



## Curriculum Vitae Europass

(redatto ai sensi degli art.46 e 47 del D.P.R. 28.12.2000, n. 445)

### PERSONAL INFORMATION

Name/Surname Cristina Capuano  
Working Address Department of Experimental Medicine, viale Regina Elena 324, 00161, Roma, Sapienza University of Rome

### WORK EXPERIENCE

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date          | <b>November 2020-present</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Position      | Post-Doctoral Research Fellow: Assegnista di Ricerca cat. B-tipologia II -art. 22 L. 240/2010)- SSD MED/04                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Main Activity | Project: "Unraveling phenotypic and functional heterogeneity of human memory NK cells". Supervisor: Prof. Ricciarda Galandrini                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Institution   | Department of Experimental Medicine-Sapienza University of Rome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Date          | <b>September 2019-present</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Position      | Abilitazione Scientifica Nazionale al ruolo di Professore di II Fascia SC 06/A2, SSD MED/04 Patologia Generale e Patologia Clinica (validità dal 9-9-2019 al 9-9-2028)                                                                                                                                                                                                                                                                                                                                                                                                         |
| Institution   | Ministry of University and Research                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Date          | <b>2015-2020</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Position      | Research Fellow- Ricercatore universitario t.d. A (art. 24 c.3-a L.240/10), SSD MED/04, per chiamata diretta (D.D. n° 1350) a seguito dell'ammissione al finanziamento Bando SIR2014 (2015-2018).<br>Rinnovo contrattuale di durata biennale su co-finanziamento di Ateneo contestualmente alla proroga progettuale accordata dal MIUR (MIUR.AOODPFSR.REGISTRO DECRETI.0000160.01-02-2018) (2018-2020). Project: "Analysis of cellular and molecular mechanism underlying NK cell hyporesponsiveness induced by therapeutic antibodies: role for a sustained CD16 aggregation" |
| Main Activity | Research and training activities for PhD students and students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Institution   | Department of Experimental Medicine-Sapienza University of Rome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                       |                                                                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date                  | <b>2011-2015</b>                                                                                                                                                                   |
| Position              | Post-Doctoral Research Fellow: Assegnista di Ricerca cat. A, tipologia II, art.51 comma6 L.449/97)- SSD MED/04                                                                     |
| Main Activity         | Project: "Analysis of molecular signals involved in the functional regulation of cytolytic machinery". Supervisor: Prof. Ricciarda Galandrini.                                     |
| Institution           | Department of Experimental Medicine-Sapienza University of Rome                                                                                                                    |
| Date                  | <b>2010-2011</b>                                                                                                                                                                   |
| Position              | Post-Doctoral Research Fellow- Project: "Ruolo del metabolismo fosfoinositidico nella regolazione funzionale del macchinario citotossico". Supervisor: Prof. Ricciarda Galandrini. |
| Institution           | Istituto Pasteur-Fondazione Cenci-Bolognetti                                                                                                                                       |
| <b>EDUCATION</b>      |                                                                                                                                                                                    |
| Date                  | <b>September 2019-present:</b>                                                                                                                                                     |
| Post-graduate studies | Enrolled (attendance) in the specialty course in Patologia Clinica e Biochimica Clinica, Non-medical Healthcare Area- [SPEC-Ordin. 2016] (29358)                                   |
| Institution           | Sapienza University of Rome                                                                                                                                                        |
| Date                  | <b>2016-2017</b>                                                                                                                                                                   |
| Post-graduate studies | Higher Education Course in Medical Pedagogy and Didactics (20 CFU).                                                                                                                |
| Institution           | Sapienza University of Rome                                                                                                                                                        |
| Date                  | <b>February, 15 2010</b>                                                                                                                                                           |
| Post-graduate studies | PhD in Immunological Sciences.                                                                                                                                                     |
| Institution           | Sapienza University of Rome                                                                                                                                                        |
| Date                  | <b>2005-2006</b>                                                                                                                                                                   |
| Post-graduate studies | I level Master in "Biotechnological Applications and Controls"                                                                                                                     |
| Institution           | Department of Cellular and Developmental Biology-Sapienza University of Rome                                                                                                       |
| Date                  | <b>November, 22 2005</b>                                                                                                                                                           |
| University graduation | Degree in Biological Science- (ORD. 1997 ante DM 509/99)                                                                                                                           |
| Institution           | Sapienza University of Rome                                                                                                                                                        |

