

Curriculum Vitae

PERSONAL INFORMATION

First name / Surname **ELISABETTA VULPIS**

EDUCATION AND TRAINING

Date	November 1, 2012 – February 5, 2016
Position	PhD Student in Immunological, Hematological and Rheumatic Sciences. PhD course coordinator: Prof. A.Santoni.
Name and type of organisation providing education and training	Laboratory of Molecular Immunology and Immunopathology, directed by Prof. A.Santoni, Department of Molecular Medicine "Sapienza" University of Rome – Viale Regina Elena 291, Rome
Topic of the thesis	Molecular characterization and immunomodulatory properties of Multiple Myeloma cell-derived exosomes on NK cell-mediated functions: role of Toll-like receptor 2".
Date	October 18, 2011
Title of qualification awarded	Master Degree in Medical Biotechnology
Vote	110/110 e lode
Title of the thesis	Role of oxidative stress in Fabry disease cardiomyopathy
Name and type of organisation providing education and training	"Sapienza" University of Rome - P.zza Aldo Moro, 5 – Rome
Date	July 9, 2008
Title of qualification awarded	Bachelor Degree in Biotechnology
Vote	104/110
Title of the thesis	Study on the Wnt glycoproteins and glucocorticoid interactions
Name and type of organisation providing education and training	"Sapienza" University of Rome - P.zza Aldo Moro, 5 – Rome
Date	2004
Title of qualification awarded	High school degree
Vote	100/100
Name and type of organization providing education and training	Liceo Scientifico Statale "Nomentano"- Via Casal Boccone, 60 - Rome

PERSONAL SKILLS AND COMPETENCES

Mother tongue Italian

Other language(s)
Self Assessment
European level (*)

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user

(*) Common European Framework of Reference for Languages

Computer skills and competences

Excellent use of Microsoft Office
Basis of Bioinformatics
Basic knowledge of FlowJo, PRISM, ImageJ, ImageLab

Technical skills and competences

Basic cell techniques of histology and immunohistochemistry
Cellular immunology and cell biology:
Basic cell culture technique. Routine maintenance and storage of cell lines. Leukocytes purification from the peripheral blood. Isolation of lymphoid and myeloid cell populations with magnetic beads. Immunofluorescence and FACS analysis.
Biochemistry
Isolation of proteins from cells and tissues. Western blot. ELISA. Exosome and microvesicles isolation and purification from the conditioned media of cell lines and from patient serum and plasma.
Molecular Biology:
Isolation of RNA and miRNA from cells, tissues and exosomes. RT-PCR, Real-time PCR. Electrophoresis of nucleic acids. Retroviral gene transduction in human and mouse cell lines.

MEETING ABSTRACTS

-Vulpis E. "Genotoxic stress affects the extracellular vesicle-mediated communication between Multiple Myeloma and Natural Killer cells". Invited speaker - III International AICC Exosome Meeting. Virtual edition, 7th-8th June 2021.

-Vulpis E, Loconte L, Molfetta R, Caracciolo G, Masuelli L, Petrucci MT, Paolini R, Santoni A, Zingoni A. "Immunomodulatory properties of extracellular vesicles carrying NKG2D activating ligands: a double edge sword in cancer immunosurveillance". XII National congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Virtual edition May 26-28, 2021.

-Vulpis E, Loconte L, Peri A, Molfetta R, Masuelli L, Caracciolo G, Petrucci MT, Paolini R, Soriani A, Cippitelli M, Santoni A, Zingoni A. "Multiple myeloma cell-derived MICA+ extracellular vesicles impair NKG2D-mediated NK cell immunosurveillance". Oral presentation - 1th SOHO Clinical And Biological school of Multiple Myeloma. Virtual event, December 15-17, 2020.

-Bonanni V, Vulpis E, Stabile H, Ricciardi MR, Petrucci MT, Gismondi A, Zingoni A, Santoni A and Bernardini G. "CXCR3 controls anti-Myeloma efficacy of NK cells adoptively transferred for immunotherapy". 9th Biology and Molecular Medicine (BeMM) symposium 2018, Rome, Italy, November 13, 2018.

-Bonanni V, Vulpis E, Stabile H, Ricciardi MR, Petrucci MT, Gismondi A, Zingoni A, Santoni A and Bernardini G. "Modulation of CXCR3/CXCL10 axis affects migration of Natural Killer cell populations in Multiple Myeloma". International Retreat of PhD Students in Immunology. Verona (Italy) October 6-7, 2017.

