Curriculum Vitae

Giovannino Silvestri, Biologist, Ph.D.
Marlene & Stewart Greenebaum Comprehensive Cancer Center,
University of Maryland School of Medicine

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Contact Information

Business Address: Greenebaum Comprehensive Cancer Center
655 West Baltimore Street, 9-020
Baltimore, 21201
Phone Number: 4435297878
Email: Gsilvestri@som.umaryland.edu
Foreign Languages: English (Fluently), Italian (Native Language)
Web page: http://www.medschool.umaryland.edu/profiles/Silvestri-Giovannino/

Education

2003-2006 B.S., Biology, University of Calabria, Italy.
2006-2009 M.S., Biology, University of Calabria, Italy (Magna cum Laude).
2010-2013 Ph.D., Cellular and Molecular Pathology and Biology, University of Verona, Italy
Thesis Advisor – Dr. Claudio Sorio.
"Biochemical and functional characterization of the oncosuppressor gene ProteinTyrosine Phosphatase Receptor Gamma".

Dr**. Giovannino Silvestri** is a highly accomplished researcher with a strong background in molecular and cellular biology, particularly in malignant hematology. He earned his master's degree in molecular biology and a Ph.D. in Molecular and Cellular Biology and Pathology, dedicating over a decade to investigating the molecular mechanisms underlying leukemia, focusing specifically on Acute Myeloid Leukemia (AML) and Chronic Myelogenous Leukemia (CML). During his tenure in Dr. Sorio's laboratory at the University of Verona, Italy, Dr. Silvestri spearheaded research on the role of the Protein Tyrosine Phosphatase Receptor Gamma (PTPRG) in CML pathogenesis, showcasing his expertise in designing and executing experiments to address fundamental questions in cancer biology. Subsequently, his postdoctoral work at the University of Maryland Baltimore honed his skills in studying microRNAs' involvement in the intricate interplay between leukemic stem, stromal, and immune cells, culminating in several impactful publications. His research interests extend beyond CML, evidenced by contributions to the Institute of Human Virology, where he collaborated with Dr. Robert Gallo on projects aimed at understanding and combatting viral and immune disorders, including HIV/AIDS. Dr. Silvestri's involvement in COVID-19 research further underscores his versatility and commitment to addressing pressing global health challenges, collaborating with Dr. Gallo and Italian scientists at the University of Maryland School of Medicine and research centers in Italy to identify potential therapeutic targets for SARS-CoV-2. His extensive experience in mentoring and training junior researchers, coupled with a robust publication record, reflects his dedication to advancing scientific knowledge and fostering the next generation of researchers. Dr. Silvestri's multidisciplinary approach, encompassing virology, immunology, and cancer biology, positions him as an asset in endeavors aimed at accelerating the discovery of diagnostics and therapeutics for viral and immune disorders, including COVID-19.

In Dr. Rathinam Lab at The Institute of Human Virology, he engaged in the identification of signal transduction pathways that contribute to the transformation of Normal Hematopoietic Stem Cells into Leukemia Stem Cells. In addition, he focused on the importance of post-translational modifications of signal transducers in the phenomenon of Leukemic transformation using mouse models.

For the past decade, his research focus has been on unraveling the complex molecular mechanisms underlying the emergence, progression, and cure of leukemias. Utilizing cutting-edge cell and molecular biology techniques, alongside sophisticated signaling methodologies, Dr. Silvestri's research encompasses both in vitro and in vivo studies.

In Dr. Baer's laboratory at the Marlene and Stewart Greenebaum Comprehensive Cancer Center, University of Maryland, Baltimore, he meticulously studies a spectrum of cellular subpopulations, ranging from established AML FLT3-ITD cell lines to primary human and murine stem and progenitor cells derived from bone marrow and peripheral blood. His scientific contributions, as evidenced by referenced articles, have included significant advancements in leukemia research. These breakthroughs include elucidating the intricate interplay between RNA metabolism and leukemia pathogenesis, highlighting the crucial role of miRNA tumor suppressor activity in sustaining stem cell-driven leukemogenesis. Furthermore, in collaboration with Dr. Baer, their latest investigation in AML FLT3-ITD has demonstrated that coadministration of Pim Kinase inhibitors with the FDA-approved FLT3 inhibitor, Gilteritinib, enhances cytotoxic effects both in vitro and in vivo via GSK-3 Beta activation.

Dr. Silvestri's research findings have been published in peer-reviewed articles in prestigious journals such as Blood Cancer Discovery, Cancer Research Communications, Proceedings of the National Academy of Sciences (PNAS), Frontiers in Immunology, Analyst, Oncotarget, Haematologica, and Current Drug Targets. With his extensive expertise and steadfast commitment, Dr. Silvestri is well-prepared to achieve success in securing research grant proposals. At the core of his dedication lies the identification of crucial molecular targets essential for advancing groundbreaking therapeutic approaches for AML, aiming to significantly impact clinical outcomes and patient care.

