Laura SILVESTRI-Biographical Sketch

NAME Laura SILVESTRI	POSITION TITLE Tenured ***Ospedale San Raffaele*** researcher

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training).

INSTITUTION AND LOCATION	DEGREE (IF APPLICABLE)	YEAR(S)	FIELD OF STUDY
Università degli Studi di Milano, Italy	M.Sc.	1996	Pharmaceutical Chemistry and Technology
Università degli Studi di Milano, Italy	PhD	2000	Biotechnology
Università di Ferrara, Ferrara, Italy	Master	2005	Science communication
San Raffaele Scientific Institute (OSR), Milan, Italy	Postdoctoral training	2000-2005	Molecular mechanisms in neurodegenerative disorders

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List in chronological order the titles, all authors, and complete references to all publications during the past 3 years and to representative earlier publications pertinent to this application. If the list of publications in the last 3 years exceeds 2 pages, select the most pertinent publications. PAGE LIMITATIONS APPLY. DO NOT EXCEED 5 PAGES FOR THE ENTIRE BIOGRAPHICAL SKETCH PER INDIVIDUAL.

Positions and Employment

1996-2000 Fellow, Division of Biochemistry and Genetic, Carlo Besta Neurological Institute, and Human Molecular Genetic Unit, San Raffaele Scientific Institute, OSR, Milan, Italy

2000-2005 Junior Post-Doc, Human Molecular Genetic Unit, San Raffaele Scientific Institute, OSR, Milan, Italy

2005-2010 Senior Post-Doc, Regulation of Iron Metabolism Unit, San Raffaele Scientific Institute, OSR, Milan, Italy

2010-2011 Visiting Professor (short stages). Department of Pathology, School of Medicine, University of Utah, Salt Lake City, UT, USA

2010-2015 Research Associate, Regulation of Iron Metabolism Unit, San Raffaele Scientific Institute, OSR, Milan, Italy

2016-present: Project Leader, San Raffaele Scientific Institute, OSR, Milan, Italy.

2007-present: Adjunct Professor in Molecular Biology, Vita-Salute University, Milan, Italy

Honors

2008 Workshop on Iron Overload: Mechanisms, Measurement and Management. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). Annapolis, MD, USA. October 27-28, 2008. Travel award

2009 XV Telethon Convention. Palazzo dei Congressi. Riva del Garda, Italy. March 9-11, 2009. Best poster award

2009 Heme Oxygenases in biology and medicine. 6th Internation Congress. Miami, FL, USA. September 30-October 4, 2009. Travel award.

2013 IBIS International BioIron Society, London, UK. April 16-18, 2013. IBIS Gunshin-Levy award for dedication, commitment and contributions to iron homeostasis

2014-2020 Italian Ministry of University and Research: "Abilitazione Scientifica Nazionale" as Professor of Pathology and Molecular and Applied Biology

Other Experience and Professional Memberships

2007- Reviewer for Blood, Journal of Clinical Investigation, Haematologica, American Journal of Hematology, Scientific Reports, PlosOne, Biochemie, American Journal of Physiology-Cell Physiology, Molecular Genetics and Metabolism, Experimental Hematology, Science Reports, Journal of Hepatology

2016 Reviewer for the Grant Agency Kidney Research UK

2020 Reviewer for the Polish Ministry of Science and Higher Education

2012 Abstract Reviewer, "The 54th American Society of Hematology (ASH) Annual Meeting and Exposition", Atlanta, GA.

2014 Abstract reviewer and member of the scientific committee, European Iron Club Meeting, Verona, Italy.

2017 Abstract Reviewer, "The 59th American Society of Hematology (ASH) Annual Meeting and Exposition", Atlanta, GA.

2018 Abstract reviewer, European Iron Club Meeting, Zurich, Switzerland

2019 Abstract reviewer, BioIron Meeting, Heidelberg, Germany

2019-2020 Abstract reviewer, EHA Meeting, Amsterdam, The Netherlands

2009- Member, International BioIron Society (IBIS)

2014- Member, American Society of Hematology (ASH)

2018- Member, European Hematology Association (EHA)

2015-2019 Member of the Board of Directors, International BioIron Society (IBIS)

2018-2019 Member of the Scientific Program Committee-Advisory Board, European Hematology Association (EHA)

2019-2023 Member of the Scientific Committee on Iron and Heme, American Society of Hematology (ASH)

