ALLEGATO B

UNIVERSITÀ DEGLI STUDI DI MILANO

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Marco CASSANO

CURRICULUM VITAE

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	**CASSANO**
NOME	**MARCO**
DATA DI NASCITA	13/04/1981

MARCO CASSANO

★ Avenue de Cour 79, Lausanne ★ +41786035667 ★ marcocassano81@gmail.com

Senior Scientist

Creative and analytical scientist with a strong drive and pro-active mindset. Team-player attitude and proven ability to lead problem-solving processes with scientific enthusiasm. Careful and caring, I strive passionately to be at the forefront of cutting-edge research surrounded by nourishing people.

PROFESSIONAL EXPERIENCE

SENIOR SCIENTIST **2011-Present**
EPFL School of Life Sciences Lausanne, Switzerland

- Exploit histochemistry and molecular cytology approaches to decipher unappreciated molecular mechanisms of muscle differentiation, increasing the current knowledge about homeostatic processes of tissue regeneration and healing
- Investigate the morphofunctional patterning of human muscle & liver development to identify alterations in their proliferative and differentiation potential
- Head cross-functional team within the lab unit to identify epigenetic forces of tumorigenesis
- I fostered key partnerships i) to develop a new animal model of liver cancer ii) to promote a scientific alliance with a competitor lab leading to collaborative authorships
- Coordinate the activity of a sub-unit consisting of 1 full-time research assistant, 1 bioinformatician (50%) and supervise PhD candidates and several master students
- During these years, I refined my education in the SOPs for animal experimentation through the acquisition of the RESAL Modules 1 & 2 (FELASA C)
- Managing budget for animal experiments and preparation of grant application
- Training in Project Management with the acquisition of PRINCE2 Foundation Certificate

POSTDOCTORAL FELLOW IN TISSUE REGENERATION **2009-2011**
KU Leuven, Stem Cell Interdepartmental Institute Leuven, Belgium

- Analyze the proliferative and differentiation potential of committed progenitors from small & large animal models to develop new cell therapy protocols for muscular dystrophies
- Coordinate and supervise the activity of students and PhD candidate
- Within a nonexistent unit, I actively contributed to the establishment of a new research lab (1M €). I took over most of the organizational steps (e.g. purchasing equipment, space distribution, strategic framework) of the Translational Cardiomyology unit.

PhD CANDIDATE IN MUSCLE STEM CELLS **2006-2009**
KU Leuven, Stem Cell Interdepartmental Institute Leuven, Belgium

- Characterize transgenic protein to modulate muscle plasticity and ameliorate muscle wasting conditions
- Identify and hit biochemical pathways controlling stemness niche in pathophysiological settings

EDUCATION

PHD IN MORPHOLOGICAL AND CYTOLOGICAL SCIENCES **2006-2009**
University of Rome "La Sapienza" Rome, Italy

- Guest Researcher in the Translational Cardiomyology Unit, KU Leuven

MASTER'S DEGREE IN FARMACOGENOMIC BIOTECHNOLOGY **2004-2006**
University of Milan "Bicocca" Milan, Italy

- Full marks with honors
- Served as Laboratory Master for the Division of Regenerative Medicine, San Raffaele Scientific Insitute

BACHELOR'S DEGREE IN FARMACOGENOMIC BIOTECHNOLOGY **2001-2004**
University of Milan "Bicocca" Milan, Italy

- Full marks with honors

CORE COMPETENCIES

Proliferation and differentiation of committed progenitors, Molecular mechanisms of histogenesis, Histology and molecular cytology for the analysis of cellular and subcellular structures, Tissue plasticity and regeneration, Cell therapy for muscular dystrophy, Bioengineered scaffolds for myogenic differentiation, Muscle Stem Cell Research, Basic and advanced techniques of Cell & Molecular biology (>10-year experience), Epigenetics, Library preparation for Next Generation Sequencing (NGS), ChIP-sequencing, RNA- and small RNA-sequencing, 16s rRNA sequencing, NGS study design and post-data analysis**,** Bioinformatic essential package (Bedtools, Bowtie, Galaxy), *In vitro* handling of various primary and immortalized cell lines, ELISAs, GLP standards for cell cultures, Obesity & Nutrition, Oncology, Oncology Biomarkers, Animal model of cancer, Sexually-dimorphic cancerogenesis, Steroidogenesis**,** *In vivo* imaging for cancer detection, Animal Experiments**,** Liver Physiology, Tissue regeneration, Gut Microbiota and bile acids, Biochemistry, Molecular Virology, Confocal Microscopy, Immunohistochemistry, Project Management, Cross-Functional Collaboration, Group Leadership, Study Director.

