

Curriculum vitae

GENERAL INFORMATION

Last Name, First Name	Pirazzini Marco
Date of Birth	June 8 th , 1981
Place of Birth	Lugo (RA), Italy
Citizenship	Italian
Permanent Address	Via Paulo Fambri 4/3 Padova 35131, Italy
Mobile Number	+39 3294317367
E-mail	marcopiraz@gmail.com ;
Spoken Languages	Italian (Native), English (Full professional proficiency)

EDUCATION

15.04.2013 - **Ph.D. in Cell Biology**, University of Padova, Ph.D, School of Biosciences and Biotechnology (Italy) in the lab of “Neurotoxins, Neurodegeneration and Regeneration” headed by Prof. Cesare Montecucco with the thesis: “The entry of tetanus and botulinum neurotoxins into neurons” (<http://paduaresearch.cab.unipd.it/5673/>)

10.10.2009 - **Master's Degree in Pharmaceutical Biotechnology** (110/110), University of Padova, Padova, Italy Lab of Paolo Caliceti, with the thesis: “Environmental responsive pH sensitive micelles for tumor targeting”

POSITIONS

March 2018 – present: Tenure track (Ricercatore di tipo A) at the University of Padova, Department of Biomedical Sciences, Padova - Italy

January 2013 – March 2018: **Post-doctoral researcher** University of Padova, Department of Biomedical Sciences

Jan 2010 – Dec 2012: **Ph.D. student** in the school of “Biosciences and Biotechnology (Cell Biology curriculum)” at University of Padova (Italy) in the laboratory of “Neurotoxins, Neurodegeneration and Regeneration” under the supervision of Prof. Cesare Montecucco.

Oct 2008 – Sept 2009: **Master thesis student** under the supervision of Prof. Stefano Salmaso, Department of Pharmaceutical Sciences, University of Padova, Italy.

TUTORING

TEACHING

2012-2015 Demonstrator of Laboratory of Pathology and Histopathology, Master Degree in Medical Biology University of Padova, Italy

SUPERVISION OF STUDENTS

2015 – 2017 1 PhD student (Giulia Zanetti) (co-tutoring)
Department of Biomedical Sciences, University of Padova

2017 1 Bachelor degree Student (Marianna Frate)
Faculty of Mathematic Physical and Natural Sciences, University of Padova

2014 1 Master Student (Giulia Zanetti)
Faculty of Pharmaceutical Sciences, University of Padova

2013 1 Bachelor degree Student (Manuela De Bernardo)
Faculty of Mathematic Physical and Natural Sciences, University of Padova

2012 1 Master Student (Cristina Bertasio)
Faculty of Mathematic Physical and Natural Sciences, University of Padova

PUBLICATION LIST

Title, authors and journals		
Carle S., Pirazzini M. , Rossetto O., Barth H., Montecucco C. <u>High Conservation of Tetanus and Botulinum Neurotoxins Cleavage Sites on Human SNARE Proteins Suggests That These Pathogens Exerted Little or No Evolutionary Pressure on Humans.</u> <i>Toxins (Basel)</i> 2017 9 (12)	#26	Corresponding author IF: 3.34 QIC: Q1
Zanetti G., Sikorra S., Rummel A., Krez N., Duregotti E., Negro S., Henke T., Rossetto O., Binz T., Pirazzini M. <u>Botulinum neurotoxin C mutants reveal different effects of syntaxin or SNAP-25 proteolysis on neuromuscular transmission.</u> <i>PLoS Pathog.</i> 2017 13(8): e1006567	#25	Corresponding author IF: 6.608 QIC: Q1
Negro S., Lessi F., Duregotti E., Aretini P., La Ferla M., Franceschi S., Menicagli M., Bergamin E., Radice E., Thelen M., Megighian A., Pirazzini M. , Mazzanti C.M., Rigoni M., Montecucco C. <u>CXCL12α/SDF-1 from perisynaptic Schwann cells promotes regeneration of injured motor axon terminals.</u> <i>EMBO Mol Med.</i> 2017 9(8):1000-1010	#24	IF: 9.249 QIC: Q1
Bondì M., Germinario E., Pirazzini M. , Zanetti G., Cencetti F., Donati C., Gorza L., Betto R., Bruni P., Danieli-Betto D. <u>Ablation of S1P3 receptor protects mouse soleus from age-related drop in muscle mass, force, and regenerative capacity.</u> <i>Am J Physiol Cell Physiol.</i> 2017 313(1):C54-C67	#23	IF: 3.602 QIC: Q1
Pirazzini M. , Rossetto O., Eleopra R. and Montecucco C. <u>Botulinum Neurotoxins: biology, pharmacology and toxicology.</u> <i>Pharmacol Rev</i> 2017 69(2):200-235	#22	First author IF: 17.893 QIC: Q1