## SKILLS AND COMPETENCES

LANGUAGE **ITALIAN**

OTHER LANGUAGE **ENGLISH**

**ENGLISH**

| UNDERSTANDING |         | SPEAKING           |                   | WRITING |
|---------------|---------|--------------------|-------------------|---------|
| Listening     | Reading | Spoken interaction | Spoken production |         |
| B2            | B2      | B1                 | B1                | B2      |

(\*) *Quadro comune europeo di riferimento per le lingue*

## TECHNICAL SKILLS AND COMPETENCE

Primary cell cultures, genetic manipulation of primary cells, confocal microscopy analysis, cytofluorimetric analysis, molecular analysis and biochemical approaches including subcellular fractionation and raft isolation, immunoblot analysis, kinase assay, thin layer chromatography analysis.

## RESEARCH ACTIVITY

My research activity has been mainly conducted in the field of Natural Immunity focused on the study of the cellular and molecular mechanisms underlying Natural Killer (NK) cell antitumor effector functions.

**2017-present:** Analysis of Natural killer cell mediated memory immune response: in vitro and in vivo role of auto(antibody) in the shaping of memory NK cell compartment.

My studies demonstrated the unique capability of tumor-targeting anti-CD20 therapeutic monoclonal antibody (mAb) to induce the selective *in vitro* expansion of memory NK cell population, they also evidenced that CD16 affinity ligation conditions by means of rituximab or next generation glyco-engineered anti-CD20 mAb, obinutuzumab, qualitatively impacts memory NK cell responsiveness, revealing a substantial dichotomy (proliferation vs activation) downstream CD16 receptor. In depth analysis of the phenotypical and functional heterogeneity of memory NK cells highlighted a main role for antibodies in the shaping of memory NK cell compartment identifying a highly specialized NKG2C+CD57+ subset, endowed with enhanced CD16-dependent functional capabilities, whose abundance *in vivo* is associated to anti-CMV antibody levels in healthy seropositive donors and is significantly higher in patients affected by Immune Thrombocytopenia (ITP), an autoimmune disease where anti-platelet autoantibodies play a major role. Such results provide the rationale for the exploitation of memory NK cells in adoptive anticancer therapy and contribute to the understanding the mechanisms affecting the establishment and maintenance of memory NK cell pool; they are reported in the following article: Capuano et al, Front Immunol 2018 (IF 4.71); Capuano et al, J Immunol Res 2019 (IF 3.32); Capuano et al, manuscript submitted for publication in JACI 2021 (IF 10.79).

Ongoing studies:

-Analysis of functional profile of memory NK cell subsets in ITP patients aimed at evaluating the molecular signature that may dictate the crosstalk of memory NK cells with Dendritic Cells and T cells. (Project-AR22117A5D7746AD under evaluation for Progetto Avvio alla Ricerca Tipo II-Bando per la Ricerca di Ateneo 2021).

- *Ex vivo* characterization of the phenotypic and functional profile of memory NK cells in patients with Diffuse Large B Cell Lymphoma undergoing to rituximab-based chemo-immunotherapy regimen treatment.

**2012-2020:** Analysis of the interplay between NK cells and tumor-targeting anti-CD20 therapeutic monoclonal antibodies (mAbs)

My studies were focused on the understanding the mechanisms of NK cell resistance to anti-tumor activity of therapeutic monoclonal antibodies. In "anti-CD20-experienced" NK cells, from healthy donors or from B-Chronic Lymphocytic Leukemia patients, my studies identified an inhibitory signaling pathway mediated by the tyrosine phosphatase Shp-1 that contributes to the resistance to rituximab immunotherapy and evidenced the capability of the glyco-

engineered anti-CD20 mAb, obinutuzumab, endowed with higher binding affinity for CD16, to overcome such resistance, enhancing the killing of mAb opsonized tumor cells. My studies also evidenced a critical role of PI3K/mTOR axis and miR-155 up regulation of the amplified IFN $\gamma$  response observed in obinutuzumab-experienced NK cells. Such results, which provide new insights in NK cell plasticity in therapeutic settings, are reported in the following article: Capuano et al, Cancer Res 2015 (IF 8.55); Capuano et al, Oncoimmunology 2017 (IF 5.50); Capuano et al, Cancer Immunol Immunother 2020 (IF 6.96).

