eur J Immunol. 2021 Aug 15. doi: 10.1002/eji.202149269.

Cippitelli M, Stabile H, Kosta A, Petillo S, Gismondi A, Santoni A, Fionda C.

Role of Aiolos and Ikaros in the Antitumor and Immunomodulatory Activity of IMiDs in Multiple Myeloma: Better to Lose Than to Find Them.

Int J Mol Sci. 2021 Jan 22;22(3):1103. doi: 10.3390/ijms22031103.

Bilotta MT, Petillo S, Santoni A, **Cippitelli M**.

Liver X Receptors: Regulators of Cholesterol Metabolism, Inflammation, Autoimmunity, and Cancer.

Front Immunol. 2020 Nov 3;11:584303. doi: 10.3389/fimmu.2020.584303. eCollection 2020.

Mekhloufi A, Kosta A, Stabile H, Molfetta R, Zingoni A, Soriani A, **Cippitelli M**, Paolini R, Gismondi A, Ricciardi MR, Petrucci MT, Masuelli L, Caracciolo G, Palchetti S, Santoni A, Fionda C.

Bone Marrow Stromal Cell-Derived IL-8 Upregulates PVR Expression on Multiple Myeloma Cells via NF- κ B Transcription Factor.

Cancers (Basel). 2020 Feb 13;12(2):440. doi: 10.3390/cancers12020440.

Molfetta R, Zitti B, Lecce M, Milito ND, Stabile H, Fionda C, **Cippitelli M**, Gismondi A, Santoni A, Paolini R.

CD155: A Multi-Functional Molecule in Tumor Progression.

Int J Mol Sci. 2020 Jan 30;21(3):922. doi: 10.3390/ijms21030922.

Fionda C, Stabile H, Cerboni C, Soriani A, Gismondi A, **Cippitelli M**, Santoni A.

Hitting More Birds with a Stone: Impact of TGF- β on ILC Activity in Cancer.

J Clin Med. 2020 Jan 5;9(1):143. doi: 10.3390/jcm9010143.

Acquati F, Mortara L, De Vito A, Baci D, Albini A, **Cippitelli M**, Taramelli R, Noonan DM. Innate Immune Response Regulation by the Human RNASET2 Tumor Suppressor Gene.

Front Immunol. 2019 Nov 5;10:2587. doi: 10.3389/fimmu.2019.02587. eCollection 2019.

Bilotta MT, Abruzzese MP, Molfetta R, Scarno G, Fionda C, Zingoni A, Soriani A, Garofalo T, Petrucci MT, Ricciardi MR, Paolini R, Santoni A, **Cippitelli M**.

Activation of liver X receptor up-regulates the expression of the NKG2D ligands MICA and MICB in multiple myeloma through different molecular mechanisms.

FASEB J. 2019 Aug;33(8):9489-9504. doi: 10.1096/fj.201900319R. Epub 2019 May 24.

Fionda C, Di Bona D, Kosta A, Stabile H, Santoni A, **Cippitelli M**.

The POU-Domain Transcription Factor Oct-6/POU3F1 as a Regulator of Cellular Response to Genotoxic Stress.

Cancers (Basel). 2019 Jun 11;11(6):810. doi: 10.3390/cancers11060810.

Molfetta R, Milito ND, Zitti B, Lecce M, Fionda C, **Cippitelli M**, Santoni A, Paolini R.

The Ubiquitin-proteasome pathway regulates Nectin2/CD112 expression and impairs NK cell recognition and killing.

Eur J Immunol. 2019 Jun;49(6):873-883. doi: 10.1002/eji.201847848. Epub 2019 Mar 27.

Abruzzese MP, Bilotta MT, Fionda C, Zingoni A, Soriani A, Petrucci MT, Ricciardi MR, Molfetta R, Paolini R, Santoni A, **Cippitelli M**.

The homeobox transcription factor MEIS2 is a regulator of cancer cell survival and IMiDs activity in Multiple Myeloma: modulation by Bromodomain and Extra-Terminal (BET) protein inhibitors.

Cell Death Dis. 2019 Apr 11;10(4):324. doi: 10.1038/s41419-019-1562-9.

Vulpis E, Stabile H, Soriani A, Fionda C, Petrucci MT, Mariggio' E, Ricciardi MR, **Cippitelli M**, Gismondi A, Santoni A, Zingoni A.

Key Role of the CD56^{low}CD16^{low} Natural Killer Cell Subset in the Recognition and Killing of Multiple Myeloma Cells.

Cancers (Basel). 2018 Nov 29;10(12):473. doi: 10.3390/cancers10120473.

Fionda C, Stabile H, Molfetta R, Soriani A, Bernardini G, Zingoni A, Gismondi A, Paolini R, **Cippitelli M**, Santoni A.

Translating the anti-myeloma activity of Natural Killer cells into clinical application.

Cancer Treat Rev. 2018 Nov;70:255-264. doi: 10.1016/j.ctrv.2018.10.005. Epub 2018 Oct 10.

Borrelli C, Ricci B, Vulpis E, Fionda C, Ricciardi MR, Petrucci MT, Masuelli L, Peri A, **Cippitelli M**, Zingoni A, Santoni A, Soriani A.

Drug-Induced Senescent Multiple Myeloma Cells Elicit NK Cell Proliferation by Direct or Exosome-Mediated IL15 Trans-Presentation.

Cancer Immunol Res. 2018 Jul;6(7):860-869. doi: 10.1158/2326-6066.CIR-17-0604. Epub 2018 Apr 24.

Zingoni A, Vulpis E, Cecere F, Amendola MG, Fuerst D, Saribekyan T, Achour A, Sandalova T, Nardone I, Peri A, Soriani A, Fionda C, Mariggio' E, Petrucci MT, Ricciardi MR, Mytilineos J, **Cippitelli M**, Cerboni C, Santoni A.

MICA-129 Dimorphism and Soluble MICA Are Associated With the Progression of Multiple Myeloma.

Front Immunol. 2018 May 1;9:926. doi: 10.3389/fimmu.2018.00926. eCollection 2018

Zingoni A, Molfetta R, Fionda C, Soriani A, Paolini R, **Cippitelli M**, Cerboni C, Santoni A.

NKG2D and Its Ligands: "One for All, All for One".

Front Immunol. 2018 Mar 12;9:476. doi: 10.3389/fimmu.2018.00476. eCollection 2018.