

DEBORAH CHIABRANDO

CURRICULUM VITAE

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ACADEMIC POSITIONS

- 2021- present RTDB, Dept. of Molecular Biotechnology and Health Sciences, Università degli Studi di Torino.
- 2020- 2021 RTDA Dept. of Molecular Biotechnology and Health Sciences, Università degli Studi di Torino.
- 2011-2020 PostDoc Fellow at the Department of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Italy.
- 2007-2010 PhD Student at the Department of Genetics, Biology and Biochemistry and Molecular Biotechnology Center of the University of Torino, Italy.

EDUCATION

- 2019 International Master in Peripheral Nervous System Disorder. University of Milan, Milan, Italy
- 2018 National Scientific Abilitation in Applied Biology (BIO/13)
- 2004-2006 University of Torino, Faculty of Biotechnology.
Master's degree in molecular biotechnology with thesis: "Loss of haptoglobin leads to iron overload in the kidney and spleen".
Graduated *summa cum laude*.
- 2001-2004 University of Torino, Faculty of Biotechnology.
Degree in Molecular Biotechnology with thesis: "Animal models to study iron metabolism disorders".
- 1996-2001 Completed college studies at "Liceo Scientifico G.B. Bodoni" in Saluzzo (CN – Italy) with the score of 100/100.

TEACHING ACTIVITIES

- 2022-present Basi molecolari e genetiche delle malattie (STF0035), Farmacia - Chimica e tecnologia farmaceutiche, University of Torino, Torino, Italy
- 2020-present Biologia (MED3033C), Corso di Laurea in Infermieristica - A.O.U. Città della Salute e della Scienza di Torino, University of Torino, Torino, Italy
- 2020-present INTEGRATED LABORATORY TECHNIQUES (BIO0174), Corso di Laurea in Biotechnologie, University of Torino, Torino, Italy
- 2015-2018 Tuition "Biology and Genetics", School of Medicine (Biotechnology), University of Torino, Torino, Italy.
- 2015-2017 Tuition "Interactions and Gene Networks", School of Medicine (Biotechnology), University of Torino, Torino, Italy.
- 2015-2017 Tuition "Genetic Models of Human Diseases", School of Medicine (Biotechnology), University of Torino, Torino, Italy.

From 2010	SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS. School of Medicine (Biotechnology), Dept. of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Torino, Italy.
2009-2010	Tuition "Cellular Biology", School of Medicine (Maternity Unit), University of Torino, Torino, Italy.
2009-2010	Tuition "Cellular Biology", School of Medicine (Laboratory Technicians), University of Torino, Torino, Italy.
2005-2007	Tuition "Plant Biology", School of Medicine (Biotechnology), University of Torino, Torino, Italy.

INSTITUTIONAL RESPONSIBILITIES

2022-present	Member of the Public Engagement Commission, Dept. of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Torino, Italy.
2021 - 2024	Member of the Council of the Faculty Committee, Dept. of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Torino, Italy.
2020 - oggi	Delegata di Dipartimento per il Registro di Public Engagement (PE), Dipartimento di Biotecnologie Molecolari e Scienze per la Salute, Università di Torino.
2019-present	Member of the Research Commission, Dept. of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Torino, Italy.
2015-2017	Postdoc fellows Representative at the Faculty Committee, Dept. of Molecular Biotechnology and Health Sciences, Molecular Biotechnology Center, University of Torino, Torino, Italy.

REVIEWING ACTIVITIES

Reviewer for "Cell Biology and Toxicology" (2019), "International Journal of Oncology" (2018), for "Pharmaceuticals" (2018), "BMC (BioMed Central) Medical Genomics" (2015), "Frontiers Pharmacology" (2014)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Member of the SINS (2022), Member of the Italian Association for the Study of the Peripheral Nervous System (2017-2019), Member of the International Biolron Society (2016-2023), Member of the European Iron Club (2016-2020), European Hematology Association (2015)

INDIVIDUAL GRANT

2023	Principal Investigator in the project entitled "Posterior Column Ataxia and Retinitis Pigmentosa: new pathogenetic insights from the study of mitochondria-associated membranes", funded by Telethon, 2-years project.
2021	Principal Investigator in the project entitled "Defective heme transport in the development of congenital hydrocephalus", funded by the National Institute of Health (NIH), 5-years project.
2013	Principal Investigator in the project entitled "Investigation of the molecular basis of Posterior Column Ataxia and Retinitis Pigmentosa", funded by Telethon, 1-year project.