**2006-2012:** Analysis of the role of phosphoinositide-dependent metabolism in the regulation of NK cell cytolytic machinery.

My studies demonstrated a non-redundant role of the lipid kinase phosphatidylinositol4phosphate-5kinase (PIP5K)-dependent signals in the regulation of the secretory phase of the cytolytic process, evidencing the selective involvement of PIP5K $\gamma$  isoform in the control of endocytic trafficking and Munc13-4 cytolytic machinery component compartmentalization. Such results, that contribute to a better comprehension of the molecular mechanisms underlying the cytotoxic function, are reported in the following articles: Micucci\*, Capuano\* et al, Blood 2008 \*Equal Contribution (IF 10.4); Capuano et al, Blood 2012 (9.06); Galandrini et al, Front Immunol 2013 (IF 6.42); Tuosto et al, Cell Mol Life Sci 2015 (IF 5.69).

**FUNDINGS**

**2015-2018:** SIR2014 (Scientific Independence of young Researcher) by Italian Ministry of Education, University and Research (MIUR). Project (RBSI14022M): "Analysis of cellular and molecular mechanism underlying NK cell hyporesponsiveness induced by therapeutic antibodies: role for a sustained CD16 aggregation".

**2013-2014:** Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca. Project (C26N13ZLLN): "Analysis of cellular and molecular mechanisms underlying Natural Killer cell hyporesponsiveness upon therapeutic antibody-opsonized target interaction"

**2012-2013:** Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca. Project (C26N123SCJ): "Unraveling the impact of IL-4 supplied by tumor microenvironment on breast cancer stem cell biology"

**SOCIETY MEMBERSHIPS**

**2007-present:** Italian Society of Immunology, Clinical Immunology and Allergology (SIICA).

**2013-present:** Society for Natural Immunity (SNI)

**PARTICIPATION IN  
NATIONAL AND  
INTERNATIONAL  
COLLABORATIVE STUDIES**

**2021-present:** Study coordinated by Dr. M. Ardolino (Assistant Professor at Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Canada) aimed at identifying new small molecule drugs for cancer immunotherapy able to potentiate Natural Killer cell anticancer activity.

**2020-2021:** Study coordinated by Prof. M. Cippitelli (Department of Molecular Medicine, Sapienza University) aimed at evaluating the role of neddylation' inhibitor MLN4924/Pevonedistat in promoting Natural Killer cell recognition and killing of Multiple Myeloma cells via a finely tuning of NKG2D-activating ligands expression. The results, that support a synergistic cooperation between neddylation' inhibition and immunomodulatory

drugs (IMiDs) in inducing the upregulation of NKG2D ligands, are reported in the following article: Petillo et al, Cell Death Dis. 2021;12(9):836. (IF 8.46).

**2020-2021:** Study coordinated by Prof. C. Fionda (Department of Molecular Medicine, Sapienza University) aimed at evaluating the role of E3 ubiquitin ligase Cereblon in regulating Natural Killer cell migration and killing via Rho GTPase activation. The results, that evidence the molecular mechanisms intervening in the NK cell cytoskeletal remodelling following chemokine activation and describe the Cereblon-mediated stimulatory effect of immunomodulatory drug Lenalidomide on NK cells, are reported in the followed article: Fionda et al, Eur J Immunol. 2021. doi: 10.1002/eji.202149269 (IF 5.53).

**2020-2021:** Study coordinated by Prof. G. Sciumè (Department of Molecular Medicine, Sapienza University) aimed at dissecting phenotypical and functional heterogeneity of hepatic Innate Lymphoid Cells (ILC)1 Natural Killer cells. Such results, that identified a liver enriched GzmA+CD160+ ILC1 population as a distinct differentiation state of ILC1 endowed with upregulated cytotoxic and IFN $\gamma$  producing potential, are reported in the following article: Di Censo et al, Eur J Immunol. 2021. doi: 10.1002/eji.202149209 (IF 5.53).