<p>Pirazzini M. and Rossetto O. <u>Challenges in searching for therapeutics against Botulinum Neurotoxins.</u> Expert Opin Drug Discov 2017 17:1-14</p>	<p>#21</p>	<p>First author IF: 3.484 QIC: Q1</p>
<p>Peck M., Smith T.J., Anniballi F., Austin J.W., Bano L., Bradshaw M., Cuervo P., Cheng L.W., Derman Y., Dorner B.G., Fisher A., Hill K.K., Kalb S.R., Korkeala H., Lindström M., Lista F., Lúquez C., Mazuet C., Pirazzini M., Popoff M.R., Rossetto O., Rummel A., Sesardic D., Singh B.R., Stringer S.C. <u>Historical Perspectives and Guidelines for Botulinum Neurotoxin Subtype Nomenclature.</u> Toxins (Basel) 2017 18;9(1)</p>	<p>#20</p>	<p>IF: 3.34 QIC: Q1</p>
<p>Azarnia Tehran D., Pirazzini M., Leka O., Mattarei A., Lista F., Binz T., Rossetto R., Montecucco C. <u>Hsp90 is involved in the entry of Clostridial Neurotoxins into the cytosol of nerve terminals.</u> Cell Microbiol 2016 19(2)</p>	<p>#19</p>	<p>Corresponding author IF: 4.554 QIC: Q1</p>
<p>Duregotti E., Zanetti G., Scorzeto M., Megighian A., Montecucco C., Pirazzini M., Rigoni M. <u>Snake and spider toxins induce a rapid recovery of function of botulinum neurotoxin paralysed neuromuscular junction.</u> Toxins (Basel) 2015 7(12):5322-36.</p>	<p>#18</p>	<p>Corresponding author IF: 3.34 QIC: Q1</p>
<p>Azarnia Tehran D., Zanetti G., Leka O., Lista F., Fillo S., Binz T., Shone C., Rossetto O., Montecucco C., Paradisi C., Mattarei A., Pirazzini M. <u>A novel inhibitor prevents the peripheral paralysis of Botulinum Neurotoxins.</u> Sci Rep 2015 16;5:17513</p>	<p>#17</p>	<p>Corresponding author IF: 5.228 QIC: Q1</p>
<p>Zanetti G., Azarnia Tehran D., Pirazzini M., Binz T., Shone C., Fillo S., Lista F., Rossetto O., Montecucco C. <u>Inhibition of botulinum neurotoxins interchain disulfide bond reduction prevents the peripheral neuroparalysis of botulism.</u> Biochem Pharmacol 2015 98(3):522-30</p>	<p>#16</p>	<p>IF: 5.009 QIC: Q1</p>
<p>Pirazzini M., Azarnia Tehran D., Leka O., Zanetti G., Rossetto O., Montecucco C. <u>On the translocation of botulinum and tetanus neurotoxins across the membrane of acidic intracellular compartments.</u> Biochim Biophys Acta 2016 1858(3):467-74.</p>	<p>#15</p>	<p>First author IF: 3.687 QIC: Q1</p>