Post Graduate Education and Training

2005-2006 Internship in Anatomy Pathology, Centro Sanitario, University of Calabria, Italy.
2008-2009 M.S. student, Biology, University of Calabria, Italy
2010-2013 Ph.D. student, Mol. and Cellular Bio. and Pathol., University of Verona, Italy.
2013-2018 Post-Doctoral Fellow, Mol. Oncology, University of Maryland Baltimore, USA.
2018-2018 Research Associate, Program in Oncology, University of Maryland Baltimore, USA.
2019-2023 Research Associate, IHV, University of Maryland Baltimore, USA.
2023-pres. Research Associate, Greenebaum CCC, University of Maryland Baltimore, USA.

Academic Appointments

2013-2018 Post-Doctoral Fellow, Mol. Oncology, University of Maryland Baltimore, USA.
2018-2018 Research Associate, Program in Oncology, University of Maryland Baltimore, USA.
2019-2023 Research Associate, IHV, University of Maryland Baltimore, USA.
2023-pres. Research Associate, Greenebaum CCC, University of Maryland Baltimore, USA.

Professional Society Membership

2015-present Member, American Society of Hematology (ASH).
2015-present Member, American Association for the Advancement of Science (AAAS).
2016-present Member, The International CML Foundation (iCMLf)

2017-present Associate Member, American Association for Cancer Research (AACR).

Honors and Awards

2009, Best Graduate Award 2009, University of Calabria, Italy, awarded for distinguished performance in biology.
2010-13, Ph.D. Student Fellowship, Italian Ministry of Health, University of Verona, Italy.
2012, 14th ESH-iCMLf Travel Award, Baltimore, USA.
2014, 16th ESH-iCMLf Travel Award, Philadelphia, USA.
2015, Award for Best poster presentation, University of Maryland, USA.
2015, American Society of Hematology Abstract Award winner, Orlando, USA.
2017, September Postdoc Appreciation Month, University of Maryland, USA
2018, Member Memory Board and Membership Testimonial, Selected from The American Association for Cancer Research (AACR), Chicago, USA.
2022, Silver Plaque Award given by the Mayor of Rende for scientific research career, Italy.

Professional Activities

2012, MicroFTIR stage and performing experiments at the Synchrotron Soleil, Paris, France.
2013, Organized laboratory planning and maintenance, University of Maryland, USA.
2015, Mentor laboratory for *The Nathan Schnaper Summer Intern Program (NSIP) in cancer Research* at Universityof MarylandBaltimore Greenebaum CCC, Baltimore, USA 2018-present, Postdoc Peer Mentor Program, University of Maryland, USA.
2018-present Judge, *Undergraduate Poster Competition 2018,* Stevenson University and Johns Hopkins Medical Institution, Baltimore, USA.Selected by the Collaborative Teaching Fellows Program to evaluate research posters of undergraduate students and excite them about research careers.
2019, Judge, 42nd Medical Research Day (MSRD), University of Maryland, USA.
2020, Judge, 43rd Medical Research Day (MSRD), University of Maryland, USA.
2021, Judge, 44th Medical Research Day (MSRD), University of Maryland, USA.
2022, Judge, 45th Medical Research Day (MSRD), University of Maryland, USA.
2023, Judge, 46th Medical Research Day (MSRD), University of Maryland, USA.

Licenses & certifications

1. **Organizational improv** The Johns Hopkins University - Carey Business School Issued Jun 2024.
2. **Conflicts of Interest Conflicts of Interest** CITI Program Issued Mar 2024 · Expires Mar 2028 Credential ID 61050470.
3. **Investigators, Staff and Students** CITI Program Issued Mar 2024 · Expires Mar 2027. Credential ID 60372761.
4. **Working with Mice in Research** CITI Program Issued Mar 2024 · Expires Mar 2027. Credential ID 60372762
5. **Clinical Trials Analysis, Monitoring, and Presentation** Johns Hopkins University Issued Nov 2023 Credential ID P3CP6FX3FVH2
6. **Clinical Trials Data Management and Quality Assurance** Johns Hopkins Nov 2023.
7. **Clinical Trials Management and Advanced Operations** Johns Hopkins University Nov 2023 Credential ID VUBL5ZWRJ28M

8. **Clinical Trials Operations Specialization** Johns Hopkins Issued Nov 2023 Credential ID 5Z4LWQJG9884
9. **Design and Conduct of Clinical Trials** Johns Hopkins University Issued Oct 2023 Credential ID SEQJSJQ38BGL
10. **Design and Interpretation of Clinical Trials** Johns Hopkins University Issued Oct 2023 Credential ID MDSCR5WDBVCPC
11. **COVID-19: Insights for Higher Ed Leaders** CITI Program Issued Apr 2021 Credential ID 39553648
12. **Participating in Vaccine Research** CITI Program Issued Apr 2021 Credential ID 39292168
13. **COVID-19: Back to Campus (2020-2023)** CITI Program Issued Aug 2020 Credential ID 37727502
14. **Biomedical Responsible Conduct of Research** CITI Program Issued Dec 2013Credential ID 11880343