LANGUAGES

• Italian *Native* • English *Level C1* • French *Level B1/B2* • Spanish *Level A2*

AWARDS

- Best Scientific Publication of the 2017 by the Swiss Foundation against Liver Cancer with the manuscript **Polyphenic trait promote liver cancer in a model of epigenetic instability**

- "The Most Downloaded Article of 2010" from the Journal of Muscle Research and Cell Motility with the manuscript **"Cellular mechanisms and local progenitor activation to regulate skeletal muscle mass"** ***Cassano M****, Quattrocelli M, Crippa S, Perini I, Ronzoni F, Sampaolesi M*

- Young Scientist Award – Best Abstract 2006
  DiBiT Scientific Retreat 19-21/02/2006 Bardolino del Garda (Vr)
  "HGF-derived recombinant protein MAGIC-F1: a novel approach to induce muscular hypertrophy"

PEER REVIEWER

- Invited Manuscript Reviewer for:
  Hepatology (sine 2018)
  Stem Cells (since 2017)
  PLoS ONE (since 2011)
  Recent Patents of Regenerative Medicine (since 2012)
  Cell Transplantation (since 2017)

FUNDING

- **2017 -** EASL Young Investigator bursary (650Eu)
- **2014 -** Travel Grant from the Swiss Society of Molecular and Cellular Biosciences (1000 CHF)
- **2014 -** Cancer research grant of the Swiss Cancer League: active support (Draft & Timeplan preparation) for the grant proposal “Deciphering the role of sex hormones and gut flora in the pathophysiology of hepatocellular carcinoma”
- **2009 -** 1-year fellowship "Borse C.I.B. di Ricerca e Formazione Avanzata" granted by Consorzio Interuniversitario di Biotecnologie (20K euros)
- **2006-2009** 3-years PhD Scholarship granted by the Italian Ministry of Education and Research (MIUR)

TEACHING ACTIVITY – COURSE INSTRUCTION

- Invited lecture at the “Laboratory Animal Pathology Course” held by the Institute of Animal Pathology in Bern, January 2014

TEACHING ACTIVITY – TRAINEE SUPERVISION

- Dr. Annamaria Kauzlaric (PhD student at EPFL, 2011-2017)
- Dr. Natali Castro Diaz (PhD student at EPFL, 2009-2014)
- Sunil Kumar (undergraduate student in Biomedical Engineering at EPFL, supervisor Prof. Didier Trono) 2014
- Shadrack Frimpong (Visiting Student from UPenn), EPFL 2014
- Inge Beheydt (Laboratory Assitant Trainee) KU Leuven Belgium; 2009
- Roberta Lentini (undergraduate student in Biotechnology, University of Pavia (Supervisor Prof. Maurilio Sampaolesi 2008-2009)
- Rudi Micheletti (undergraduate student in Biology, University of Pavia (Supervisor Prof. Maurilio Sampaolesi 2009-2010)
- Sofie De Munter (undergraduate sudent at KU Leuven) 2010

CERTIFICATIONS

- Cultore della Materia per gli insegnamenti di Anatomia Umana.
  Bachelor and Master degree program in Medical and Pharmaceutical Biotechnology, University of Pavia, acadamic year 2011/2012
- Education and training of persons conducting animal experiments (Felasa B – RESAL Module 1)
- Training for persons responsible for directing animal experiments (Felasa C – RESAL Module 2)

- PRINCE2 Foundation Certificate in Project Management (22 March 2017)
- Courses in “Effective Interactive Teaching”, “Effective Exercise”, “Leveraging Lab for Learning” released by the “Réseau romand de Conseil, Formation et Evaluation”
- Representative member of the EPFL-SV Faculty Council
- Committee member of the SV PostDoc Association at EPFL

PUBLICATION LIST

Indicated within brackets the median references for the bibliometric sector of level II 05/H2 (Histology)