- Bonanni V, Vulpis E, Stabile H, Ricciardi MR, Petrucci MT, Gismondi A, Zingoni A, Santoni A and Bernardini G. "Modulation of CXCR3/CXCL10 axis affects migration of Natural Killer cell populations in Multiple Myeloma". XI National congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Bari (Italy) May 28-31, 2017

-Vulpis E, Cecere F, Molfetta R, Caracciolo G, Digiacoimo L, Peruzzi G, Masuelli L, Simonelli L, D'Oro U, Soriani A, Fionda C, Paolini R, Cippitelli M, Santoni A, Zingoni A "Characterization and immunomodulatory role of multiple myeloma cell-derived exosomes on human NK cell-mediated functions: role of TLR2". (Oral presentation) X National congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Abano terme (Italy) May 25-28, 2016.

-Abruzzese MP, Fionda C, Zingoni A, Soriani A, Vulpis E, Molfetta R, Paolini R, Ricciardi MR, Petrucci MT, Santoni A and Cippitelli M "Inhibition of bromodomanin and extra-terminal (BET) proteins increases NKGD2 ligand MICA expression and sensitivity to Natural Killer cell-mediated cytotoxicity in Multiple Myeloma cells: role of cMYC/IRF4". Biology and Molecular Medicine (BeMM) symposium 2015, Rome, Italy, November 30, 2015.

-Abruzzese MP, Fionda C, Zingoni A, Soriani A, Vulpis E, Molfetta R, Paolini R, Ricciardi MR, Petrucci MT, Santoni A and Cippitelli M. "Inhibition of bromodomanin and extra-terminal (BET) proteins increases NKGD2 ligand MICA expression and sensitivity to Natural Killer cell-mediated cytotoxicity in Multiple Myeloma cells: role of cMYC/IRF4". 4th European Congress of Immunology (ECI), Vienna, Austria, September 6-9, 2015.

-Vulpis E, Zingoni A, Cecere F, Molfetta R, Masuelli L, Simonelli L, Fionda C, Soriani A, Cippitelli M, Paolini R, Santoni A "Multiple myeloma cell-derived exosomes modulate human NK cell-mediated functions". 4th European Congress of Immunology (ECI), Vienna, Austria, September 6-9, 2015.

-Abruzzese MP, Fionda C, Zingoni A, Soriani A, Vulpis E, Molfetta R, Paolini R, Ricciardi MR, Petrucci MT, Santoni A and Cippitelli M. "Inhibition of bromodomanin and extra-terminal (BET) proteins increases NKGD2 ligand MICA expression and sensitivity to Natural Killer cell-mediated cytotoxicity in Multiple Myeloma cells: role of cMYC/IRF4". International Retreat of PhD Students in Immunology, Catanzaro, Italy, June 19-20, 2015.

-Vulpis E, Zingoni A, Cecere F, Molfetta R, Masuelli L, Simonelli L, Fionda C, Soriani A, Cippitelli M, Paolini R, Santoni A. "Multiple myeloma cell-derived exosomes: molecular features and immunomodulatory role on human Natural Killer cell-mediated functions". (Oral presentation) International Retreat of PhD Students in Immunology, Catanzaro, Italy, June 19-20, 2015.

-Vulpis E, Zingoni A, Cecere F, Molfetta R, Masuelli L, Simonelli L, Fionda C, Soriani A, Cippitelli M, Paolini R, Santoni A. "Multiple myeloma cell-derived exosomes modulate human NK cell-mediated functions" Biology and Molecular Medicine (BeMM) symposium 2015, Rome, Italy, January 23, 2015.

-Vulpis E, Zingoni A. "Multiple myeloma cell-derived exosomes modulate human NK cell-mediated functions" (Oral presentation). International Retreat of PhD Students in Immunology, Bari, Italy, October 10-11, 2014.

-Fionda C, Zingoni A, Cecere F, Vulpis E, Ricciardi MR, Petrucci MT, Santoni A, Cippitelli M. "Upregulation of NKG2D and DNAM-1 ligand expression by immunomodulatory drugs (IMiDs) in multiple myeloma cells". IX National Conference of the Italian Society of Immunology, Clinical Immunology and Allergology, Florence, Italy, May 28-31, 2014.