<p>Pirazzini M., Azarnia Tehran D., Zanetti G., Lista F., Binz T., Shone C., Rossetto O., Montecucco C. <u>The thioredoxin reductase - Thioredoxin redox system cleaves the interchain disulphide bond of botulinum neurotoxins on the cytosolic surface of synaptic vesicles.</u> <i>Toxicon</i> 2015 107(Pt A):32-6</p>	<p>#14</p>	<p>Corresponding author IF: 1.927 QIC: Q2</p>
<p>Rossetto O., Pirazzini M., Montecucco C. <u>Current gaps in basic science knowledge of botulinum neurotoxin biological actions.</u> <i>Toxicon</i> 2015 107(Pt A):59-63</p>	<p>#13</p>	<p>IF: 1.927 QIC: Q2</p>
<p>Rossetto O., Pirazzini M., Montecucco C. <u>Botulinum neurotoxins: genetic, structural and mechanistic insights.</u> <i>Nat Rev Microbiol</i> 2014 12(8):535-49</p>	<p>#12</p>	<p>Co-First author IF: 26.819 QIC: Q1</p>
<p>Pirazzini M., Azarnia Tehran D., Zanetti G., Megighian A., Scorzeto M., Fillo S., Shone C., Binz T., Rossetto O., Lista F., Montecucco C. <u>Thioredoxin and its reductase are present on synaptic vesicles, and their inhibition prevents the paralysis induced by botulinum neurotoxins.</u> <i>Cell Rep</i> 2014 25;8(6):1870-8 <i>Highlighted by Mauricio Montal (a world expert in Botulinum Neurotoxins) in Trends Mol Med. (2014) 20, 602-603: "Redox regulation of botulinum neurotoxin toxicity: therapeutic implications".</i></p>	<p>#11</p>	<p>First author IF: 8.282 QIC: Q1</p>
<p>Leka O., Vallese F., Pirazzini M., Berto P., Montecucco C., Zanotti G. <u>Diphtheria toxin conformational switching at acidic pH.</u> <i>FEBS J</i> 2014 281(9):2115-22</p>	<p>#10</p>	<p>IF: 4.237 QIC: Q1</p>
<p>Pirazzini M., Bordin F., Rossetto O., Shone C., Binz T., Montecucco C. <u>The thioredoxin reductase-thioredoxin system is involved in the entry of tetanus and botulinum neurotoxins in the cytosol of nerve terminals.</u> <i>FEBS Lett</i> 2013 16;587(2):150-5</p>	<p>#9</p>	<p>First author IF: 3.623 QIC: Q2</p>

<p>Pirazzini M., Rossetto O., Bertasio C., Bordin F., Shone C., Binz T, Montecucco C. <u>Time course and temperature dependence of the membrane translocation of tetanus and botulinum neurotoxins C and D in neurons.</u> <i>Biochem Biophys Res Commun</i> 2013 430(1):38-42</p>	#8	<p>First author IF: 2.466 QIC: Q3</p>
<p>Pirazzini M., Henke T., Rossetto O., Mahrhold S., Krez N., Rummel A., Montecucco C., Binz T. <u>Neutralisation of specific surface carboxylates speeds up translocation of botulinum neurotoxin type B enzymatic domain.</u> <i>FEBS Lett</i> 2013 29;587(23):3831-6</p>	#7	<p>First author IF: 3.623 QIC: Q2</p>
<p>Colasante C., Rossetto O., Morbiato L., Pirazzini M., Molgó J., Montecucco C. <u>Botulinum neurotoxin type A is internalized and translocated from small synaptic vesicles at the neuromuscular junction.</u> <i>Mol Neurobiol</i> 2013 48(1):120-7</p>	#6	<p>IF: 6.190 QIC: Q1</p>
<p>Eleopra R., Montecucco C., Devigili G., Lettieri C., Rinaldo S., Verriello L., Pirazzini M., Caccin P., Rossetto O. <u>Botulinum neurotoxin serotype D is poorly effective in humans: an in vivo electrophysiological study.</u> <i>Clin Neurophysiol</i> 2013 124(5):999-1004</p>	#5	<p>IF: 3.097 QIC: Q2</p>
<p>Pirazzini M., Rossetto O., Bolognese P., Shone C., Montecucco C. <u>Double anchorage to the membrane and intact inter-chain disulfide bond are required for the low pH induced entry of tetanus and botulinum neurotoxins into neurons.</u> <i>Cell Microbiol</i> 2011 13(11):1731-43</p>	#4	<p>First author IF: 4.554 QIC: Q1</p>
<p>Rossetto O., Pirazzini M., Bolognese P., Rigoni M., Montecucco C. <u>An update on the mechanism of action of tetanus and botulinum neurotoxins.</u> <i>Acta Chim Slov</i> 2011 58(4):702-7</p>	#3	<p>IF: 0.983 QIC: Q3</p>
<p>Ferrari E., Maywood S., Restani L., Caleo M., Pirazzini M., Rossetto O., Hastings M.H., Niranjan D., Schiavo G., Davletov B. <u>Re-assembled botulinum neurotoxin inhibits CNS functions without systemic toxicity.</u> <i>Toxins (Basel)</i> 2011 3(4):345-55</p>	#2	<p>IF: 3.34 QIC: Q1</p>
<p>Salmaso S., Bersani S., Pirazzini M., Caliceti P. <u>pH-sensitive PEG-based micelles for tumor targeting.</u> <i>J Drug Target</i> 2011 19(4):303-13</p>	#1	<p>IF: 3.068 QIC: Q2</p>