PUBLICATIONS

1. Federti E, Vinchi F, Iatcenko I, Ghigo A, Matte A, Taya SCM, Siciliano A, **Chiabrando D**, Tolosano E, Vance SZ, Riccardi V, Andolfo I, Iezzi M, Lamolinara A, Iolascon A, De Franceschi L. Duality of Nrf2 in iron-overload cardiomyopathy. *Haematologica*. 2023
2. Petrillo S, De Giorgio F, Bertino F, Garelli F, Bitonto V, Longo DL, Mercurio S, Ammirata G, Allocco AL, Fiorito V, **Chiabrando D**, Altruda F, Terreno E, Provero P, Munaron L, Genova T, N6voa A, Carlos AR, Cardoso S, Mallo M, Soares MP, Tolosano E. Endothelial cells require functional FLVCR1a during developmental and adult angiogenesis. *Angiogenesis*. 2023
3. Allocco AL, Bertino F, Petrillo S, **Chiabrando D**, Riganti C, Bardelli A, Altruda F, Fiorito V, Tolosano E. Inhibition of Heme Export and/or Heme Synthesis Potentiates Metformin Anti-Proliferative Effect on Cancer Cell Lines. *Cancers (Basel)* 2022.
4. Petrillo S, De Giorgio F, Kopecka J, Genova T, Fiorito V, Allocco AL, Bertino F, **Chiabrando D**, Mussano F, Altruda F, Munaron L, Riganti C, Tolosano E., Endothelial Heme Dynamics Drive Cancer Cell Metabolism by Shaping the Tumor Microenvironment. *Biomedicines*. 2021
5. Fiorito V, Allocco AL, Petrillo S, Gazzano E, Torretta S, Marchi S, Destefanis F, Pacelli C, Audrito V, Provero P, Medico E, **Chiabrando D**, Porporato PE, Cancelliere C, Bardelli A, Trusolino L, Capitanio N, Deaglio S, Altruda F, Pinton P, Cardaci S, Riganti C, Tolosano E. The heme synthesis-export system regulates the tricarboxylic acid cycle flux and oxidative phosphorylation. *Cell Reports* 2021
6. **Chiabrando D**, Fiorito V, Petrillo S, Bertino F, Tolosano E. HEME: a neglected player in nociception? *Neuroscience and Biobehavioural Reviews* 2021.
7. **Chiabrando D**, Bertino F, Tolosano E. Hereditary Ataxia: A Focus on Heme Metabolism and Fe-S Cluster Biogenesis. *Int J Mol Sci*. 2020
8. **Chiabrando D**, Sciatti L, Prajica AG, Bertino F, Tolosano E, Magnani F. Expression and purification of the heme exporter FLVCR1a. *Protein Expr Purif*. 2020
9. Fiorito V, **Chiabrando D**, Petrillo S, Bertino F, Tolosano E. The Multifaceted Role of Heme in Cancer. *Front Oncol*. 2020
10. Bertino F*, Firestone K*, Bellacchio E, Jackson KE, Asamoah A, Hersch J, Fiorito V, Destefanis F, Gonser R, Tucker ME, Altruda F, Tolosano E and **Chiabrando D**#. HEME AND SENSORY NEUROPATHY: INSIGHTS FROM NOVEL MUTATIONS IN THE HEME EXPORTER FLVCR1. *PAIN*, 2019
11. **Chiabrando D***, Fiorito V*, Petrillo S and Tolosano E. UNREVEALING THE ROLE OF HEME IN NEURODEGENERATION. *Frontiers in Neuroscience*, Special Issue "Iron and Neurodegeneration", 2018
12. Beneduce E, Matt6 A, De Falco L, Mbiandjeu S, **Chiabrando D**, Tolosano E, Federti E, Petrillo S, Narla M, Siciliano A, Babu W, Menon W, Ghaffari S, Iolascon A, De Franceschi I. FYN IS INVOLVED IN ERYTHROPOIETIN SIGNALING PATHWAY AND INTERFACES OXIDATION TO REGULATE ERYTHROPOIESIS. *Am. Journal of Hematology*, 2018
13. Fiorito V*, **Chiabrando D*** and Tolosano E. MITOCHONDRIAL TARGETING IN NEURODEGENERATION: A HEME PERSPECTIVE. *Pharmaceuticals*, 2018
14. Petrillo S, **Chiabrando D**, Genova T, Fiorito V, Ingoglia G, Vinchi F, Mussano F, Carossa S, Silengo L, Altruda F, Merlo GR, Munaron L and Tolosano E. HEME ACCUMULATION IN ENDOTHELIAL CELLS IMPAIRS ANGIOGENESIS BY TRIGGERING PARAPTOSIS. *Cell Death and Differentiation*, 2018
15. Castori M, Morlino S, Ungelenk M, Pareyson D, Salsano E, Grammatico P, Tolosano E, Kurth I and **Chiabrando D**#. POSTERIOR COLUMN ATAXIA WITH RETINITIS PIGMENTOSA COEXISTING WITH SENSORY-AUTONOMIC NEUROPATHY AND LEUKEMIA DUE TO A RECURRENT FLVCR1 MUTATION. *Am Journal Medical Genetics B*, 2017