PUBLICATIONS

Last 5 years publications

Original articles

1. Nai A, Lorè NI, Pagani A, De Lorenzo R, Di Modica S, Saliu F, Cirillo DM, Rovere-Querini P,

Manfredi AA, **Silvestri L.** Hepcidin levels predict Covid-19 severity and mortality in a cohort of hospitalized Italian patients. Am J Hematol. 2021 Jan;96(1):E32-E35. doi: 10.1002/ajh.26027.
2. Nai A, Lidonnici MR, Federico G, Pettinato M, Olivari V, Carrillo F, Geninatti Crich S, Ferrari G, Camaschella C, **Silvestri L*,** Carlomagno F*. NCOA4-mediated ferritinophagy in macrophages is crucial to sustain erythropoiesis in mice. Haematologica. 2020 Feb 27. doi: 10.3324/haematol.2019.241232. *: co-last and co-corresponding authors
3. Pagani A., Pettinato M., Colucci S., Dulja A., Rauner M., Nai A., Camaschella C., Altamura S., Muckenthaler M., **Silvestri L.,** Hemochromatosis proteins are dispensable for the acute hepcidin response to BMP2. Haematologica. 2020. Oct 1;105(10):e493. DOI: 10.3324/haematol.2019.241984.
4. Nai A., Pettinato M. Federico G., Carlomagno F. and Silvestri L. Tamoxifen erythroid toxicity revealed by studying the role of Nuclear Receptor Co-Activator 4 in erythropoisis. Haematologica. (2019). Haematologica. 2019 Aug;104(8):e383-e384. doi: 10.3324/haematol.2019.224857.
5. Crippa S, Rossella V, Aprile A, Silvestri L, Rivis S, Scaramuzza S, Pirroni S, Avanzini MA, Basso-Ricci L, Hernandez RJ, Zecca M, Marktel S, Ciceri F, Aiuti A,
Ferrari G, Bernardo ME. Bone marrow stromal cells from β-thalassemia patients have impaired hematopoietic supportive capacity. J Clin Invest. 2019 Feb 25;129(4):1566-1580. doi: 10.1172/JCI123191.
6. Artuso I, Pettinato M, Nai A, Pagani A, Sardo U, Billoré B, Lidonnici MR, Bennett C, Mandelli G, Pasricha SR, Ferrari G, Camaschella C, Kautz L, Silvestri L. Transient decrease of serum iron after acute erythropoietin treatment contributes to hepcidin inhibition by ERFE in mice. Haematologica. 2018 Sep 28. pii: haematol.2018.199810. doi: 10.3324/haematol.2018.199810.
7. Artuso I, Lidonnici MR, Altamura S, Mandelli G, Pettinato M, Muckenthaler MU, **Silvestri L,** Ferrari G, Camaschella C, Nai A. Transferrin receptor 2 is a potential novel therapeutic target for β-thalassemia: evidence from a murine model. Blood. 2018 Nov 22;132(21):2286-2297. doi: 10.1182/blood-2018-05-852277.
8. Ravasi G, Pelucchi S, Mariani R, **Silvestri L,** Camaschella C, Piperno A. A severe hemojuvelin mutation leading to late onset of HFE2-hemochromatosis. Dig Liver Dis. 2018 Apr 27. pii: S1590-8658(18)30715-1. doi: 10.1016/j.dld.2018.04.018.
9. Colucci S., Pagani A., Pettinato M., Artuso I., Nai A., Camaschella C., **Silvestri L**. The immunophilin FKBP12 inhibits hepcidin expression by binding the BMP type I receptor ALK2 in hepatocytes. (2017) Blood. 2017 doi: 10.1182/blood-2017-04-780692.
Highlighted in Blood. Parrow NL, Fleming RE. Releasing the FKBP12 brake on hepcidin. Blood. 2017 Nov 9;130(19):2049-2050. doi: 10.1182/blood-2017-09-805390.
10. Pagani, A., Colucci, S., Bocciardi, R., Bertamino, M., Dufour, C., Ravazzolo, R., **Silvestri, L.*,** Camaschella, C*. A new form of IRIDA due to combined heterozygous mutations of TMPRSS6 and ACVR1A encoding the BMP receptor ALK2 (2017) Blood, 129 (25), pp. 3392-3395. DOI: 10.1182/blood-2017-03-773481 *: co-last authors
11. Latour, C., Besson-Fournier, C., Meynard, D., **Silvestri, L**., Gourbeyre, O., Aguilar-Martinez, P., Schmidt, P.J., Fleming, M.D., Roth, M.-P., Coppin, H. Differing impact of the deletion of hemochromatosis-associated molecules HFE and transferrin receptor-2 on the iron phenotype of mice lacking bone morphogenetic protein 6 or hemojuvelin (2016) Hepatology, 63 (1), pp. 126-137. DOI: 10.1002/hep.28254
12. Nai, A., Rubio, A., Campanella, A., Gourbeyre, O., Artuso, I., Bordini, J., Gineste, A., Latour, C., Besson-Fournier, C., Lin, H.Y., Coppin, H., Roth, M.-P., Camaschella, C., **Silvestri, L.*,** Meynard, D*. Limiting hepatic Bmp-Smad signaling by matriptase-2 is required for erythropoietin-mediated Hepcidin suppression in mice (2016) Blood, 127 (19), pp. 2327-2336. DOI: 10.1182/blood-2015-11-681494