Local and National Service

Editorial Board

- Review Editor on the Editorial Board of Molecular and Cellular Oncology (specialty section of Frontiers in Oncology and Frontiers in Cell and Developmental Biology).
  https://loop.frontiersin.org/people/374295/overview

- Review Editor on the Editorial Board of MDPI Journals.
  https://www.mdpi.com/journal/jcm/submission_reviewers

Peer review activities for international journals

- Genes
- Cancers
- Journal of Clinical Medicine
- Journal of Cellular Physiology
- Oncotarget
- Frontiers in Oncology
- Healthcare
- Frontiers in Cell and Developmental Biology
- Vaccines
- Pharmaceuticals
- Blood
- International journal of cancer
- Cellular Signaling
- BioMed Research International
- Journal of Blood Medicine
- BioEssays
- Pathogens

Local Service

2018-present Postdoc Peer Mentor Program, University of Maryland, USA.

International Service

Grant Reviewer:
2021, Health Research Council of New Zealand (HRC)

Teaching Service

Undergraduate Student Teaching

2015 Mentor laboratory for *The Nathan Schnaper Summer Intern Program (NSIP) in cancer Research* at University of Maryland Baltimore Greenebaum CCC, Baltimore, USA.
2017 Mentor laboratory for *The Nathan Schnaper Summer Intern Program (NSIP) in cancer Research* at University of Maryland Baltimore Greenebaum CCC, Baltimore, USA.

Grants and contract

Grant Reviewer:

2021, Health Research Council of New Zealand (HRC)

Ongoing Research Support:

Veterans Affairs AI01BX005120-01A2 07/06/2021-06/31/2025

PI: Baer

Role: Key personnel

Title: Enhancing FLT3 inhibitor efficacy in acute myeloid leukemia with FLT3-ITD.

Acute myeloid leukemia (AML) accounts for 80% of adult acute leukemia and has a five-year survival rate of only 25%. It is more common in men and incidence increases with age. AML is associated with military service in specific groups of Veterans. It also develops following treatment for other cancers, including those common in Veterans. This merit award proposal explores approaches to improving treatment for AML with fms-like tyrosine kinase 3 internal tandem duplication (FLT3-ITD), a molecular abnormality present in AML cells in 30% of patients and associated with poor treatment outcomes. The work has the potential to improve outcomes in Veterans who develop this common and unfavorable AML subtype, including following military and medical exposures. The long-term goal is to develop clinical trials of multi-targeting approaches to improving outcomes of patients with AML with FLT3-ITD *NIH/NIAID 1R21AI174952-01* 02/06/2022-01/31/2025

PI: Rathinam

Role: Key personnel

Title: Decoding HIV-1 mediated Hematopathology.

Human Immunodeficiency Virus (HIV)-1 infection causes severe hematopathology, including anemia, neutropenia, thrombocytopenia, leukemia, lymphoma, inflammatory disorders, and bone marrow failure. A deeper understanding of the cellular and molecular mechanisms that regulate hematopoietic stem cells (HSCs) in the BM of patients with HIV-1 infection would be valuable in designing novel therapies for HIV-associated hematological diseases.

Pending Research Support -

NIH/NCI R21 4/1/2025-3/31/2027

PI: Silvestri.

- *NIH/NCI R01 4/1/2025-3/31/2030*

PI: Baer, Key Personnel: Silvestri.

- *RFA Merit Grant Veterans Affairs 10/1/24-09/30/2028*

PI: Baer, Key Personnel: Silvestri.

Completed/Ended Research Support:

NIH/NHLBI 1R01HL132194 02/15/2017-01/31/2023

PI: Rathinam

Role: Key personnel

Title: NF-KB signaling in the control of Hematopoiesis. The goal of this project is to assess the precise role of NF-KB in hematopoietic stem cells that would be essential to understand and treat hematopoietic diseases that arise due to defective NF-KB activation.

NIH/NCI R01CA163800 01/31/2012-01/31/2019

PI: Perrotti

Role: Key personnel

Title: Role of microRNAs in the regulation of CML stem cell survival and self-renewal.

The goal of this project is to assess the role of microRNAs targeting in a canonical or decoy manner the BCR- ABL1/Jak2/SET-PP2A/b-catenin pathway in survival/self-renewal of leukemic stem and progenitor cells.

NIH-NCI 1R21CA209183-01 07/13/2016-06/30/2019

PI: Perrotti

Role: Key Personnel
Title: Role of SETBP1 in adult Ph+ acute lymphoblastic leukemia. The goal of this project is to assess the role of SETBP1 and that of the PP2A inhibitory complex in the survival and self-renewal of Ph+ B-ALL stem cells.