**2019-2020:** Study coordinated by Dr. Macchia I and Urbani F (Istituto Superiore di Sanità, Rome, Italy) aimed at setting and validating the Standard Operating Procedure (SOP) for immuno-phenotype, acquisition and cytofluorimetric analysis of whole blood samples. Results are reported in the following article: Macchia et al, J Immunol Res. 2020:2698258.eCollection 2020 (IF 4.81).

**2013-2014:** Study coordinated by Prof. G. Scala (University of Catanzaro) and Dr. F.M. Tuccillo (IRCSS, Napoli) aimed at characterizing the antitumor properties of the monoclonal antibody UN1 targeting the tumor-specific isoform of sialo-glycosylated protein CD43. The results, which support the therapeutic role of monoclonal antibodies towards cancer-associated peptide mimotopes, are reported in the following article: Tuccillo et al, Mol Cancer Ther. 2014;13(3):752-762. (IF 5.68).

**2012-2015:** Study, coordinated by Prof. L. Tuosto (Department of Biology and Biotechnology "Charles Darwin"-Sapienza University) aimed at analyzing the role of PIP5K $\alpha$  in CD4+ T lymphocyte responses following CD28 aggregation. The results are reported in the following articles: Muscolini et al, J. Immunol. 2013;190:5279-5286 (IF 5.36); Muscolini et al, J Immunol. 2015;194(3):1323-1333 (IF 4.98); Kunkl et al, Front Immunol. 2017;8:502. (IF 5.51)

**2011-2015:** Study, coordinated by Prof. R. Paolini (Department of Molecular Medicine, Sapienza University), is aimed at evaluate the impact of endocytic trafficking of NKG2D receptor on the killing ability of Natural Killer cells in multiple myeloma setting. The results, that provide new insights on cancer immunoevasion mechanisms, are reported in the following articles: Molfetta et al, Eur J Immunol. 2014;44(9):2761-2770 (IF 4.03); Quatrini et al, Sci Signal. 2015; 8(400):ra108 (IF 7.35); Molfetta et al, Trends Immunol. 2016;pii: S1471-4906(16)30119-3 (IF 13.28).

## AWARDS AND HONORS

**2020:** The following article Capuano C. et al, Cancer Immunol Immunother. 2020 doi: 10.1007/s00262-020-02482-2 has been selected as featured article for cover figure of Cancer Immunology, Immunotherapy, Volume 69, issue 4, April 2020

**2008:** The following article Micucci\*, Capuano\* et al, Blood 2008;111:4165, 'Equal contribution (IF 10.47) has been featured by Prof. M. Colonna, (Washington University School of Medicine, St. Louise) in Blood 2008 111:3916; doi: <https://doi.org/10.1182/blood-2008-01-131516>

**2013:** Travel Grant assigned by SIICA scientific committee for the selected abstract: C. Capuano, M. Romanelli, C. Pighi, R. Molfetta, R. Paolini, A. Santoni and R. Galandrini. "CD16 aggregation induced by therapeutic antibody-opsonized targets impairs cytotoxic

responses in human NK cells". 15th International Congress Of Immunology in Milan, August 22-27, 2013.

**2009:** Travel Grant assigned by EFIS scientific committee for the selected abstract: C. Capuano, R. Paolini, A. Santoni and R. Galandrini. "PI5Klgamma-dependent PIP2 pool plays a key role in Munc13-4 priming factor compartmentalization". 2nd European Congress of Immunology, Berlin, Germany, September 13-16, 2009.

## PARTICIPATION TO EDITORIAL ACTIVITY

**2021-present:** Editorial Board member as Review Editor in Cytokines and Soluble Mediators in Immunity-Frontiers in Immunology- (IF 5.085).