- Total n. of publications: **20+2 under revision**
  - of which in the last 5 years: **9+2 under revision (12)**

- Number of Citations last 10 years : **538 (393)**
- Average citations per item: **26.9**
- h-index last 10 years (official sources Web Of Science, Scopus): **14 (9)**
- Book chapters**: 4**
- First authorships: **6**
- Second authorships: **4**
- Average IF: **8.47**

High profile Journals in which I have published: *Cell, Science Translational Medicine, Hepatology, Genes and Development, Journal of Cell Biology, Developmental Cell.*

- 1. Wanze C, Schwalie PC, Raghav SK, Gubelmann C, Dainese R, Pankevich E, **Cassano M**, Russeil J, Trono D, Wolfrum C and Bart Deplankce
  ZFP30 promotes adipogenesis through KAP1-mediated *Pparg* activation
  Manuscript in preparation

- 2. Kauzlaric A, Suk Min Jang SM, Morchikh M, **Cassano M**, Planet E, Benkirane M and Didier Trono
  KAP1 targets actively transcribed genomic loci to exert pleomorphic effects on RNA Polymerase II- and III-mediated expression
  Submitted to *Journal of Biological Chemistry*

- 3. Unzu C, Planet E, Brandenberg N, Fusil F, **Cassano M**, Perez-Vargas J, Friedli M, Cosset FL, Lutolf MP, Wildhaber B and Trono D.
  Induced hepatic progenitors cells for the highly efficient expansion of primary human hepatocytes.
  Elife, in press

- **4. Cassano M**, Offner S, Planet E, Piersigilli A, Jang SM, Henry H, Mooser C, McCoy KD, McPherson AJ, and Trono D.
  Polyphenic trait promotes liver cancer in a model of epigenetic instability in mice
  Hepatology, 2017
  **Awarded as Best Scientific Publication of the year by the Swiss Foundation against Liver Cancer*

  IF: 13.246

- 5. Kauzlaric A, Ecco G, **Cassano M**, Duc J, Imbeault M and Trono D.

The mouse genome displays highly dynamic populations of KRAB-zinc finger protein genes and related genetic units
PLoS ONE, 2017

IF: 2.806

- 6. Ecco G, **Cassano M**, Kauzlaric A, Duc J, Coluccio A, Offner S, Imbeault M, Rowe HM, Turelli P and Trono D.
Transposable elements and their KRAB-ZFP controllers regulate gene expression in adult tissues
Developmental Cell, 2016

IF: 8.933

- 7. Palazzolo G, Quattrocelli M, Toelen J, Dominici R, Anastasia L, Tettamanti G, Barthelemy I, Blot S, Gijsbers R, **Cassano M** and Sampaolesi M.
Cardiac niche influences the direct reprogramming of canine fibroblasts into cardiomyocyte-like cells
Stem Cells Int., 2016

IF: 3.54

- 8. Rauwel B, Jang SM, **Cassano M**, Kapopoulou A, Barde I, Trono D.
Release of human cytomegalovirus from latency by a KAP1/TRIM28 phosphorylation switch
Elife, 2015

IF: 8.282

- **9.** Singh K*, **Cassano M***, Planet E, Sebastian S, Jang SM, Sohi G, Faralli H, Choi J, Youn HD, Dilworth FJ, Trono D.
These authors equally contributed to this work
A KAP1 phosphorylation switch controls MyoD function during skeletal muscle differentiation
Genes & Development, 2015

IF: 10.042

- 10. La Rovere RML, Quattrocelli M, Pietrangelo T, Di Filippo ES, Maccatrozzo L, **Cassano M**, Mascarello F, Barthélémy I, Blot S, Sampaolesi M, Fulle S.
Myogenic potential of canine craniofacial satellite cells
Frontiers in Aging Neuroscience, 2014

IF: 4.504

- 11. Berardi E, Annibali D, **Cassano M**, Crippa S, Sampaolesi M.
Molecular and cell-based therapies for muscle degenerations: A road under construction
Frontiers in Physiology, 2014

