



Ludovica Lospinoso Severini

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Actual position

SCHOLARSHIP HOLDER

NOVEMBER 2019 – FEBRUARY 2020 | ISTITUTO PASTEUR ITALIA FONDAZIONE CENCI BOLOGNETTI, ROME (ITALY)

- Research project: Development of PhD project focused on the identification and characterization of novel Hedgehog pathway regulators and antagonists in brain tumors treatment
- Tutor: Prof. L. Di Marcotullio – Sapienza University, Dept of Molecular Medicine

Education

PH. D. STUDENT IN BIOTECHNOLOGY IN CLINICAL MEDICINE

NOVEMBER 2016 – OCTOBER 2019 | SAPIENZA UNIVERSITY, ROME (ITALY)

- Research project: Identification and characterization of novel Hedgehog pathway regulators and antagonists in brain tumors treatment
- Tutors: Prof. L. Di Marcotullio, Prof. G. Giannini – Sapienza University, Dept of Molecular Medicine

Ph. D. defence expected for 27th February 2020

MASTER DEGREE IN GENETICS AND MOLECULAR BIOLOGY

JUNE 22TH 2016 | SAPIENZA UNIVERSITY, ROME (ITALY)

- Graduated with Honours (110/110 *cum laude*)
- Experimental thesis: Muscular miRnome analysis as a tool for the identification of biomarkers in spinal muscular atrophy
- Supervisor: Prof. L. Di Marcotullio – Sapienza University, Dept of Molecular Medicine
- The project was developed in collaboration with Dott. F. D. Tiziano (Università Cattolica del Sacro Cuore, Rome - Italy)

BACHELOR DEGREE IN BIOTECHNOLOGY

JULY 9TH 2014 | SAPIENZA UNIVERSITY, ROME (ITALY)

- Graduated with Honours (110/110 *cum laude*)
- Experimental thesis: microRNA-135a's role in neuronal synaptic activity
- Supervisor: Prof. C. Presutti - Sapienza University, Dept of Biology and Biotechnology "Charles Darwin"

Research experience

November 2019 – February 2020

Scholarship Holder

Istituto Pasteur Italia, Fondazione Cenci Bolognetti (Rome, Italy)

Investigation of ubiquitin ligase activity in glioblastoma tumorigenesis.

November 2016 – October 2019

Ph. D. student

Sapienza University – Dept of Molecular Medicine (Rome, Italy)

Tutors: Prof.ssa Lucia Di Marcotullio and Prof. Giuseppe Giannini

Research field: Study and characterization of novel small molecules able to inhibit Hedgehog pathway activity *in vitro* and *in vivo*; identification of novel regulators of Hedgehog signalling activation.

February 2019 – May 2019

Ph. D. Visiting student

INSTITUT CURIE Centre de Recherche – Section of signalling in development and brain tumors (Paris, France)

Supervisor: Dott. Olivier Ayrault

Research field: Learning and application of the new technology tool IncuCyte® Live-Cell Analysis Systems.

April 2017 – June 2017

Ph. D. Visiting student

Oxford University - Dept of Oncology (Oxford, England)

Supervisor: Dott. Vincenzo D'Angiolella

Research field: Learning and application of a CRISPR/Cas9-mediated strategy to tag endogenous proteins.

November 2014 – June 2016

Master thesis trainee

1. Sapienza University – Dept of Molecular Medicine (Rome, Italy)

Supervisor: Prof.ssa Lucia Di Marcotullio

Research field: Identification of miRNAs as potential biomarkers in spinal muscular atrophy (SMA) and their validation in a large cohort of SMA serum samples.

2. Università Cattolica del Sacro Cuore – Genomic Medicine Institute (Rome, Italy)

Supervisor: Dott. Francesco Danilo Tiziano

Research field: Elucidation of the pathogenic role of skeletal muscle in spinal muscular atrophy through the analysis of the involvement of deregulated miRNAs in the pathogenesis of the condition.

February 2014 – July 2014

Bachelor thesis trainee

Sapienza University – Dept of Biology and Biotechnology "Charles Darwin" (Rome, Italy)

Supervisor: Prof. Carlo Presutti

Research field: Identification of microRNA-135a role in neuronal synaptic transmission in primary mouse hippocampal neurons.