<https://www.frontiersin.org/journals/immunology/sections/cytokines-and-soluble-mediators-in-immunity#editorial-board>

**2020-presenti:** Reviewer for Cells (IF 4.36), Cancers (IF 6.63)

## PUBLICATIONS (Impact Factor reference JCR Clarivate-year of publication)

1. **Capuano C**, Pighi C, Battella S, Pulcinelli F, Santoro C, Ferretti A, Turriziani O, De Federicis D, Fionda C, Sciumè G, Galandrini R, Palmieri G. Dynamic shaping of memory Natural Killer cell compartment by (auto)antibodies via CD16 stimulation. Manuscript under review for publication in Journal of Allergy and Clinical Immunology (IF 10.79)
2. Petillo S, **Capuano C**, Molfetta R, Fionda C, Pighi C, Antonangeli F, Zingoni A, Soriani A, Petrucci MT, Galandrini R, Paolini R, Santoni A, Cippitelli M. Immunomodulatory effect of NEDD8-activating enzyme inhibition in Multiple Myeloma: upregulation of NKG2DL and sensitization to Natural Killer cells recognition. Cell Death Dis. 2021;12(9):836. doi: 10.1038/s41419-021-04104-w. (IF 8.46)
3. 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. doi: 10.1002/eji.202149269. (IF 5.53)
4. Di Censo C, Marotel M, Mattiola I, Muller L, Scarno G, Pietropaolo G, Peruzzi G, Laffranchi M, Mazej J, Hasim MS, Asif S, Russo E, Tomaipitnca L, Stabile H, Lee SH, Vian L, Gadina M, Gismondi A, Shih Hy, Mikami Y, **Capuano C**, Bernardini G, Bonelli M, Sozzani S, Diefenbach A, Ardolino M, Santoni A, Sciumè G. Granzyme A and CD160 expression delineates ILC1 with graded functions in the mouse liver. Eur J Immunol. 2021. doi:10.1002/eji.202149209. (IF 5.53)
5. **Capuano C**, Pighi C, Battella C, De Federicis D, Galandrini R, Palmieri G. Harnessing CD16-mediated NK cell functions to enhance therapeutic efficacy of tumor-targeting mAbs. Cancers. 2021; 13 (10):2500. doi: 10.3390/cancers13102500. (IF 6.63)
6. **Capuano C**, Pighi C, Maggio R, Battella S, Morrone S, Palmieri G, Santoni A, Klein C, Galandrini R. CD16 pre-ligation by defucosylated tumor-targeting mAb sensitizes human NK cells to  $\gamma$ c cytokine stimulation via PI3K/mTOR axis. Cancer Immunol Immunother. 2020;69(4):501-512. doi: 10.1007/s00262-020-02482-2. (IF 6.96)
7. Macchia I, La Sorsa V, Ruspantini I, Sanchez M, Tirelli V, Carollo M, Fedele G, Leone P, Schiavoni G, Buccione C, Rizza P, Nisticò P, Palermo B, Morrone S, Stabile H, Rugghetti A, Nuti M, Zizzari IG, Fionda C, Maggio R, **Capuano C**, Quintarelli C, Sinibaldi M, Agrati C, Casetti R, Roza Gonzalez A, Iacobone F, Gismondi A, Belardelli F, Biffoni M, Urbani F. Multicentre Harmonisation of a Six-Colour Flow Cytometry Panel for Naïve/Memory T Cell Immunomonitoring. J Immunol Res. 2020:2698258. doi: 10.1155/2020/2698258. eCollection 2020 (IF 4.81)
8. Battella S, Oliva S, Franchitti L, La Scaleia R, Soriani A, Isoldi S, **Capuano C**, Pighi C, Morrone S, Galandrini R, Santoni A, Palmieri G. Fine tuning of the DNAM-1/TIGIT/ligand axis in mucosal T cells and its dysregulation in pediatric inflammatory bowel diseases (IBD). Mucosal Immunol. 2019;12(6):1358-1369. doi: 10.1038/s41385-019-0208-7 (IF 7.35)
9. **Capuano C**, Pighi C, Battella S, Santoni A, Palmieri G, Galandrini R. Memory NK Cell Features Exploitable in Anticancer Immunotherapy. J Immunol Res;2019:8795673. doi: 10.1155/2019/8795673. eCollection 2019. (IF 3.32)