Ph.D. Student Fellowship, Italian Ministry of Health, University of Verona, Italy 01/01/2010-05/30/2013

PI: Silvestri

Publications

Peer-reviewed journal articles

1. Bellisola G., Cinque G., Vezzalini M., Moratti E., **Silvestri G.**, Redealli S., Gambacorti Passerini C., Wehbe K., and C. Sorio. Rapid recognition of drug-resistance/sensitivity in leukemic cells by Fourier transform infrared microspectroscopy and unsupervised hierarchical cluster analysis, ***Analyst***, 138:3934-3945, 2013.
2. Bellisola G, Bolomini Vittori M, Cinque G, Dumas P, Fiorini Z, Laudanna C, Mirenda M, Sandt C, **Silvestri G**, Tomasello L, Vezzalini M, Wehbe K, Sorio C. Unsupervised explorative data analysis of normal human leukocytes and BCR/ABL positive leukemic cells mid-infrared spectra. ***Analyst***, 140:4407-22, 2015.
3. Perrotti D, **Silvestri G**, Stramucci L. Chronic Myelogenous Leukemia (CML): Current Research Focus. ***Haematologica,*** 9:91-102, 2015.
4. Laidlaw K., Berhan S., Liu S, **Silvestri G**, Holyoake T, Frank D, Aggarwal B.B., Perrotti D**.**, Jørgensen H., Arbiser J. Cooperation of imipramine blue and tyrosine kinase blockade demonstrates activity against chronic myeloid leukemia. ***Oncotarget***, 7:51651 doi: 10.18632/oncotarget.10541, 2016.
5. Perrotti D, **Silvestri G**, Stramucci L, Yu J, Trotta R. Cellular and Molecular Networks in Chronic Myeloid Leukemia: the leukemic stem, progenitor, and stromal cell interplay. ***Current drug targets***, 18:377-388, 2017
6. Srutova K, Curik N, Burda P, Savvulidi F, **Silvestri G**, Trotta R, Klamova H, Pecherkova P, Sovova Z, Koblihova J, Stopka T, Perrotti D and Machova Polakova K. BCR-ABL1 mediated miR-150 downregulation throught MYC contributed to myeloid differentiation block and resistance in chronic myeloid leukemia. ***Haematologica***, 103(12):2016-2025. doi: 10.3324/haematol.2018.193086, 2018.
7. **G Silvestri**, R Trotta, L Stramucci, JJ Ellis, JG Harb et al. Persistence of Drug-Resistant Leukemic Stem Cells and Impaired NK Cell Immunity in CML Patients Depend on MIR300 Antiproliferative and

PP2A-Activating Functions, ***Blood Cancer Discovery,*** 1:1. doi:10.1158/0008-5472. BCD-190039*,* 2020.

8. *Palma G, *Pasqua T, **Silvestri G**, Rocca C, Gualtieri P, Barbieri A, De Bartolo A, De Lorenzo A, Angelone T, Avolio E and Botti G. PI3Kδ Inhibition as a Potential Therapeutic Target in COVID19, ***Frontiers in Immunology***, 11:2094. doi: 10.3389/fimmu.2020.0209, 2020. *Equally contributed.
9. Benedetti*, F.; **Silvestri*, G**.; Nartuhi*, C.M.; Weichseldorfer, M.; Munawwar, A.; Cash, M.N.; Dulcey, M.; Vittor, A.Y.; Ciccozzi, M.; Salemi, M.; Latinovic, O.S.; Zella D.; Comperison of SARSCoV-2 receptors expression in primary endothelial cells and retinoic acid-differentiated human neuronal cells. ***Viruses***, 13(11):2193 doi: 10.3390/v13112193, 2022 *equally contributed.
10. Benedetti F.*; **Silvestri G**.*; Saadat S.; Denaro F.; Latinovic S.O.; Davis H.; Williams S.; Bryant L. J.; Ippodrino R.; Rathinam V. C.; Gallo C. R.; Zella D.; Mycoplasma DNAK increases DNA copy Number Variants *in vivo*. ***The Proceedings of the National Academy of Sciences (PNAS)***, 120 (30) e2219897120, 2023 *equally contributed.
11. Jonelle K. Lee, Aditi Chatterjee, Mario Scarpa, Christopher M. Bailey, Sandrine Niyongere, Prerna Singh, Moaath K. Mustafa Ali, Shivani Kapoor, Yin Wang, **Giovannino Silvestri*** and Maria R. Baer*; Pim kinase inhibitors increase gilteritinib cytotoxicity in FLT3-ITD acute myeloid leukemia through GSK-3β activation and c-Myc and Mcl-1 proteasomal degradation. ***Cancer Research Communications,*** 4(2):431-445, 2024.
12. Francesca Benedetti[#], **Giovannino Silvestri**[#], Frank Denaro, Giovanni Finesso, Rafael ContrerasGalindo, Arshi Munawwar, Sumiko Williams, Harry Davis, Joseph Bryant, Yin Wang, Enrico Radaelli, Chozha V. Rathinam, Robert C. Gallo* and Davide Zella*; Mycoplasma DnaK Expression Increases Cancer Development In Vivo Upon DNA Damage. ***The Proceedings of the National Academy of Sciences (PNAS)***, 121 (10) e2320859121, 2024. # Equally contributed.
13. Benedetti F.; Mongodin F. E.; Badger H. J.; Munawwar A.; Cellini A.; Yuan W.; **Silvestri G**.; Kraus N. C.; Marini S.; Salemi M.; Tettelin H.; Gallo C. R.; Zella D.; Bacterial DnaK Reduces the Activity of Anti-cancer Drugs Cisplatin and 5FU. ***Journal of Translational Medicine*** 22, 269, 2024.
14. Basta D., Latinovic O.S., Tagaya Y. **Silvestri G.***. Potential Advantages of a Well-balanced Nutrition Regimen for People Living with Human Immunodeficiency Virus Type -1. ***J AIDS HIV Treat.*** 6(1):11-27, 2024.