Most relevant competences acquired

17-19 July 2019	<i>I° Workshop Chromatin Immunoprecipitation (ChIP): dalla teoria all'applicazione</i> Università degli Studi di Urbino "Carlo Bo", Dipartimento di Scienze Biomolecolari, Fano (Italy)
3-12 December 2018	<i>FELASA – Federation of European Laboratory Animal Science Associations</i> Cat. B (n. F023/09) Fondazione Santa Lucia IRCCS, Centro Europeo di Ricerca sul Cervello (CERC), Rome (Italy)
11-15 September 2017	<i>Python for Life Scientists</i> ELIXIR-IIB in collaboration with Sapienza University of Rome and IBPM-CNR, Rome (Italy)

Fundings

UNIPHARMA-GRADUATES 2017/2018	<i>Mobilità Erasmus+ for Traineeship Unipharma-Graduates 2017/2018</i> INSTITUT CURIE Centre de Recherche – Section of signalling in development and brain tumors, Paris (France)
October 2018	<i>Bandi di ateneo per la ricerca - Avvio alla ricerca Tipo 1</i> Università La Sapienza, Rome (Italy)
ERASMUS+ Programme 2016/2017	<i>Student Mobility for Traineeship 2016/2017</i> Oxford University - Dept of Oncology, Oxford (England)

Publications

1. Bufalieri F., Caimano M., Lospinoso Severini L., [...] and Di Marcotullio L.
The RNA-binding ubiquitin ligase MEX3A affects glioblastoma tumorigenesis by inducing ubiquitylation and degradation of RIG-I.
Cancers, 12, 321 (2020); doi:10.3390/cancers12020321
2. Lospinoso Severini L.*, Quaglio D.* [...] Mori M., Infante P. and Di Marcotullio L.
A Smo/Gli multitarget Hedgehog pathway inhibitor impairs tumor growth.
Cancers, 11(10), 1518 (2019); doi: 10.3390/cancers11101518.
*These authors contributed equally to this work.
3. Bufalieri F., Infante P., Bernardi F., Caimano M., Romania P., Moretti M., Lospinoso Severini L., [...] Fruci D. and Di Marcotullio L.
ERAP1 promotes Hedgehog-dependent tumorigenesis by controlling USP47-mediated degradation of β TrCP.
Nature Communication, 10, 3304 (2019); doi: 10.1038/s41467-019-11093-0
4. Infante P.*, Lospinoso Severini L.* [...] and Di Marcotullio L.
Targeting Hedgehog Signalling through the Ubiquitylation Process: The Multiple Roles of the HECT-E3 Ligase Itch.
Cells, 8, 98 (2019); doi:10.3390/cells8020098. Review.
*These authors contributed equally to this work.

5. Infante P., Faedda R., Bernardi F., Bufalieri F., Lospinoso Severini L., [...] and Di Marcotullio L.
Itch/ β -arrestin2-dependent non-proteolytic ubiquitylation of SuFu controls Hedgehog signalling and medulloblastoma tumorigenesis.
Nature communications, 9(1), 976 (2018); doi: 10.1038/s41467-018-03339-0
6. Calcaterra A., Iovine V., Botta B., Quaglio D., D'Acquarica I., Ciogli A., Iazzetti A., Alfonsi R., Lospinoso Severini L., [...] Mori M., and Ghirga F.
Chemical, computational and functional insights into the chemical stability of the Hedgehog pathway inhibitor GANT61.
Journal of enzyme inhibition and medicinal chemistry, 33(1), 349-358 (2018);
doi:10.1080/14756366.2017.1419221

Poster presentations

- 2nd Brainstorming Research Assembly for Young Neuroscientists – Milan, Italy (14-16 November 2019)
L. Lospinoso Severini, [...] and L. Di Marcotullio
SALL4A is a new positive regulator of Hedgehog signalling involved in medulloblastoma tumorigenesis.
- ABCD Nation Congress 2019 – Bologna, Italy (18-21 September 2019)
L. Lospinoso Severini, [...] and L. Di Marcotullio
SALL4A is a new positive regulator of Hedgehog signalling involved in medulloblastoma tumorigenesis.
- 60th annual meeting of Italian Cancer Society – Milan, Italy (19-22 September 2018)
L. Lospinoso Severini, [...] D. Fruci and L. Di Marcotullio
ERAP1 promotes the Hedgehog signaling and medulloblastoma development by controlling β TrCP/USP47 axis.
- National PhD Meeting – Salerno, Italy (22-24 March 2018)
L. Lospinoso Severini, [...] and L. Di Marcotullio
Itch/ β -arrestin2-dependent non-proteolytic ubiquitylation of SuFu controls Hedgehog signalling and medulloblastoma tumorigenesis.
- 29th Annual Conference of Italian Association of Cell Cultures – L'Aquila, Italy (23-25 November 2016)
L. Lospinoso Severini, [...] F. D. Tiziano and L. Di Marcotullio
Serum miRNAs as novel biomarkers in spinal muscular atrophy.

Oral presentations

- ABCD Nation Congress 2019 – Bologna, Italy (18-21 September 2019) – Flash presentation
L. Lospinoso Severini, [...] and L. Di Marcotullio
SALL4A is a new positive regulator of Hedgehog signalling involved in medulloblastoma tumorigenesis.
- 34^o Congresso Nazionale SIPMeT – Catania, Italy (23-25 October 2018)
L. Lospinoso Severini, [...] and L. Di Marcotullio
Itch/ β -arrestin2-dependent non-proteolytic ubiquitylation of SuFu controls Hedgehog signalling and medulloblastoma tumorigenesis.

Roma, 28.02.2020

FIRMATO
Ludovica Lospinoso Severini