IF: 3.947

- 12. Tedesco FS, Gerli MF, Perani L, Benedetti S, Ungaro F, **Cassano M**, Antonini S, Tagliafico E, Artusi V, Longa E, Tonlorenzi R, Ragazzi M, Calderazzi G, Hoshiya H, Cappellari O, Mora M, Schoser B, Schneiderat P, Oshimura M, Bottinelli R, Sampaolesi M, Torrente Y, Broccoli V, Cossu G
Transplantation of Genetically Corrected Human iPSC-Derived Progenitors in Mice with Limb-Girdle Muscular Dystrophy.
Science Translational Medicine, 2012

IF: 16.761

- 13. Bojkowska K, Aloisio F, **Cassano M**, Kapopoulou A, de Sio FS, Zangger N, Offner S, Cartoni C, Thomas C, Quenneville S, Johnsson K, Trono D
  Liver-specific ablation of KRAB associated protein 1 in mice leads to male-predominant hepatosteatosis and development of liver adenoma
  Hepatology, 2012

  IF: 13.246

- **14. Cassano M**, Berardi E, Toelen J, Barthelemy I, Crippa S, Chuah M, Vanderdriessche T, Debyser Z, Blot S, Sampaolesi M
  Alteration of cardiac progenitors in GRMD dogs.
  Cell Transplantation, 2012

  IF: 4.422

- 15. Crippa S, **Cassano M** and Sampaolesi M
  Role of miRNAs in muscle stem cell biology: proliferation, differentiation and death
  Current Pharmaceutical Design, 2012

  IF: 3.311

- 16. Flavio Ronzoni, Matilde Bongio, Silvio Conte, Luigi Vercesi, **Marco Cassano**, Carla Tribioli, Daniela Galli, Maria Gabriella Cusella De Angelis, Maurilio Sampaolesi, Giovanni Magenes and Riccardo Bellazzi
  Localization of Magic-F1 transgene, involved in muscular hypertrophy, during early myogenesis
  Journal of Biomedical Biotechnology, 2011

  IF: 3.169

- **17. Cassano M,** Della Valle A, Quattrocelli M, Ronzoni F, Salvade' A, Cossu G and Sampaolesi M
  α-Sarcoglycan is required for FGF dependent myogenic progenitor cell proliferation in vitro and in vivo
  Development, 2011

  IF: 6.596

- 18. Crippa S, **Cassano M**, Messina G, Galli D, Galvez BG, Curk T, Altomare C, Ronzoni F,Toelen J, Gijsbers R, Debyser Z, Janssens S, Zupan B, Zaza A, Cossu G, Sampaolesi M
  miR669a and miR669q prevent skeletal muscle differentiation in postnatal cardiac progenitors.
  Journal of Cell Biology, 2011

  IF:10.624

- 19. Messina G, Biressi S, Monteverde S, Maglie A, **Cassano M**, Perani L, Roncaglia E, Tagliafico E, Starnes L, Cambpell C, Grossi M, Goldhamer D, Gronostajski R, Cossu G
  Nfix regulates fetal specific transcription in developing skeletal muscle
  Cell, 2010

  IF: 32.406

- **20. Cassano M**, Quattrocelli M, Crippa S, Perini I, Ronzoni F, Sampaolesi M
  Cellular mechanisms and local progenitor activation to regulate skeletal muscle mass
  Journal of Muscle Research & Cell Motility, 2009

  IF: 2.052

- 21. Quattrocelli M, **Cassano M**, Crippa S, Perini I, Sampaolesi M
  Cell therapy strategies and improvements for muscular dystrophy.

Cell Death & Differentiation, 2010

IF: 9.05

- **22. Cassano M**, Biressi S, Finan A, Omes C, Michieli P, Allegretti M, Cusella De Angelis MG, Comoglio P, Cossu G and Sampaolesi M
  Magic-factor 1, a partial agonist of Met, induces muscle hypertrophy by protecting myogenic progenitors from apoptosis
  PLoS ONE*, 2008*

  IF: 4.351

BOOK CHAPTER

- **Cassano M**
  KRAB-ZFPs.
  Horizon 2020 Projects Portal – Issue Two
  www.horizon2020projects.com

- Quattrocelli M, Palazzolo G, Perini I, Crippa S, **Cassano M**, Sampaolesi M
  Mouse and human mesoangioblasts: isolation and characterization from adult skeletal muscles.
  Methods Molecular Biology, 2012.