Submitted or In-Revision Peer-reviewed journal articles

1. **Giovannino Silvestri** and Chozha Vendan Rathinam; Trim28 plays an indispensable role in maintaining functions and transcriptional integrity of hematopoietic stem cells. ***Stem Cells***, 2024, Under Review.

Major Invited Speeches

National

1. **Silvestri, G.,** MicroRNAs as regulators of stem and progenitor CML cells function, ESH-iCMLf, Philadelphia, 2014.
2. **Silvestri, G.,** Role of the MSC-Derived Exosomal and Endogenous JAK2-SET/PP2A-Beta CateninModulator Mir-300 in Leukemic Stem/Progenitor Proliferation and Survival in CML, 57th ASH, Orlando, 2015.

International

1. **Silvestri, G.,** The BM Niche Uses Mir-300 As a Biological Rheostat to Selectively Control Stem CellDriven Malignant Hematopoiesis and Innate Anti-Cancer Immunity. ESH-iCMLf, Estoril, Portugal, 2017.

Proffered Communications: oral (O) and poster (P) poster presentation

- Morsi H., El Ayoubi H., Moratti E., Vezzalini M., **Silvestri G.**, Stradoni R., Murineddu M., Gabbas A., Monne M. and C. Sorio. High Resistance Rate of Chronic Myeloid Leukaemia (CML) to Imatinib Myselate (IM) Might be related to Protein Tyrosine Phosphatase Receptor Type Gamma (PTPRG) DownRegulation. *Proceedings Qatar Foundation* Annual Research Forum *Epub: November 2011* (O).
- Bellisola G., Cinque G., Vezzalini M., **Silvestri G.**, Redaelli S., Gambacorti Passerini C., Wehbe K. and C. Sorio. Rapid identification of drug-resistance/sensitivity in leukemic cells by Fourier Transform InfraRed microspectroscopy (microFTIR) and unsupervised Hierarchical Cluster Analysis (HCA) *Proceeding of the Synchrotron Radiation User Meeting* Oxford, UK, September 2012. (P).
- **Silvestri G*.**, Mirenda M., Vezzalini M., Moratti E., Laudanna C. and C. Sorio. Molecular mechanisms of the antiproliferative effect of Protein Tyrosine Phosphatase Receptor-like Gamma (PTPRG): BCR/ABL and LYN kinase as key targets. *Proceeding of the 14th ESH-iCMLf International Conference on CML Biology and Therapy*. Baltimore, Usa, September 2012 (P) (*): recipient of the iCMLF travel award.
- Bellisola G., Cinque G., Vezzalini M., Moratti E., **Silvestri G.**, Redaelli S., Wehbe K. and C. Sorio. Rapid identification of drug-resistance/sensitivity in leukemic cells by Fourier transform infrared microspectroscopy (microFTIR) and unsupervised pattern recognition. *Proceeding of the 14th ESHiCMLf International Conference on CML Biology and Therapy*. Baltimore, USA, September 2012 (P).
- Bellisola G., Cinque G., Sandt C., Dumas P., **Silvestri G.** and C. Sorio. Oncosuppressive effect of direct transduction of receptor-type tyrosine-protein phosphatase gamma (PTPRG) intracellular catalytic domains in K562 cells. *Proceeding of the 15th ESH-iCMLf International Conference on CML Biology and Therapy*. Estoril, Portugal, September 2013 (P).
- Tomasello L., **Silvestri G.**, Della Peruta M., Fiorini Z., Vezzalini M. and Claudio Sorio. Protein Tyrosine Phosphatase Receptor Type Gamma is an inhibitor of critical BCR/ABL driven pathways in Chronic Myeloid Leukemia. *Societa' Italiana di Cancerologia.* Ferrara, Italy, September 2014 (O).
- Bellisola G., Tomasello L., Fiorini Z., **Silvestri G.**, Vezzalini M. and Claudio Sorio. Direct transduction of Receptor-Type Protein Tyrosine-Phosphatase Gamma (PTPRG) intracellular catalytic domains in K562 cells. *Societa' Italiana di Cancerologia.* Ferrara, Italy, September 2014 (P).
- **Silvestri G*.**, Ellis J., Stramucci L., Harb J.G., Neviani P., Marcucci G., Reid A., Milojkovic D., Apperley J., Baer M., Trotta R., and D. Perrotti. MicroRNAs as regulators of stem and progenitor CML cell's function. Peer reviewed and printed in the Proceedings of the 2014 ESH-iCMLf International Conference on CML-Biology and Therapy, Philadelphia (O). (*): Invited Speaker.
- **Silvestri G.,** Ellis J.J., Stramucci L., Harb J.G., Neviani P., Marcucci G., Roy D-C., Hokland P., Milojkovic D., Reid A., Apperley J.F., Livak F.M., Baer M.R., Trotta R., and D. Perrotti. miR-300 acts as a tumor suppressor in Ph^+ progenitors by Modulating the JAK2-SET/PP2A-B catenin interplay. Peer Reviewed and Published in Blood (Suppl.) dedicated to the 56th ASH Annual Meeting 2014 (P).
- **Silvestri G*.,** Justin Ellis, Lorenzo Stramucci, Jason G Harb, Paolo Neviani, Guido Marcucci, DenisClaude Roy, Peter Hokland, Dragana Milojkovic, Alistair Reid, Jane F. Apperley, Ferenc M. Livak, Maria R. Baer,

