

Curriculum Vitae

PERSONAL INFORMATION: Dr. Santo Previti

QUALIFICATION Ph. D. in Chemical Sciences (Cycle XXX) with the mention of Doctor Europaeus.

PROFESSIONAL EXPERIENCES AND TITLES

- July 7 2020 –
July 6 2022 Postdoctoral researcher
Research project: *i*) Synthesis and biological evaluation of novel peptidomimetic cysteine protease inhibitors for the treatment of endemic tropical diseases. *ii*) Development of novel peptide-based SARS-CoV-2 M^{pro} inhibitors as potential antiviral agents.
Supervisor: Prof. Maria Zappalà.
Department of Chemical, Biological, Pharmaceutical and Environmental Sciences. University of Messina, Messina, Italy.
- December 1
2019 –May 31
2020 Postdoctoral researcher
Research project: *i*) Development of novel peptide heterodimers targeting neurotensin and opioid receptors as potential antinociception agents. *ii*) Development of novel peptidomimetics targeting melanocortin 4 receptor.
Supervisor: Prof. Steven Ballet.
Organic Chemistry Group, Departments of Bioengineering Sciences and Chemistry, Vrije Universiteit Brussel. Bruxelles, Belgium.
- January 15 2018
– November 15
2019 Postdoctoral researcher
Research project: *i*) Development of novel peptide-based radiopharmaceutical targeting neurotensin receptors as potential theranostic agents. *ii*) Development of novel modified peptide-based neurotensin receptor 2 ligands as antinociception agents.
Supervisor: Dr. Florine Cavelier.
Institut des Biomolécules Max Mousseron (IBMM) - UMR 5247 – Department of Amino Acids, Peptides and Proteins (DAPP) - Centre National de la Recherche Scientifique (CNRS), University of Montpellier. Montpellier, France.
- November 1 2014
– 31 October 2017 Research activity (Ph.D. in Chemical Sciences)
Research project: Design, synthesis and biological evaluation of novel inhibitors of rhodesain, cysteine protease of *Trypanosoma brucei rhodesiense*, as antitrypanosomal agents.
Supervisor: Prof. Silvana Grasso, Co-supervisor: Prof. Roberta Ettari.
Department of Chemical, Biological, Pharmaceutical and Environmental Sciences. University of Messina, Messina, Italy.
- August 30 2016 –
December 1 2016 Research activity
Research project: Development of fluoro-containing substrates useful for the evolution of proteasome and immunoproteasome inhibitors by ¹⁹F spectroscopy.
Supervisor: Prof. Sandrine Ongerì.
Faculté de Pharmacie de l'Université Paris-Sud. Châtenay-Malabry, Francia.

September 2009
– July 2014

Master degree in Pharmacy (LM-13)

Score of 110/110 cum laude

Title of master thesis: Development of novel peptidomimetics containing a 1,4-benzodiazepine scaffold as rhodesain inhibitors, cysteine protease of *Trypanosoma brucei rhodesiense*”.

Supervisor: Prof. Maria Zappalà.

Department of Drug Sciences and Health Products, University of Messina, Italy.