- Sampaolesi M, **Cassano M**, Bongio M, Coppiello G, Crippa S
  CELLULE STAMINALI
  Published in: *Enciclopedia Italiana di Scienze, Lettere ed Arti* - Treccani
  Series: XXI Secolo
  Treccani, 2010

- Sampaolesi M**, Cassano M**, Cusella De Angelis M.G. and G.Cossu
  Terapia genica per le distrofie muscolari: dieci anni di storia. (in Italian)
  Attività Fisico-Sportiva e Patologia Neuromuscolare
  XXI° Congresso "Associazione Nazionale Specialisti In Medicina Dello Sport" June 19th-22nd 2005 – pag.77-81

MEETING ATTENDANCE AS INVITED/SELECTED SPEAKER

- VII^{me} Colloque de Genomique Fonctionelle du Fois, March 14-16th 2018 with the talk **"The epigenetic control of hepatic oncogenesis"**
- HCC Update 2017 in Zurich. September 19th 2017 with the talk **"Epigenetic control of hepatic homeostasis"**
- ISREC-SCCL Symposium – Horizons of Cancer Biology and Therapy" in Lausanne, September 7-10th 2016 with the speed talk "**Polyphenic trait promote liver cancer in a model of epigenetic instability"**
- The FIFTH Lausanne Integrative Metabolism and Nutrition Alliance (LIMNA) symposium held on April 25, 2016 at the Olympic Museum of Lausanne with the talk "**Polyphenic trait promote liver cancer in a model of epigenetic instability"**
- Fourth Faculty & Staff Retreat of the Swiss Cancer Center Lausanne, Lausanne, November 5th, 2015
- with the talk **"Liver-specific ablation of Kap1 in mice leads to sex hormones pathway dysfunctions and male-restricted carcinogenesis"**
- XVIIIth Annual Congress of the European Society of Gene Therapy. Milan, October 22-25th, 2010
  with the talk **"Alpha sarcoglycan is required for FGF dependent myogenic progenitor cell proliferation in vitro and in vivo"**

Human Gene Therapy, Volume: 21 Issue: 10 Pages: 1486-1486 Published: OCT 2010

- The VIIth IIM Annual Congress. Siena (Italy), October 14-16st 2010 with the talk "**alpha-Sarcoglycan is required for FGF dependent myogenic progenitor cell proliferation in vitro and in vivo"**
- The 5th Cachexia Conference. Barcelona, Spain. December 5-8th, 2009 with the talk "**Magic-F1 and muscle hypertrophy"**
- XIIth Annual Meeting of the American Society of Gene & Cell Therapy, May 27 - 30, 2009. San Diego, California with the talk **"MAGIC-F1, a partial agonist of c-Met, induces muscle hypertrophy by protecting from apoptosis myogenic progenitors"**
  Mol Ther. 2009 May;17 Suppl 1:S1-396.
  Impact Factor: 6,239
- XVth Annual Congress of the European Society of Gene Therapy. Brugges, November 13-16th 2008 with the talk **"MAGIC-F1, a partial agonist of c-Met, induces muscle hypertrophy by protecting from apoptosis myogenic progenitors"**
  Human Gene Therapy, Volume 19, Number 10, October 2008
  Impact factor: 4,202
- The Vth IIM Annual Congress. Siena (Italy), October 29-31st 2008 with the talk "**Magic Factor-1, a partial agonist of Met, induces muscle hypertrophy by protecting myogenic progenitors from apoptosis"**
- Third Meeting of the Interuniversity Institute of Miology. Rome 9-11st November 2006 with the talk "**Remodeling skeletal muscle using a novel HGF-derived recombinant protein"**