Rossana Trotta, and Danilo Perrotti. miR-300 acts as a tumor suppressor in Ph^+ progenitors by Modulating the JAK2-SET/PP2A-B catenin interplay. UMB Cancer Center Retreat,
Baltimore, USA, May 18, 2015. (P) (*): Best Poster Presentation.

- **Silvestri G*.**, Stramucci L, Ellis J., Yu J., Harb J.G., Neviani P., Marcucci G., Srutova K., Machova Polakova K., Roy D-C., Hokland P., Deininger MW., Bhatia R., Gambacorti-Passerini C., Milojkovic D., Reid A.G., Apperley J.F., Livak F., Baer M.R., Trotta R. and Perrotti D. Role of the MSC-derived exosomal and endogenous JAK2-SET/PP2A-beta-catenin-modulator miR-300 in leukemic stem/progenitor and NK cell proliferation and survival in CML. Peer reviewed and printed in the Proceedings of the 2015 ESH-iCMLf International Conference on CML-Biology and Therapy, Estoril, Portugal (O). (*): Best scored Biology Abstract.
- **Silvestri G*.,** Stramucci L., Ellis J., Yu J., Harb J.G., Neviani P., Marcucci G., Srutova K., Machova Polakova K., Roy D-C, Hokland P., Deininger MW., Bhatia R., Gambacorti-Passerini C., Milojkovic D., Reid A.G., Apperley J.F., Livak F., Baer M.R., Trotta R., and Perrotti D. Role of the MSC-Derived Exosomal and Endogenous JAK2-SET/PP2A-Beta Catenin-Modulator Mir-300 in Leukemic Stem/Progenitor Proliferation and Survival in CML. Peer Reviewed and Published in Blood (Suppl.) dedicated to the 57th ASH Annual Meeting 2015 (O). (*): ASH travel award.
- Trotta R., **Silvestri G.**, Stramucci L., Ellis J., Yu J., Harb J.G., Neviani P., Marcucci G., Srutova K., Machova Polakova K., Roy D-C., Hokland P., Deininger M.W., Bhatia R., Gambacorti-Passerini C., Milojkovic D., Reid A.G., Apperley J.F., Livak F., Baer M.R., and Perrotti D. Role of the MSC-Derived Exosomal and Endogenous JAK2-SET/PP2A-Beta Catenin-Modulator Mir-300 in Leukemic Stem/Progenitor Proliferation and Survival in CML. Proceeding of the AACR Annual Meeting (New Orleans, LA) 2016 (P).
- **Silvestri G.**, Stramucci L., Ellis J., Yu J., Harb J.G., Neviani P., Marcucci G., Srutova K., Machova Polakova K., Roy D-C., Hokland P., Deininger M.W., Bhatia R., Gambacorti-Passerini C., Milojkovic D., Reid A.G., Apperley J.F., Livak F., Baer M.R., Trotta R., and Perrotti D. Role of Mir300 in Leukemic Stem/Progenitor Proliferation and Survival in CML. Peer Reviewed and Published in the Haematologica (Suppl.) dedicated to the European Hematology Association (EHA) Annual Meeting. Copenhagen, Danmark. 2016. (O).
- Yu J.E., **Silvestri G**., Stramucci L., Livak F.M., Baer M.R., Trotta R., and Perrotti, D. The Role of SETBP1 in Leukemia-Initiating Cell Survival and Self-Renewal in Adult Ph^+ B-ALL. ESH-iCMLF ESH-iCMLf International Conference on CML-Biology and Therapy, Houston TX Sept. 2016 (O).
- Yu J.E., **Silvestri G.,** Stramucci L., Sanada M., Yamaguchi T., Du Y., Westermarck J., Caligiuri M.A., Garzon R., Milojkovic D., Apperley J.F., Roy D-C., Marcucci G., Calabretta, B., Baer M.R., Trotta R. and Perrotti D**.** *Potential Targeting Ph+ Acute Lymphoblastic Leukemia Stem and Progenitor Cells By Modulating the CIP2A-SET-SETBP1 –Mediated Suppression of PP2A Activity* Peer Reviewed and Published in Blood (Suppl.) dedicated to the 58th ASH Annual Meeting 2016 (P).
- P. Burda, N. Čuřík, K. Šrůtová, F. Savvulidi, **G. Silvestri**, H. Klamová, P. Pecherková, Ž. Sovová, J. Koblihová, T. Stopka, D. Perrotti, K. Machová Poláková *Myc-dependent repression mechanism of the mir-150 transcriptional regulation in chronic myeloid leukemia*. Peer Reviewed and Published in the Leukemia (Suppl.) dedicated to the European Hematology Association (EHA) Annual Meeting. Madrid, Spain. 2017 (P).
- **Silvestri G.,** Stramucci L., Ellis J., Yu J., Harb J.G., Neviani P., Zhang B., Srutova K., GambacortiPasserini C., Pineda G., Jamieson C., Calabretta B., Stagno F., Vigneri P., Nteliopoulos G., May P., Reid A.G., Garzon R., Roy D-C., Guimond M., Hokland P., Deininger M., Fitzgerald G., Harman C., Dazzi F., Milojkovic D., Apperley J.F., Marcucci G., Qi J., Fan X., Machova-Polakova K., Baer M.R., Trotta R., and Perrotti D. *The BM Niche Uses Mir-300 As a Biological Rheostat to Selectively Control Stem Cell-Driven Malignant Hematopoiesis and Innate Anti-Cancer Immunity.* UMB CCC Retreat, September 2017 (P).