-Cecere F, Vulpis E, Amendola MG, Molfetta R, Soriani A, Fionda C, Furst D, Petrucci MT, Ricciardi MR, Paolini R, Cippitelli M, Santoni A and Zingoni A. "Differential shedding of MICA allelic variants and MICB in response to chemotherapeutic agents in multiple myeloma cells: role of ADAM10". IX National Conference of the Italian Society of Immunology, Clinical Immunology and Allergology, Florence, Italy, May 28-31, 2014.

-Cecere F, Zingoni A, Vulpis E, Molfetta R, Fionda C, Soriani A, Furst D, Ludwig A, Petrucci MT, Ricciardi MR, Cerboni C, Paolini R, Cippitelli M and Santoni A. "ADAM10 contributes to MICA/B shedding from multiple myeloma cells in response to genotoxic stress". 15th International Congress of Immunology (ICI), Milan, Italy, August 22-27, 2013.

-Vulpis E, Zingoni A. "Differential shedding of mica allelic variants in multiple myeloma cells in response to chemotherapeutic agents". (Oral presentation) International Retreat of PhD Students in Immunology, Bari, Italy, June 7, 2013.

-Chimenti C, Vulpis E, Cudemo G, Tafani M, Villanova L, Verardo R, Russo MA, Frustaci A. "Increased oxidative stress contributes to cardiomyocyte dysfunction in Fabry disease cardiomyopathy". ESC Congress, Paris, August 27-30, 2011.

PUBLICATIONS

- Giulimondi F*, Digiacoimo L*, Vulpis E, Loconte L, Ferri G, Cardarelli F, Pozzi D, Zingoni A and Giulio Caracciolo G. "In vitro and ex vivo nano-enabled immunomodulation by the protein corona". *Nanoscale* 2022 Jul 28;14(29):10531-10539. doi: 10.1039/d2nr01878k. IF 8.307

- Pantano F, Zalfa F, Iuliani M, Simonetti S, Manca P, Napolitano A, Tiberi S, Russano M, Citarella F, Foderaro S, Vulpis E, Zingoni A, Masuelli L, Bei R, Ribelli G, Del Re M, Danesi R, Vincenzi B, Perrone G, Tonini G, Santini D. "Large-Scale Profiling of Extracellular Vesicles Identified miR-625-5p as a Novel Biomarker of Immunotherapy Response in Advanced Non-Small-Cell Lung Cancer Patients". *Cancers (Basel)*. 2022 May 14;14(10):2435. doi: 10.3390/cancers14102435. IF 6.86

- Hasim MS*, Marotel M*, Hodgins JJ, Vulpis E, Makinson OJ, Asif S, Shih HY, Scheer A, MacMillan O, Alonso FG, Burke KP, Cook DP, Li R, Petrucci MT, Santoni A, Fallon PG, Sharpe AH, Sciumè G, Veillette A, Zingoni A, Gray DA, McCurdy A, Ardolino M. "When the Killer become thieves: trogocytosed PD-1 inhibits NK cells". *Sci Adv*. 2022 Apr 15;8(15):eabj3286. doi: 10.1126/sciadv.abj3286. IF 14.136

- Giulimondi F*, Vulpis E*, Digiacoimo L, Giuli MV, Mancusi A, Capriotti AL, Laganà A, Cerrato A, Zenezini Chiozzi R, Nicoletti C, Amenitsch H, Cardarelli F, Masuelli L, Bei R, Screpanti I, Pozzi D, Zingoni A, Checquolo S, Caracciolo G. "Opsonin-Deficient Nucleoproteic Corona Endows UnPEGylated Liposomes with Stealth Properties In Vivo". *ACS Nano*. 2022 Jan 18. doi: 10.1021/acsnano.1c07687. IF 15.881

- 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. IF 17.337

-Vulpis E, Giulimondi F, Digiacoimo L, Zingoni A, Safavi-Sohi R, Sharifi S, Caracciolo G and Mahmoudi M. "The possible role of sex as an important factor in development and administration of nanomedicine-based COVID-19 vaccine". *Mol Pharm*. 2021 May 13;acs.molpharmaceut.1c00291. doi: 10.1021/acs.molpharmaceut.1c0029. IF 4.321

-Zingoni A, Vulpis E, Loconte L, Santoni A. "NKG2D ligand shedding in response to stress: role of ADAM10". *Front Immunol*. 2020 Mar 25;11:447. doi: 10.3389/fimmu.2020.00447. IF 6.429

-Soriani A, Vulpis E, Cuollo L, Santoni A, Zingoni A. "Cancer Extracellular Vesicles as Novel Regulators of NK Cell Response". *Cytokine Growth Factor Rev* 2019 Nov 30. DOI: 10.1016/j.cytogfr.2019.11.007. IF 5.982