MEETING ATTENDANCE WITH POSTER PRESENTATION

- Selected among the best abstract at the HCC Summit - Geneva 02-05 February, 2017 with the poster
  Cassano M, Trono D
  "Polyphenic trait promotes liver cancer in a model of epigenetic instability"
- Thibaud JL, Barthelemy I, **Cassano M,** De Vauchelle P, Sampaolesi M, De Fornel-Thibaud P, Blot S
  16th International Congress of the World-Muscle-Society, Algarve Portugal 2011
  NEUROMUSCULAR DISORDERS Volume: 21 Issue: 9-10 Pages: 714-715
- **Cassano M,** Della Valle A, Quattrocelli M, Ronzoni F, Salvade' A, Cossu G and Sampaolesi M
  α-Sarcoglycan is required for FGF dependent myogenic progenitor cell proliferation in vitro and in vivo
  EMBO Myogenesis Conference Series, Wiesbaden 10-15th, May 2011
- Crippa S, Galli D, **Cassano M**, Janssens S, Gijsberg R, Debyser Z, Cossu G, Sampaolesi M**Shifting heart to skeletal muscle: mir669 functions as a cell fate switch between cardiac and skeletal muscle lineages**
  XVIIIth Annual Congress of the European Society of Gene Therapy. Milan, October 22-25th, 2010
  Human Gene Therapy Volume: 21 Issue: 10 Pages: 1376-1377 Published: OCT 2010
- **Cassano M**, Biressi S, Ronzoni F, Perini I, Cusella De Angelis MG, Comoglio P, Cossu G and Sampaolesi M
  Remodeling skeletal muscle using a novel HGF-derived recombinant protein
  Knowledge for Growth 2010, ICC Ghent, May 20th 2010
- **Cassano M**, Ronzoni F, Bongio M, Conte S, Casanova S, Cincimino S, Pasquale E, Galli D, Michieli P, Comoglio P, Cusella De Angelis MG, and Sampaolesi M
  Inducing muscular hypertrophy by recombinant proteins
  LXIIIrd Congress of Italian Society of Histology and Anatomy. Turin, September 10-12th 2009
- **Cassano M**, Ronzoni F, Conte S, Cincimino S, Pasquale E, Benedetti L, Galli D, Mantero S, Cusella De Angelis MG and Sampaolesi M
  Magic F1 hypertrophic factor to enhance myogenesis on polyesterurethane scaffolds
  National Congress on Biomaterials. Salice Terme (PV), June 15-17th 2009
- **Cassano M**, Ronzoni F, Bongio M, Conte S, Galli D, Cusella De Angelis G, Sampaolesi M
  Magic Factor-1: a new engineered protein involved in muscular hypertrophy and regeneration
  XXXIIIth Congress of the Italian Society of Histochemistry