*: co-last and co-corresponding authors

Highlighted in Blood. Bartnikas T. Matriptase-2 links erythropoietin to iron. Blood 2016 127:2270-2271; doi: https://doi.org/10.1182/blood-2016-02-694919

13. Rausa, M., Pagani, A., Nai, A., Campanella, A., Gilberti, M.E., Apostoli, P., Camaschella, C., **Silvestri, L**. Bmp6 expression in murine liver non parenchymal cells: A mechanism to control their high iron exporter activity and protect hepatocytes from iron overload? (2015) PLoS ONE, 10 (4), art. no. e0122696, . DOI: 10.1371/journal.pone.0122696

14. Nai, A., Lidonnici, M.R., Rausa, M., Mandelli, G., Pagani, A., **Silvestri, L**., Ferrari, G., Camaschella, C. The second transferrin receptor regulates red blood cell production in mice (2015) Blood, 125 (7), pp. 1170-1179. DOI: 10.1182/blood-2014-08-596254

Highlighted in Blood. Pantopoulos K. TfR2 links iron metabolism and erythropoiesis. Blood 125:1055-6. doi: 10.1182/blood-2014-12-617571.

15. Rausa, M., Ghitti, M., Pagani, A., Nai, A., Campanella, A., Musco, G., Camaschella, C., **Silvestri, L.** Identification of TMPRSS6 cleavage sites of hemojuvelin (2015) Journal of Cellular and Molecular Medicine, 19 (4), pp. 879-888. DOI: 10.1111/jcmm.12462

16. Pagani, A., Vieillevoye, M., Nai, A., Rausa, M., Ladli, M., Lacombe, C., Mayeux, P., Verdier, F., Camaschella, C., **Silvestri, L.** Regulation of cell surface transferrin receptor-2 by iron-dependent cleavage and release of a soluble form (2015) Haematologica, 100 (4), pp. 458-465. DOI: 10.3324/haematol.2014.118521

17. Ravasi, G., Rausa, M., Pelucchi, S., Arosio, C., Greni, F., Mariani, R., Pelloni, I., **Silvestri, L**., Pineda, P., Camaschella, C., Piperno, A. Transferrin receptor 2 mutations in patients with juvenile hemochromatosis phenotype (2015) American Journal of Hematology, 90 (12), pp. E226-E227. DOI: 10.1002/ajh.24202

Reviews:

1. Mleczko-Sanecka K, **Silvestri L.** Cell-type-specific insights into iron regulatory processes. Am J Hematol. 2021 Jan;96(1):110-127. doi: 10.1002/ajh.26001.

2. Camaschella C, Nai A, **Silvestri L.** Iron metabolism and iron disorders revisited in the hepcidin era. Haematologica. 2020 Jan 31;105(2):260-272. doi: 10.3324/haematol.2019.232124.

3. Pagani A, Nai A, **Silvestri L,** Camaschella C. Hepcidin and Anemia: A Tight Relationship. Front Physiol. 2019 Oct 9;10:1294. doi: 10.3389/fphys.2019.01294.

4. Camaschella, C., Pagani, A., Nai, A., **Silvestri, L**. The mutual control of iron and erythropoiesis (2016) International Journal of Laboratory Hematology, 38, pp. 20-26. DOI: 10.1111/ijlh.12505.

Book chapters:

1. Silvestri L, Nai A, Dulja A, Pagani A. Hepcidin and the BMP-SMAD pathway: An unexpected liaison. Vitam Horm. 2019;110:71-99.

2. Silvestri, L. Iron Metabolism in Aging. (2016) Molecular Basis of Nutrition and Aging: A Volume in the Molecular Nutrition Series, pp. 523-536. DOI: 10.1016/B978-0-12-801816-3.00037-6

Complete List of Published Work in My Bibliography:

https://www.scopus.com/authid/detail.uri?authorId=7004424357

Patents

"Inhibitor of TFR2 and/or inhibitor of FKBP12 and uses thereof". Inventors: **Silvestri L.,** Camaschella C., Nai A., Pagani A., Colucci S. (2017). US Provisional n. 62/483,17