-Molfetta R*, Lecce M*, Quatrini L, Caracciolo G, Digiacoimo L, Masuelli L, Militi ND, Vulpis E, Zingoni A, Galandrini R, Santoni A, Paolini R. "Immune Complexes Exposed on Mast Cell-Derived Nanovesicles Amplify Allergic Inflammation". *Allergy*, 2019 Nov 12. DOI: 10.1111/all.14103. IF 8.706

-Castiello L, Zevini A, Vulpis E, Muscolini M, Ferrari M, Palermo E, Peruzzi G, Krapp C, Jakobsen M, Olagnier D, Zingoni A, Santoni, A and Hiscott J. "An Optimized Retinoic Acid-Inducible Gene 1 Agonist M8 Induces Immunogenic Cell Death Markers in Human Cancer Cells and Dendritic Cell Activation". *Cancer Immunol Immunother*, 68 (9), 1479-1492 Sep 2019. DOI: 10.1007/s00262-019-02380-2. IF 5.442

-Giulimondi F, Digiacoimo L, Pozzi D, Palchetti S, Vulpis E, Capriotti AL, Zenezini Chiozzi R, Laganà A, Amenitsch H, Masuelli L, Mahmoudi M, Screpanti I, Zingoni A, Caracciolo G. "Interplay of Protein Corona and Immune Cells Controls Blood Residency of Liposomes". *Nat Commun*, 10 (1), 3686 2019 Aug 15. DOI: 10.1038/s41467-019-11642-7. IF 12.121

- Vulpis E, Soriani A, Cerboni C, Santoni A, Zingoni A. "Cancer exosomes as conveyors of stress-induced molecules: new players in the modulation of NK cell response". *Int J Mol Sci.* 2019 Jan 31;20(3). pii: E611. doi: 10.3390/ijms20030611. IF 4.556
- Vulpis E*, Stabile H*, Soriani A, Fionda C, Petrucci MT, Mariggio E, Ricciardi MR, Cippitelli M, Gismondi A, Santoni A and Zingoni A. "Key Role of the CD56lowCD16low Natural Killer Cell Subset in the Recognition and Killing of Multiple Myeloma Cells". *Cancers* 2018, 10, 473; doi:10.3390/cancers10120473. IF 6.126
- 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". *Frontiers in Immunology* 2018 May 1;9:926. doi: 10.3389/fimmu.2018.00926. IF 6.429
- Borrelli C, Ricci B, Vulpis E, Fionda C, Ricciardi MR, Petrucci MT, Masuelli L, Peri A, Cippitelli M, Zingoni A, Santoni A and Soriani A. "Drug-induced senescent Multiple Myeloma cells elicit NK cell proliferation by direct or exosome-mediated IL-15 trans-presentation". *Cancer Immunology Research.* 2018 Jul;6(7):860-869. doi: 10.1158/2326-6066.CIR-17-0604. IF 8.728
- Vulpis E, Cecere F, Molfetta R, Soriani A, Fionda C, Peruzzi G, Caracciolo G, Palchetti S, Masuelli L, Simonelli L, D'Oro U, Abruzzese MP, Petrucci MT, Ricciardi MR, Paolini R, Cippitelli M, Santoni A, Zingoni A. "Genotoxic stress modulates the release of exosomes from multiple myeloma cells capable of activating NK cell cytokine production: Role of HSP70/TLR2/NF-kB axis". *Oncoimmunology* 2017 Jan 13;6(3):e1279372. doi: 10.1080/2162402X.2017.1279372. IF 5.869
- Bernardini G, Vulpis E, Bonanni V, Stabile H, Ricciardi MR, Petrucci MT, Gismondi A, Santoni A, Zingoni A. "High expression levels of IP10/CXCL10 are associated with modulation of the natural killer cell compartment in multiple myeloma". *Leukemia Lymphoma* 2017 Oct; 58: 2493-2496. doi: 10.1080/10428194.2017.1295144. IF 3.093
- Abruzzese MP, Bilotta MT, Fionda C, Zingoni A, Soriani A, Vulpis E, Borrelli C, Zitti B, Petrucci MT, Ricciardi MR, Molfetta R, Paolini R, Santoni A, Cippitelli M. "Inhibition of bromodomain and extra-terminal (BET) proteins increases NKG2D ligand MICA expression and sensitivity to NK cell-mediated cytotoxicity in multiple myeloma cells: role of cMYC-IRF4-miR-125b interplay". *J Hematol Oncol* 2016 Dec; 9: 134. IF 10.743
- Zingoni A, Vulpis E, Nardone I, Soriani A, Fionda C, Cippitelli M, Santoni A. "Targeting NKG2D and NKp30 Ligands Shedding to Improve NK Cell-Based Immunotherapy". *Crit Rev Immunol* 2016; 36: 445-460. doi: 10.1615/CritRevImmunol.2017020166. IF 2.327
- Chimenti C, Scopelliti F, Vulpis E, Tafani M, Villanova L, Verardo R, De Paulis R, Russo MA, Frustaci A. "Increased oxidative stress contributes to cardiomyocyte dysfunction and death in patients with Fabry disease cardiomyopathy". *Human Pathology*, 2015 Aug 4. pii: S0046-8177(15)00280-4. doi: 10.1016/j.humpath.2015.07.017. IF 3.014
- Fionda C, Abruzzese MP, Zingoni A, Cecere F, Vulpis E, Peruzzi G, Soriani A, Molfetta R, Paolini R, Ricciardi MR, Petrucci MT, Santoni A and Cippitelli M. "The IMiDs targets IKZF-1/3 and IRF4 as novel negative regulators of NK cell-activating ligands expression in multiple myeloma". *Oncotarget*, 2015 Sep 15;6(27):23609-30. IF 3.765
- Zingoni A*, Cecere F*, Vulpis E, Fionda C, Molfetta R, Soriani A, Petrucci MT, Ricciardi MR, Furst D, Amendola MG, Mytilineos J, Cerboni C, Paolini R, Cippitelli M and Santoni A. "Genotoxic Stress Induces Senescence-Associated ADAM10-Dependent Release of NKG2D MIC Ligands in Multiple Myeloma Cells". *J Immunol*, 2015 Jul 15; 195(2):736-48. doi: 10.4049/jimmunol.1402643. IF 4.718