June 8th 2009, Rome

- **Cassano M**, Quattrocelli M, Perini I, Ronzoni F, Bongio M, Conte S, Galli D, Cusella De Angelis MG and Sampaolesi M
  Magic Factor-1: a new engineered protein involved in muscular hypertrophy and regeneration
  The Belgian Society of Cell and Developmental Biology, FWO-Flanders and IUAP/PAI6-20 Network, Spring Meeting. Leuven (BE), March 30-31st 2009
- Quattrocelli M, **Cassano M**, Crippa S, Bongio M, Ronzoni F, Perini I and Sampaolesi M
  Cardiac dystrophic mesoangioblasts molecular characterization of in vitro, in vivo differentiation
  XVIth Annual Congress of the European Society of Gene Therapy. Brugges, November 13-16th 2008
  Human Gene Therapy, October 2008; vol.19, pg.1179
  Impact factor: 4,202
- Crippa S, **Cassano M**, Altomare C, Claver CC, Galli D, Perani L, Messina G, Zaza A, Cossu G & Sampaolesi M
  Cardiac Mesoangioblast are committed, self-renewal progenitors associated with small vessels of both adult normal and cardiomyopathic mouse ventricle
  XVIth Annual Congress of the European Society of Gene Therapy, Brugges, November 13-16th 2008
  Human Gene Therapy, Volume 19, Number 10, October 2008
  Impact factor: 4,202
- Tedesco FS, **Cassano M**, Perani L, Hoshiya H, Messina G, Tonlorenzi R, Torrente Y, Sampaolesi M, Oshimura M & Cossu G
  New strategies for the cell therapy of muscular dystrophies by mesoangioblast transplantation
  First EMBO Conference "The molecular and cellular mechanisms regulating skeletal muscle development and regeneration". Sant Feliu de Guixols, Spain. September 24-29th 2008
- Quattrocelli M., Bongio M., Ronzoni F., **Cassano M**., Crippa S. and Sampaolesi M.
  Stem Cell therapy in muscular dystrophies
  Stem Cell and small RNAs as tools for basic science and regenerative medicine
  http://www.euroclone.net/celbio/allegati/eventi/Poster.pdf Naples February 5-6th 2008
- Crippa S, **Cassano M**, Clavel C, Galli D, Perani L, D'Angelo F, Martinello T, Cossu G & Sampaolesi M
  Cardiac Mesoangioblast are committed, self-renewal progenitors associated with small vessels of both adult normal and cardiomyopathic mouse ventricle
  5th IIM Annual Congress. Siena (Italy), October 29-31st 2007
- Quattrocelli M, Ceccarelli G, Ronzoni F, Benedetti L, Crippa S, **Cassano M**, Tonlorenzi R, G. Galvez B, Tazzi A, Cusella De Angelis G and Maurilio Sampaolesi
  Characterization of cardiac progenitors from murine dystrophic heart
  Italian Society of Anatomy and Histology 61° Symposium. Sassari, September 19-22nd 2007
- **Cassano M**, Crippa S, Perani L, Tonlorenzi R, Messina G, Covarello D, Galvez BG, Cossu G and Sampaolesi M
  Isolation and characterization of cardiac stem cell form a canine model of muscular dystrophy (GRMD).
  Gordon Research Conference on Myogenesis. Il Ciocco (Lucca), Italy May 13-18th , 2007
- **Cassano M**, Crippa S, Biressi S, Michieli P, Allegretti M, Cusella De Angelis MG, Comoglio P, Cossu G and Sampaolesi M
  Magic F1, a dimerized c-met binding domain, induces muscle hypertrophy by protecting from apoptosis myogenic progenitors.
  Abcam Stem Cells Meeting. Cancun - Mexico, December 13-17th 2006
- **Cassano M**, Biressi S, Finan A, Cusella De Angelis MG, Perani L, Comoglio P, Cossu G and Sampaolesi M
  HGF-derived recombinant protein M.A.G.I.C F1: a novel approach to induce muscular hypertrophy
  FISV 2006, 8th Annual Meeting, Riva del Garda, 28/9- 1/10 2006
- Maliardi V, Ceccarelli G, Anastasia L, **Cassano M**, Monti E, Venerando B, Cusella De Angelis MG, Sampaolesi M
  Role of human sialidases in the skeletal muscle differentiation
  FISV 2006, 8th Annual Meeting. Riva del Garda, 28/9- 1/10 2006
- **Cassano M**, Biressi S, Perani L, Finan A, Allegretti M, Cusella De Angelis MG, Sampaolesi M
  HGF-derived recombinant protein M.A.G.I.C. F1: a novel approach to induce muscular hypertrophy
  DiBiT Scientific Retreat. Bardolino del Garda (Vr), 19-21st February 2006

SCIENTIFIC ACTIVITY

As biologist, my first interest has been translational biomedical science. I worked as Master Student in the laboratory of Professor Giulio Cossu, former head of the Regenerative Medicine Department at DIBIT-HSR (Milan), where I've been studying the molecular mechanism regulating muscle mass and plasticity and how to exogenously manipulate them with recombinant proteins. This approach successfully counteracted the muscle wasting process in animal models of muscular dystrophy and results have been successfully published in PLoS ONE (Cassano M, et al. 2008) and Journal of Muscle Research and Cell Motility (Cassano M, et al. 2009) as a first-authorship, opening a new research horizon for related studies (Ronzoni F, et al. 2009 J Biomed Biotechnol; Perini I, et al. 2015 Biochem Biophys Res Comm).

I earned my **PhD in Cytological and morphological Sciences** at the doctoral school of "Sapienza University of Rome" under the mentorship of Professor Giulio Cossu and the supervision of Professor Maurilio Sampaolesi, who kindly hosted me for the whole doctoral period in the newly born Translational Cardiomyology laboratory unit at the Katholieke Universiteit of Leuven, Belgium. My PhD studies were granted by a scholarship of the Ministry of Education, the Italian institution supporting the high quality projects. There my research line investigated the impact of pathological niches on stem cell behavior where I observed that muscle and cardiac progenitors isolated from dystrophic animal models reveal an age-dependent impairment to differentiate into their respective lineages compared to the healthy counterpart (Cassano, et al. Development 2011; Cassano, et al. Cell Transplant 2012). Due to the establishment of trustworthy relationships I kept collaborating with several members of my former laboratory finally leading to co-authorships on high profile peer-reviewed journals (Messina G, et al. Cell 2010; Tedesco, et al. Science Trans Med 2012).