- **Silvestri G*.,** Stramucci L., Ellis J., Yu J., Harb JG, Neviani P., Zhang B., Srutova K., GambacortiPasserini C., Pineda G., Jamieson C., Calabretta B., Stagno F., Vigneri P., Nteliopoulos G., May P., Reid A.G., Garzon R., Roy D-C., Guimond M., Hokland P., Deininger M., Fitzgerald G., Harman C., Dazzi F., Milojkovic D., , Apperley J.F., Marcucci G., Qi J., Fan X., Machova-Polakova K., Baer M.R., Trotta R., and Perrotti D. *The BM Niche Uses Mir-300 As a Biological Rheostat to Selectively Control Stem Cell-Driven Malignant Hematopoiesis and Innate Anti-Cancer Immunity.* ESH-iCMLf International Conference on CML-Biology and Therapy, Estoril, Portugal Oct. 2017 (O). (*): selected for Keynote lecture.
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Clinical Specialty Details:

Certificate in Clinical Trials Operations by Johns Hopkins University. Certificate earned November 1, 2023.

1. Design and Conduct of Clinical Trials
   Johns Hopkins University
   Taught by: Janet Holbrook, PhD, MPH, Ann-Margret Ervin, PhD, MPH, Stephan Ehrhardt, MD, MPH & Elizabeth A. Sugar, PhD
   Grade Achieved: 87.79%

2. Clinical Trials Data Management and Quality Assurance
   Johns Hopkins University
   Taught by: Janet Holbrook, PhD, MPH, Ann-Margret Ervin, PhD, MPH & David M. Shade, JD
   Grade Achieved: 86.08%

3. Clinical Trials Management and Advanced Operations
   Johns Hopkins University
   Taught by: Ann-Margret Ervin, PhD, MPH, Anne Shanklin Casper, MA & Sheriza Baksh, PhD Grade Achieved: 87.34%

4. Clinical Trials Analysis, Monitoring, and Presentation
   Johns Hopkins University
   Taught by: Janet Holbrook, PhD, MPH, Elizabeth A. Sugar, PhD & David M. Shade, JD Grade Achieved: 86.23%

In the News

- Dr. Silvestri on March 11th, 2019 released an interview to an italian science magazine OGGIScienza.it that interviewed him to tell to the italian community the research he is performing in the United States of America. https://oggiscienza.it/2019/03/11/leucemia-mieloidecronica/Chronic myeloid leukemia, the research to destroy cancer stem cells. Two directions of CML research: study drug-resistant cancer stem cells and develop new molecules to treat patients resistant to therapies by Luisa Alessio. 11 March 2019.
- "From the historic center of Rende to the United States to fight on the front line against the Coronavirus. Giovannino Silvestri from Rende is also part of the team of scientists who have proposed a new therapeutic protocol for the treatment of Covid-19 to the Annunziata hospital in Cosenza. Raised in the ancient village of Oltre Campagnano, he has lived in the USA since 2013 and works as an associate researcher at the Institute of Human Virology of the University of Maryland in Baltimore. Born in 1984, he graduated with honors from the Faculty of Biology of the University of Calabria in 2009 and three years later obtained his PhD from the University of Verona in biology and molecular and cellular pathology. In recent weeks his research work has focused on the Covid-19 pandemic which is unfortunately claiming thousands of victims all over the world. "To date, there is no known effective pharmacological treatment for which therapeutic alternatives are needed to alleviate and stop this pandemic due to a completely new virus," explains Silvestri. «The work of which I co-authored with Ennio Avolio, Teresa Pasqua and Giuseppe Palma, involves the use of the treatment of two drugs capable