16. **Chiabrando D[#]**, Castori M, di Rocco M, Ungelenk M, Gießelmann S, Di Capua M, Madeo A, Grammatico P, Bartsch S, Hübner CA, Altruda F, Silengo L, Tolosano E^{**}, Ingo Kurth^{#*}. MUTATIONS IN THE HEME EXPORTER FLVCR1 CAUSE SENSORY NEURODEGENERATION WITH LOSS OF PAIN PERCEPTION. PLOS Genetics, 2016.
17. Mercurio S, Aspesi A, Silengo L, Altruda F, Dianzani I and **Chiabrando D[#]**. ALTERATION OF HEME METABOLISM IN A CELLULAR MODEL OF DIAMOND-BLACKFAN ANEMIA. European Journal of Haematology, 2016.
18. Mercurio S, Petrillo S^{*}, **Chiabrando D^{*}**, Bassi ZI, Gays D, Camporeale A, Vacaru A, Miniscalco B, Valperga G, Silengo L, Altruda F, Baron MM, Santoro MM and Tolosano E. HEME EXPORTER FLVCR1 REGULATES EXPANSION AND DIFFERENTIATION OF COMMITTED ERYTHROID PROGENITORS BY CONTROLLING INTRACELLULAR HEME ACCUMULATION. Haematologica, 2015.
19. **Chiabrando D**, Mercurio S, Tolosano E. HEME AND ERYTHROPOIESIS: MORE THAN A STRUCTURAL ROLE. Haematologica, 2014
20. **Chiabrando D**, Vinchi F, Fiorito V, Mercurio S and Tolosano E. HEME IN PATHOPHYSIOLOGY: A MATTER OF SCAVENGING, METABOLISM AND TRAFFICKING ACROSS CELL MEMBRANES. Frontiers in Pharmacology, 2014.
21. Vinchi F, Ingoglia G, **Chiabrando D**, Mercurio S, Turco E, Silengo L, Altruda F and Tolosano E. HEME EXPORTER FLVCR1A REGULATES HEME SYNTHESIS AND DEGRADATION AND CONTROLS ACTIVITY OF CYTOCHROMES P450. Gastroenterology, 2014.
22. **Chiabrando D**, Marro S, Mercurio S, Giorgi C, Petrillo S, Vinchi F, Fiorito V, Fagoonee S, Camporeale A, Turco E, Merlo GR, Silengo L, Altruda F, Pinton P and Tolosano E. THE MITOCHONDRIAL HEME EXPORTER FLVCR1B MEDIATES ERYTHROID DIFFERENTIATION. Journal of Clinical Investigation, 2012.
23. **Chiabrando D**, Fiorito V, Marro S, Silengo L, Altruda F and Tolosano E. CELL-SPECIFIC REGULATION OF FERROPORTIN TRANSCRIPTION FOLLOWING EXPERIMENTALLY-INDUCED ACUTE ANEMIA IN MICE. Blood Cells Molecules and Diseases, 2013.
24. **Chiabrando D**, Vinchi F, Fiorito V and Tolosano E. HAPTOGLOBIN AND HEMOPEXIN IN HEME DETOXIFICATION AND IRON RECYCLING. In: Francisco Veas. ACUTE PHASE PROTEINS – REGULATION AND FUNCTIONS OF ACUTE PHASE PROTEINS, 2011.
25. **Chiabrando D**, Tolosano E. DIAMOND BLACKFAN ANEMIA AT THE CROSSROAD BETWEEN RIBOSOME BIOGENESIS AND HEME METABOLISM. Advances in Hematology, 2010.
26. Marro, **Deborah Chiabrando**, Erika Messina, Jens Stolte, Emilia Turco, Emanuela Tolosano, and Martina U. Muckenthaler. HEME CONTROLS FERROPORTIN1 (FPN1) TRANSCRIPTION INVOLVING BACH1, NRF2 AND A MARE/ARE SEQUENCE MOTIF AT POSITION -7007 OF THE FPN1 PROMOTER. Haematologica, 2010.
27. Marro S, Barisani D, **Chiabrando D**, Fagoonee S, Muckenthaler MU, Stolte J, Meneveri R, Haile D, Silengo L, Altruda F and Tolosano E. LACK OF HAPTOGLOBIN AFFECTS IRON TRANSPORT ACROSS DUODENUM BY MODULATING FERROPORTIN EXPRESSION. Gastroenterology, 2007.