Importantly, as member of the KULeuven Stem Cell Institute I took advantages of this brilliant environment to expand my knowledge and expertise in the tissue regeneration and homeostasis field. There I had the chance to synergize the scientific interests with my management and interpersonal skills for the establishment of the laboratory unit, taking over the reorganization of spaces, the purchase of equipments and the discussion of the strategic framework of the unit. During my PhD I also trained laboratory assistants and supervised Master students both with scientific enthusiasm and a team-oriented personality.

In October 2011 I was hired as senior researcher at the EPFL School of Life Sciences in the laboratory of Professor Didier Trono, Dean of the EPFL School of Life Sciences and pioneer in the field of epigenetics and virus-based delivery systems for human gene therapy. Here, I decided to diversify my scientific background and implement with fundamental research notions by studying the epigenetic forces sustaining lineage commitment with a flavor on muscle differentiation and hepatic metabolism.

Thankful to an independent but influencing supervision by Prof. Didier Trono I had the opportunity to both express my scientific talent and refine my organizational and communication skills. Here, I investigate the morphofunctional patterning of human tissue development with particular emphasis on the proliferative and differentiation potential of muscle and hepatic committed progenitors.

Therefore, using a combination of histochemistry and molecular cytology approaches coupled with genome wide anyalsis, we identify an unappreciated epigenetic mechanism of muscle differentiation where the scaffolding protein TRIM28 acts as a key determinant of MyoD/Mef2D-mediated muscle gene activation during myogenesis (Singh, Cassano et al. 2015 Genes&Dev.). These results led to an increased knowledge of the homeostatic mechanisms regulating tissue regeneration and healing.

During this period, I have also supervised and coordinate the activity of students and PhD candidates recognized by several co-autorship contributions (Ecco et al, Developmental Cell; Rauwel et al., Elife; Kauzlaric et al, PLoS ONE.

In parallel, I developed an innovative transgenic model showing a slowly progressive, multi-step disease, with a detectable role for established or suspected contributors of human steatosis and hepatocarcinoma (Bojkowska et al, 2014), such as obesity, microbiota and aging, some of which at least are actionable both in this model and in the clinics. I had also the opportunity to refine and extend my scientific "know-how" through the fulfillment of the following tasks:

- Partnership with the Clean Mouse Facility located in Bern headed by Professor Andrew MacPherson for the development of a gut flora-sensitive animal model of liver cancer;
- Integration of cutting-edge technologies in the field of epigenetics and genomics by learning 16s rRNA, ChIP-, RNA-sequencing and Nanostring assays as powerful tools to explore genome-wide surveys of gene regulation.

Thanks to these achievements I further demonstrate the critical role of the gut microbiota in the genesis of HCC in our model since axenic conditions are sufficient to dampen metabolic infection and tumor burden (Cassano et al, 2017). This work has been internationally recognized, selected for oral presentations at local and international congresses and recently awarded as Best Scientific publication of 2017 by the Swiss Foundation against Liver Cancer.

In addition, I am involved in **collaborative studies with different research groups:**

Prof. Andrew McPherson - Professor of Medicine, Director of Gastroenterology, University Hospital, Bern, Switzerland

Prof. Gisou VanderGoot – Dean of the School of Life Sciences, EPFL

Prof. Bart DePlancke – Interschool Institute of Bioengineering at EPFL

Prof. Kathleen McCoy - Professor in the Cumming School of Medicine and director of the Western Canadian Microbiome Centre

Prof. Darius Moradpour - FMH en médecine interne et en gastro-entérologie et hépatologie Professeur à la Faculte de Medicine e biologie de l'Université de Lausanne

Prof. Jeffrey Dilworth – Professor at Ottawa Hospital Research Institute, General Campus

Prof. Jean-Francois Dufour -University Clinic Visceral Surgery and Medicine, Bern

Dr. Carmen Unzu – Senior Scientific Associate – The Harvard Clinical and Translational Science Center

Dr. Benjamin Rauwel – University of Toulouse, France

Dr. Pick Horst – Senior Scientist at the Laboratory of Biophysical Chemistry of Macromolecules, EPFL.

Data	07/03/2018	Luogo	Losanna