of acting together and mitigating the worsening of the lung disease, the now sadly famous syncytial pneumonia, caused by Sars-Cov-2", underlines the researcher. «The treatment consists of a selective antagonist of peripheral H1 histaminergic receptors in combination with a specific inhibitor of one of the inflammatory cascades which, when activated, causes a strong perturbation of the immune responses with a typical pulmonary clinical picture of Covid-19», he highlights. "This new therapeutic protocol - concludes Silvestri - could give an important turning point in the treatment of Covid-19 patients, especially in the early stages of the evolution of the pathology, that is, in avoiding or reducing the need for treatment in intensive care". https://www.quotidianodelsud.it/calabria/lintervista/salute-e-assistenza/2020/04/03/coronavirusla-terapia-antivirus-dal-ricercatore-calabrese-negli-usa April 2022, Italy.

- Chronic myelogenous leukemia (CML) is a stem cell disorder once considered an eventual death sentence upon progression to the terminal acute/blastic cell phase, a terrible clinical outcome that has improved with the introduction of tyrosine kinase inhibitors. A major continuing problem with treating CML is the persistence of drug-resistant leukemia stem/initiating cells (LS/IC). In the first issue of Blood Cancer Discovery, Silvestri and colleagues describe an incredibly in-depth mechanistic study using genetic and pharmacologic modulation of the miRNA MiR300 with and without treatment with activators of the serine-threonine protein phosphatase 2A (PP2A) in human cells. In vitro studies and in vivo mouse models of patient-derived xenografts were used to address the need to target LS/ICs and restore immunity of impaired natural killer cells for attenuation of CML progression. Spotlight by Hal Broxmeyer. https://bloodcancerdiscov.aacrjournals.org/content/1/1/13. July 2020.
- «To Giovannino Silvestri a brilliant mind who, with his research, gives hope and faith in science». These were the words imprinted on the silver plaque given by the mayor Manna to the transplanted biologist in Baltimore where he has lived for 10 years and works as an associate researcher at the Institute of Human Virology at the University of Maryland. In addition to the doctor's parents, the Assessors Annamaria Artese, Lisa Sorrentino and Fabrizio Totera took part in the ceremony. «It is an honor to have this illustrious citizen who, with his work, offers the possibility of treatment for patients suffering from chronic myeloid leukemia» said Mayor Marcello Manna. Dr Silvestri, during the stop forced by the pandemic, helped also to activate a treatment at the Cosenza hospital that avoids the complications of the consequences of pneumonia: "Although I have lived in America for some time - said Silvestri - where I came to work with Robert Charles Gallo, US academic, discoverer of the retroviral origin of AIDS in 1982, I am very fond of my roots and this is where I trained and graduated. I thank my city for this important recognition". https://www.ilpendolo.it/la-citta-di-rende-omaggia-il-concittadinodi-fama-mondiale-giovannino-silvestri/ October 2022, Italy.
- A team of researchers from the University of Maryland School of Maryland's (UMSOM) Institute of Human Virology (IHV), a Center of Excellence of the Global Virus Network (GVN), published new findings that emphasize the crucial role of the urinary and genital tract microbiota in adverse pregnancy outcomes and genomic instability that originate in the womb during fetal development. This research was spearheaded by Robert Gallo, MD, The Homer & Martha Gudelsky Distinguished Professor in Medicine, Co-Founder and Emeritus Director of UMSOM's
IHV, and Co-Founder and Chair of the Scientific Leadership Board of the Global Virus Network "We aim to further explore the mechanisms underlying these findings and their potential implications for preventing and treating chromosomal abnormalities and genetic diseases," said co-lead author Giovannino Silvestri, PhD, former Research Associate of Medicine in UMSOM's IHV. The human microbiota is known to affect metabolism, susceptibility to infectious diseases, immune system regulation, and more. One of these bacterial components, Mycoplasmas, have been linked to various cancers. The research team has been studying one Mycoplasma protein, DnaK, which belongs to a family of proteins that safeguards other bacterial proteins against damage and aids in their folding when they are newly made, acting as a so-called 'chaperone.' However, while this protein is advantageous for bacteria, its effects on animal cells are less favorable. To this regard, the team had previously demonstrated that

this DnaK is taken up by the body's cells and it interferes with key proteins involved in preserving DNA integrity and in cancer prevention, such as the tumor suppressor protein p53.https://ihv.org/news/2023News/Researchers-from-the-Institute-of-Human-Virology-Discover-that-a-Bacterial-ProteinCauses-Genomic-Instability-and-Contributes-to-Reduced-Fertility-and-Birth-Defects.html July 2023, USA.