*=These authors equally contributed to the work

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ATTENDANCE TO MEETINGS

Invited Speaker during International Meetings

1. Oral Presentation at the “Seventh Congress of the International Biolron Society”, Los Angeles, 2017
Title: Heme Exporter FLVCR1: Biological Role in Different Organ Systems
2. Oral Presentation at the “20th European Haematology Association Congress”, Vienna, 2015
Title: Heme and erythropoiesis
3. Oral Presentation at the “Gordon Research Conference: Cell Biology of Metals”, Newport (RI), 2013
Regulation of Heme Trafficking by FLVCR1 isoforms.

Oral presentations at International meetings (Abstract Selection)

1. European Iron Club Meeting, Oxford, UK (13th - 16th July 2022)
2. International BioIron Society Meeting, Heidelberg, Germany (8th-10th May 2019)
3. International BioIron Society Meeting", Hangzhou (8th-10th September 2015)
4. International BioIron Society Meeting", London (14th -19th April 2013)
5. European Iron Club Meeting, Rennes, France (29th-31th August 2012).
6. International BioIron Society Meeting, Vancouver – Canada (22th-26th May 2011).
7. American Society of Hematology meeting, Orlando – Florida – USA (4th-7th May 2010).
8. European Iron Club Meeting", Nimegen – The Netherlands (15th-17th September 2010).

Poster presentations at International meetings (Abstract Selection)

1. XXI Convention Telethon, Riva del Garda (13th-15th March 2023)
2. FENS 2022, Paris (9th-13th July 2022)
3. PNS Meeting, Genova (22-26 June).
4. Seventh Congress of the International BioIron Society" (May 7 - 11, 2017)
5. 2016 Heme and Heme Degradation Products Symposium, Jena, Germany
6. European Iron Club Meeting, Innsbruck, Austria (April 7-10, 2016)
7. American Society of Hematology meeting", New Orleans – Florida - USA (December 5-8, 2009).
8. BioIron Meeting", Porto – Portugal (June 7-11, 2009).
9. European Iron Club Meeting, St. Gallen – Svizzera (Settembre 18-19, 2008).
10. Riunione Nazionale Dottorandi ABCD, Rimini – Italy (June 5-7 , 2008).
11. European Iron Club Meeting, Londra (September 13-15, 2007).

Oral and Poster presentations at national meetings (Abstract Selection)

1. Oral presentation at AIBG Meeting, Milan, (4-5 October 2019)
2. Oral presentation at Riunione Nazionale Dottorandi ABCD, Gubbio - Italy (June 10-12, 2010).
3. Oral presentation at Il Convegno dei Biotecnologi, Torino – Italy (March 1, 2008).
4. Poster presentation at the "Settima Riunione Annuale ASNP Italian-French (SFNP) joint meeting", Bergamo Italy (April 20-22, 2017).

AWARDS

1. Gunshin Levy Award 2017 (Awarded to Young Researchers for their dedication, commitment and contributions to the field area of iron homeostasis).
2. "Best Oral Presentation Award" at the "European Iron Club Meeting", Rennes, France (29-31 August 2012). *Title: Cell-specific regulation of Ferroportin transcription following experimentally-induced acute anemia in mice. Chiabrando D, Fiorito V, Marro S, Silengo L, Altruda F and Tolosano E.*
3. Gunshin Levy Award 2011 (Awarded to Young Researchers for their dedication, commitment and contributions to the field area of iron homeostasis)
4. "Best Oral Presentation Award" at the "European Iron Club Meeting" Nimegen – The Netherlands *Title: Identification of a mitochondrial FLVCR isoform. Chiabrando D, Mercurio S., Fagoonee S., Marro S., Messina E., Turco E., Silengo L., Altruda F. and Tolosano E.*