PUBLICATIONS

1. R. Ettari, A. Pinto, **S. Previti**, L. Tamborini, I. C. Angelo, V. La Pietra, L. Marinelli, E. Novellino, T. Schirmeister, M. Zappalà, S. Grasso, C. De Micheli and P. Conti. Development of novel dipeptide-like rhodesain inhibitors containing the 3-bromoisoxazoline warhead in a constrained conformation, *Bioorganic Medicinal Chemistry*, **2015**, *23*, 7053-7060.
IF = 3.461
2. R. Ettari, **S. Previti**, S. Cosconati, S. Maiorana, T. Schirmeister, S. Grasso and M. Zappalà. Development of novel 1,4-benzodiazepine-based Michael acceptors as antitrypanosomal agents, *Bioorganic Medicinal Chemistry Letters*, **2016**, *26*, 3453–3456.
IF = 2.940
3. R. Ettari, **S. Previti**, L. Tamborini, G. Cullia, S. Grasso and M. Zappalà. The Inhibition of Cysteine Proteases Rhodesain and TbCatB: a Valuable Approach to Treat Human African Trypanosomiasis, *Mini Review in Medicinal Chemistry*, **2016**, *16*, 1374-1391.
IF = 3.737
4. R. Ettari, **S. Previti**, A. Bitto, S. Grasso and M. Zappalà. Immunoproteasome-selective inhibitors: a promising strategy to treat hematologic malignancies, autoimmune and inflammatory diseases. *Current Medicinal Chemistry*, **2016**, *23* (12), 1217-1238.
IF = 4.740
5. R. Ettari, **S. Previti**, S. Cosconati, J. Kesselring, T. Schirmeister, S. Grasso and M. Zappalà. Synthesis and biological evaluation of novel peptidomimetics as rhodesain inhibitors, *Journal Enzyme Inhibition and Medicinal Chemistry*, **2016**, *31* (6), 1184–1191.
IF = 5.756
6. **S. Previti**, R. Ettari, S. Cosconati, G. Amendola, K. Chouchene, A. Wagner, U. A. Hellmich, K. Ulrich, R. L. Krauth-Siegel, P. R. Wich, I. Schmid, T. Schirmeister, J. Gut, P. J. Rosenthal, S. Grasso, and M. Zappalà. Development of novel peptide-based Michael acceptors targeting rhodesain and falcipain-2 for the treatment of neglected tropical diseases (NTDs), *Journal of Medicinal Chemistry* **2017**, *60*, 6911–6923.
IF = 8.039
7. R. Maccari, R. Ettari, I. Adornato, A. Naß, G. Wolber, A. Bitto, F. Mannino, F. Aliquò, G. Bruno, F. Nicolò, **S. Previti**, S. Grasso, M. Zappalà and R. Ottanà. Identification of 2-thioxoimidazolidin-4-one derivatives as novel noncovalent proteasome and immunoproteasome inhibitors. *Bioorganic Medicinal Chemistry Letters* **2018**, *28*, 278–283.
IF = 2.940

8. R. Ettari, **S. Previti**, S. Maiorana, A. Allegra, T. Schirmeister, S. Grasso, M. Zappalà. Drug combination studies of curcumin and genistein against rhodesain of *Trypanosoma brucei rhodesiense*. *Natural Product Research* **2019**, *33*, 3577-3581.
IF = 2.488
9. R. Ottanà, P. Paoli, G. Lori, I. Adornato, **S. Previti**, A. Naß, G. Wolber, R. Maccari. Design and evaluation of non-carboxylate 5-arylidene-2-thioxo-4-imidazolidinones as novel non-competitive inhibitors of protein tyrosine phosphatase 1B. *Bioorganic Chemistry* **2019**, *92*, 1032211.
IF = 5.307
10. R. Ettari, **S. Previti**, S. Maiorana, G. Amendola, A. Wagner, S. Cosconati, T. Schirmeister, U. Hellmich, M. Zappalà. Optimization strategy of novel peptide-based Michael acceptors for the treatment of Human African Trypanosomiasis. *Journal of Medicinal Chemistry* **2019**, *62*, 10617-10629.
IF = 8.039
11. R. Ettari, **S. Previti**, S. Maiorana, A. Allegra, T. Schirmeister, S. Grasso, M. Zappalà. Evaluation of curcumin irreversibility. *Natural Product Research* **2020**, *34*, 3159-3162.
IF = 2.488
12. R. Ettari, **S. Previti**, C. Di Chio, S. Maiorana, A. Allegra, T. Schirmeister, M. Zappalà. Drug synergism: combination studies of RK-52 and curcumin against rhodesain of *Trypanosoma brucei rhodesiense*. *ACS Medicinal Chemistry Letters* **2020**, *11*, 806-810.
IF = 4.632
13. C. Di Chio, **S. Previti**, G. Amendola, S. Cosconati, T. Schirmeister, M. Zappalà, R. Ettari. Development of novel benzodiazepine-based peptidomimetics as inhibitors of rhodesain of *Trypanosoma brucei rhodesiense*. *ChemMedChem* **2020**, *15*, 995-1001.
IF = 3.540
14. **S. Previti**, M. Vivancos, E. Rémond, S. Beaulieu, J.-M. Longpré, S. Ballet, P. Sarret, F. Cavalier. Insightful backbone modifications preventing proteolytic degradation of neurotensin analogues improve NTS1-induced protective hypothermia. *Frontiers in Chemistry* **2020**, *8*, 406.
IF = 5.545
15. S. Maiorana, R. Ettari, **S. Previti**, G. Amendola, A. Wagner, S. Cosconati, U. A. Hellmich, T. Schirmeister, M. Zappalà. Peptidyl vinyl ketone irreversible inhibitors of rhodesain: modifications of the P2 fragment. *ChemMedChem* **2020**, *15*, 1552-1561.
IF = 3.540
16. R. Fanelli, A. Chastel, **S. Previti**, E. Hindié, D. Vimont, P. Zanotti-Fregonara, P. Fernandez, P. Garrigue, L. Balasse, B. Guillet, E. Rémond, C. Morgat, F. Cavalier. Silicon-containing neurotensin analogues as radiopharmaceuticals for NTS1-positive tumors imaging. *Bioconjugate Chemistry* **2020**, *31*, 2339-2349.
IF = 6.069