FELLOWSHIPS

Date	October 1 st , 2021 – Present
Name and type of organization providing fellowship	Department of Molecular Medicine, "Sapienza" University of Rome

Topic of the fellowship	Research fellowship n. 88/2021 - "Harnessing NK cells by MICA+IL-15/IL-15Ra+ nanoparticles to overcome Multiple Myeloma immune evasion".
Date	October 1 st , 2020 – Present
Name and type of organization providing fellowship	Department of Molecular Medicine, "Sapienza" University of Rome
Topic of the fellowship	Research fellowship n. 41/2020 - "Dissecting mast cell phenotype and function during colorectal cancer progression".
Date	January 1 st , 2017 – September 30, 2020
Name and type of organization providing fellowship	Department of Molecular Medicine, "Sapienza" University of Rome
Topic of the fellowship	Three-years AIRC research fellowship "Costanza Walter" - "Immunomodulatory role an autocrine effect of Multiple Myeloma cell-derived exosomes: implications for TLR2/Hsp70 axis".
Date	December 1 st , 2015 – November 30, 2016
Name and type of organization providing fellowship	Department of Molecular Medicine, "Sapienza" University of Rome
Topic of the fellowship	"Caratterizzazione molecolare e proprietà immunomodulatorie di esosomi prodotti da cellule tumorali"
Date	January 1 st , 2012 – June 30, 2012
Name and type of organization providing fellowship	Istituto Nazionale Malattie Infettive Lazzaro Spallanzani – Via Portuense 292 - Rome
Topic of the fellowship	Multicenter randomized study on the efficacy of immunosuppression in patients with virus-negative inflammatory cardiomyopathy
Date	February 15, 2011 – December 14, 2012
Name and type of organization providing fellowship	Istituto Nazionale Malattie Infettive Lazzaro Spallanzani – Via Portuense 292 - Rome
Topic of the fellowship	<i>Role of inflammation/infection in antiretroviral drug associated coronary plaque</i>
Date	September 2009 – January 31 st , 2011
Name and type of organization providing fellowship	Department of Cardiovascular, Respiratory, Nefrological e Geriatric Sciences, University of Rome "Sapienza".

Dati personali

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

La sottoscritta dichiara di essere consapevole che il presente *curriculum vitae* sarà pubblicato sul sito istituzionale dell'Ateneo, nella Sezione "Amministrazione trasparente", nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Data

04/10/2022

f.to

Elisabetta Vulpis