10. **Capuano C**, Battella S, Pighi C, Franchitti L, Turriziani O, Morrone S, Santoni A, Galandrini R, Palmieri G. Tumor-Targeting Anti-CD20 Antibodies Mediate In Vitro Expansion of Memory Natural Killer Cells: Impact of CD16 Affinity Ligation Conditions and In Vivo Priming. *Front. Immunol.* 2018;9:1031. doi: 10.3389/fimmu.2018.01031. (IF 4.71)
11. 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  $\alpha$  Inhibitor, Impairs CD28-Dependent Costimulatory and Pro-inflammatory Signals in Human T Lymphocytes. *Front Immunol.* 2017;8:502. doi: 10.3389/fimmu.2017.00502. (IF 5.51)
12. **Capuano C**, Pighi C, Molfetta R, Paolini R, Battella S, Palmieri G, Giannini G, Belardinelli F, Santoni A and Galandrini R. Obinutuzumab-mediated high affinity ligation of Fc $\gamma$ RIIIA/CD16 primes NK cells for IFN $\gamma$  production. *Oncol Immunology.* 2017;6(3):e1290037. doi: 10.1080/2162402X.2017.1290037. (IF 5.50)
13. Molfetta R, Quatrini L, Zitti B, **Capuano C**, Galandrini R, Santoni A, Paolini R. Regulation of NKG2D Expression and Signaling by Endocytosis. *Trends Immunol.* 2016;pii: S1471-4906(16)30119-3. doi: 10.1016/j.it.2016.08.015. (IF 13.28)
14. Lollobrigida M, Lamazza L, Capuano C, Formisano G, Serra E, Laurito D, Romanelli M, Molinari A, De Biase A. Physical Profile and Impact of a Calcium-Incorporated Implant Surface on Preosteoblastic Cell Morphologic and Differentiation Parameters: A Comparative Analysis. *Int J Oral Maxillofac Implants.* 2016; 31(1):223-31. doi: 10.11607/jomi.4247. (IF 2.26)
15. Quatrini L, Molfetta R, Zitti B, Peruzzi G, Fionda C, **Capuano C**, Galandrini R, Cippitelli M, Santoni A, Paolini R. Ubiquitin-dependent endocytosis of NKG2D-DAP10 receptor complexes activates signaling and functions in human NK cells. *Sci Signal.* 2015; 8(400):ra108. doi: 10.1126/scisignal.aab2724. (IF 7.35)
16. **Capuano C**, Romanelli M, Pighi C, Cimino G, Rago A, Molfetta R, Paolini R, Santoni A, Galandrini R. Anti-CD20 Therapy Acts via Fc $\gamma$ RIIIA to Diminish Responsiveness of Human Natural Killer Cells. *Cancer Res.* 2015; 75 (19):4097-5108. doi: 10.1158/0008-5472.CAN-15-0781. (IF 8.55)
17. Tuosto L, **Capuano C**, Muscolini M, Santoni A, Galandrini R. The multifaceted role of PIP2 in leukocyte biology. *Cell Mol Life Sci.* 2015; 72(23):4461-74. doi:10.1007/s00018-015-2013-0. (IF 5.69)
18. Muscolini M, Camperio C, Porciello N, Caristi S, **Capuano C**, Viola A, Galandrini R, Tuosto L. Phosphatidylinositol 4-phosphate 5-kinase  $\alpha$  and Vav1 mutual cooperation in CD28-mediated actin remodeling and signaling functions. *J Immunol.* 2015;194(3):1323-1333. doi: 10.4049/jimmunol.1401643. (IF 4.98)
19. Molfetta R, Quatrini L, **Capuano C**, Gasparini F, Zitti B, Zingoni A, Galandrini R, Santoni A, Paolini R. c-Cbl regulates MICA- but not ULBP2-induced NKG2D down-modulation in human NK cells. *Eur J Immunol.* 2014;44(9):2761-2770. doi: 10.1002/eji.201444512. (IF 4.03)
20. Tuccillo FM, Palmieri C, Fiume G, de Laurentiis A, Schiavone M, Falcone C, Iaccino E, Galandrini R, **Capuano C**, Santoni A, D'Armiento FP, Arra C, Barbieri A, Dal Piaz F, Venzon D, Bonelli P, Buonaguro FM, Scala I, Mallardo M, Quinto I, Scala G. Cancer-associated CD43 glycoforms as target of immunotherapy. *Mol Cancer Ther.* 2014;13(3):752-762. doi: 10.1158/1535-7163.MCT-13-065. (IF 5.68)
21. Galandrini R, **Capuano C**, Santoni A. Activation of Lymphocyte Cytolytic Machinery: Where are We?. *Front Immunol.* 2013;4:390. doi:10.3389/fimmu.2013.00390. (IF 6.42)
22. Muscolini M, Camperio C, **Capuano C**, Caristi S, Piccolella E, Galandrini R, Tuosto L. Phosphatidylinositol 4-phosphate 5-kinase  $\alpha$  activation critically contributes to CD28-dependent signaling responses. *J. Immunol.* 2013;190:5279-5286. doi: 10.4049/jimmunol.1203157. (IF 5.36)
23. **Capuano C**, Paolini R, Molfetta R, Frati L, Santoni A, Galandrini R. PIP2-dependent regulation of Munc13-4 endocytic recycling: impact on the cytolytic secretory pathway. *Blood.*