17. S. Gonzalez, M. Dumitrascuta, E. Eiselt, S. Louis, L. Kunze, A. Blasiol, M. Vivancos, **S. Previti**, E. Dewolf, C. Martin, D. Tourwè, F. Cavelier, L. Gendron, P. Sarret, M. Spetea, S. Ballet. Optimized opioid-neurotensin multitarget peptides: from design to structure–activity relationship studies. *Journal of Medicinal Chemistry* **2020**, *63*, 12929 – 12941.
IF = 8.039
18. A. Rotondo, M. Zappalà, **S. Previti**, C. Di Chio, A. Allegra, R. Ettari. Design and NMR conformational analysis in solution of β 5i-selective inhibitors of immunoproteasome. *Journal of Molecular Structure* **2021**, *1230*, 129633
IF = 3.841
19. C. Martin, L. E. Gimenez, S. Y. Williams, Y. Jing, Y. Wu, C. Hollanders, O. Van der Poorten, S. Gonzalez, K. Van Holsbeeck, **S. Previti**, A. Lamouroux, S. Zhao, R. C. Stevens, R. D. Cone, S. Ballet. Structure-based design of melanocortin 4 receptor ligands based on the SHU-9119-hMC4R co-crystal structure. *Journal of Medicinal Chemistry* **2021**, *64*(1), 357-369.
IF = 8.039
20. R. Ettari, **S. Previti**, C. Di Chio, M. Zappalà. Falcipain-2 and falcipain-3 inhibitors as promising antimalarial agents. *Current Medicinal Chemistry* **2021**, *28*, 3010-3031.
IF = 4.740
21. M. Vivancos, R. Fanelli, É. Besserer-Offroya, M. Resua-Rojasa, C. E. Monad, **S. Previti**, E. Rémond, J.-M. Longpré, F. Cavelier, P. Sarret. Metabolically Stable Neurotensin Analogs Exert Potent and Long-Acting Analgesia Without Hypothermia. *Behavioural Brain Research* **2021**, *405*, 113189.
IF = 3.352
22. G. Amendola, R. Ettari, **S. Previti**, C. Di Chio, A. Messere, S. Di Maro, S. J. Hammerschmidt, C. Zimmer, R. A. Zimmermann, T. Schirmeister, M. Zappalà, S. Cosconati. Lead discovery of SARS-CoV-2 main protease inhibitors through covalent docking-based virtual screening. *Journal of Chemical Information and Modelling* **2021**, *61*, 2062-2073.
IF = 4
23. C. Di Chio, **S. Previti**, F. De Luca, A. Allegra, M. Zappalà, R. Ettari. Drug combination studies of PS-1 and quercetin against rhodesain of *Trypanosoma brucei rhodesiense*. *Natural Product Research* **2021**. doi: 10.1080/14786419.2021.1978993
IF = 2.488
24. **S. Previti**, C. Di Chio, R. Ettari, M. Zappalà. Dual Inhibition of Parasitic Targets: A Valuable Strategy to Treat Malaria and Neglected Tropical Diseases. *Current Medicinal Chemistry* **2022**, *29*, 2952-2978.
IF = 4.740
25. R. Ettari, N. Iraci, C. Di Chio, **S. Previti**, M. Danzè, M. Zappalà. Development of isoquinolinone derivatives as immunoproteasome inhibitors. *Bioorganic & Medicinal Chemistry Letters* **2022**, *55*, 128478.
IF = 2.940