REVIEWER FOR INTERNATIONAL SCIENTIFIC JOURNALS

Plos One, Toxicon, Pharmacology Research & Perspectives

CONGRESS ATTENDANCE

10th Congress of Toxicology in Developing Countries (Belgrade, Serbia) “The booming field of Botulinum Neurotoxins”	Invited speaker
2018Spring PaduaMuscleDays - Giovanni Salviati Memorial – Translational Myology for Health and Disease (Padova, Italy) – “Plasticity and regeneration of the Neuromuscular Junction”	Invited speaker
Toxins 2017: Basic Science and clinical aspects of Botulinum and other Neurotoxins (Madrid, Spain) “HSP90, Thioredoxin And Thioredoxin Reductase Form a Chaperone-Redox Machinery Enabling The Catalytic Activity of Clostridial Neurotoxins Inside Nerve Terminals”	oral presentation
33° Congresso Nazionale SIPMeT (Precision Medicine, Translational medicine and lab medicine) Montesilvano (Italy): “Hsp90, Thioredoxin and Thioredoxin Reductase Form a Chaperone-Redox Machinery Enabling the Catalytic Activity of Clostridial Neurotoxins inside Nerve Terminals”	oral presentation
Annual retreat of CNR IN – Institute of neuroscience 2016, Padova (Italy): Regeneration of the paralyzed neuromuscular junction”	oral presentation
Antidotes in depth 2016. Clinical toxicology, Substances of abuse and chemical emergencies. Pavia, (Italy): Viper toxicity update: experimental evidences of neurotoxicity	invited speaker
2016 Seminars at Biomedical Sciences department (University of Padova): “Plasticity and Regeneration of the Paralyzed Neuromuscular Junction”	oral presentation
52nd Interagency Botulism Research Coordinating Committee (IBRCC2015, Frederick, Maryland, USA): ”Botulinum Neurotoxins: from mechanism of action to the development of pan-inhibitors”	invited speaker
SIPMET 2015 – Meeting our young Scientists (Alba, Italy): “Botulinum Neurotoxins: from mechanism of action to the development of pan-inhibitors”	oral presentation
ETOX17 - European Workshop in Bacterial Protein Toxins” (Porto, Portugal): “Botulinum Neurotoxins: from mechanism of action to the development of pan-inhibitors”	invited speaker
17° Congresso nazionale della società italiana di tossicologia (Milan, Italy):	invited speaker

“Nuove neurotossine Botuliniche e Nuovi Inibitori”

Toxins 2015: Basic Science and clinical aspects of Botulinum and other neurotoxins (Lisbon, Portugal) “Thioredoxin and Its Reductase Are Present on Synaptic Vesicles and Their Inhibition Prevents the Paralysis Induced by Botulinum Neurotoxins” oral presentation

Corsi ECM “Il botulismo: dal sospetto clinico alle nuove strategie di trattamento e prevenzione” (2014, Padova, Italy): “Strategie innovative per il trattamento del botulismo: i nuovi inibitori delle tossine invited speaker

European Network e-COST on cardiac ischemia and ROS Padua 2014 (Padova, Italy): “Redox systems in the action of presynaptic neurotoxins “ invited speaker

51st Interagency Botulism Research Coordinating Committee (IBRCC2014, Philadelphia, USA): ”Thioredoxin and Its Reductase Are Present on Synaptic Vesicles and Their Inhibition Prevents the Paralysis Induced by Botulinum Neurotoxin” invited speaker

International Workshop on Pore-Forming Toxins (PFT2014, Trento, Italy): “Thioredoxin and its reductase enable the proteolytic activity of botulinum neurotoxins” oral presentation

Retreat 2014 Istituto di Neuroscienze CNR (Milano, Italy): “Botulinum neurotoxins entry into nerve terminals” invited speaker

SCIENTIFIC MEMBERSHIPS

INA (International Neurotoxin Association)

SIPMeT (Società Italiana di Patologia e Medicina Traslazionale)

HONOURS AND AWARDS

Angelo Minich award 2017 for “Sperimental Medicine” granted by “Istituto Veneto di Scienze, Lettere ed Arti”

Toxins travel award 2017 (<http://www.mdpi.com/journal/toxins/awards.pdf>)

Finalist of “Aldo Fasolo award 2015”, granted by the University of Torino

**Best poster at the meeting “ETOX 16 - European Workshop on Bacterial Protein Toxins”, Friburg, Germany
2013**