- 2012;119:2252-2262. doi: 10.1182/blood-2010-12-324160. (IF 9.06)
24. Micucci F<sup>1</sup>, **Capuano C**<sup>1</sup>, Marchetti E, Piccoli M, Frati L, Santoni A, Galandrini R. PI5KI-dependent signals are critical regulator of the cytolytic secretory pathway. *Blood*. 2008;111(8):4165-4172. <sup>1</sup> **Equal contribution**. doi:10.1182/blood-2007-08-108886. (IF10.4)
25. Galandrini R, Porpora MG, Stoppacciaro A, Micucci F, **Capuano C**, Tassi I, Di Felice A, Benedetti-Panici P, Santoni A. Increased frequency of human leukocyte antigen-E inhibitory receptor CD94/NKG2A-expressing peritoneal natural killer cells in patients with endometriosis. *Fertil Steril*. 2008;89(5Suppl):1490-1496. doi:10.1016/j.fertnstert.2007.05.018 (IF 4.16)
26. Frasca L, Fedele G, Deaglio S, **Capuano C**, Palazzo R, Vaisitti T, Malavasi F, Ausiello CM. CD38 orchestrates migration, survival, and Th1 immune response of human mature dendritic cells. *Blood*. 2006;107(6):2392-2399. doi:10.1182/blood-2005-07-2913. (IF 10.3)

## TEACHING EXPERIENCE

### From 2015-2016 to 2019-2020 academic years

Sapienza University -Faculty of Pharmacy and Medicine

-Responsible for the Immunology and Immunopathology Module (1 CFU), within the course of Pathophysiological Bases of Diseases [1036417]

-Responsible for Elective Teaching Activity (ADE) [AAF1433] for first year students (1 CFU) Degree Course in Biomedical Laboratory Techniques (L/SNT3), Latina

### 2015-present:

Sapienza University

-Tutor for the degree theses preparation (Degree Course in Biomedical Laboratory Techniques)

-Tutor for PhD theses preparation, Doctoral School in Immunological, Hematological and Rheumatological Sciences (SIER), Immunology and Immunopathology curriculum

### 2015-present:

Sapienza University-Faculty of Pharmacy and Medicine

Elective Teaching Activity (ADE) within Immunology and Immunopathology course, 3rd year of the Degree Course in Medicine and Surgery (Channel A)

## NATIONAL AND INTERNATIONAL CONFERENCES

1. L. Frasca, G. Fedele, S. Deaglio, **C. Capuano**, R. Palazzo, T. Vaisitti, E. Ferrero, F. Malavasi and CM. Ausiello. "CD38, a novel marker of mature monocyte derived dendritic cells, modulates Th1 adaptative immune response". 4<sup>th</sup> National Conference SIICA. Vol 96. Suppl.1.N3 page 67. Brescia, Italy, June 8-11, 2005.
2. R. Galandrini, F. Micucci, **C. Capuano**, A. Santoni. "Phosphatidylinositol 4,5-bisphosphate (PIP<sub>2</sub>) generation and function in NK cytotoxic activity". 10<sup>th</sup> Meeting of the society of Natural Immunity. p 163. Cambridge, England, April 11-14, 2007.
3. F. Micucci, **C. Capuano**, A. Santoni, R. Galandrini. "A critical role for type I phosphatidylinositol 4-phosphate 5-kinase (PI5KI)-dependent signals in the regulation of cytotoxic function". 5<sup>th</sup> National Conference SIICA. Vol 98. Suppl.1 N.3 page 8. Trieste, Italy, June 6-9, 2007.
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