26. C. Di Chio, **S. Previti**, G. Amendola, R. Ravichandran, A. Wagner, S. Cosconati, U. A. Hellmich, T. Schirmeister, M. Zappalà, R. Ettari. Development of novel dipeptide nitriles as inhibitors of rhodesain of *Trypanosoma brucei rhodesiense*. *European Journal Medicinal Chemistry* **2022**, *236*, 114328.
IF = 7.088
27. **S. Previti**,* R. Ettari, E. Calcaterra, C. Di Chio, R. Ravichandran, C. Zimmer, S. Hammerschmidt, A. Wagner, S. Cosconati, T. Schirmeister, M. Zappalà. Development of urea bond-containing Michael acceptors as antitrypanosomal agents targeting rhodesain. Submitted at *ACS Medicinal Chemistry Letters* **2022**, *13*, 1083-1090.
IF = 4.632
28. **S. Previti**,* R. Ettari, C. Di Chio, R. Ravichandran, M. Bogacz, U. A. Hellmich, T. Schirmeister, S. Cosconati, M. Zappalà*. Development of reduced peptide bond pseudopeptide Michael acceptors for the treatment of Human African Trypanosomiasis. *Molecules* **2022**, *27*, 3765.
IF = 4.927

CONGRESS COMMUNICATIONS

1. **R. Ettari**, **S. Previti**, A. Pinto, L. Tamborini, G. Cullia, V. La Pietra, L. Marinelli, E. Novellino, C. De Micheli, P. Conti, S. Grasso, M. Zappalà. Design, synthesis and biological evaluation of novel dipeptide-like rhodesain inhibitors containing a conformationally constrained 3-bromoisoxazoline warhead, Pag. 122. XXIII NMMC & 9th NPCF. September 6-9 2015, Salerno (IT)
Poster
2. R. Ettari, **S. Previti**, S. Maiorana, M. Guccione, S. Ongeri, M. Zappalà, S. Grasso, Development of novel amide as non-covalent inhibitors of immunoproteasome, Book of abstracts pag. 118, 3rd EFMC Young Medicinal Chemist Symposium, September 1-2 2016, Manchester (UK)
Poster
3. **S. Previti**, R. Ettari, S. Maiorana, S. Cosconati, T. Schirmeister, S. Grasso, M. Zappalà, Development of novel 1,4-benzodiazepines as antitrypanosomal agents, Book of abstracts pag. 52, 3rd EFMC Young Medicinal Chemist Symposium, September 1-2 2016, Manchester (UK).
Flash poster presentation.
4. **S. Previti**, R. Ettari, S. Cosconati, T. Schirmeister, P. J. Rosenthal, M. Zappalà, S. Grasso. development of novel peptide-based michael acceptors targeting rhodesain for the treatment of human african trypanosomiasis, Book of abstract pag. 29, Società Chimica Italiana WorkShop delle Sezioni Sicilia e Calabria 2016-17, February 9-10 2017, Messina, (IT)
Oral communication
5. **S. Previti**. Design, synthesis and biological evaluation of potent rhodesain inhibitors as antitrypanosomal agents. Proceedings of PhD student pag. 71-72, European School Medicinal Chemistry 2017, XXXVII Advanced Course of Medicinal Chemistry and E. Duranti National Seminar for PhD student. July 2-6 2017. Urbino (IT)
Poster

6. **S. Previti**, R. Ettari, S. Cosconati, T. Schirmeister, P. J. Rosenthal, S. Grasso, M. Zappalà. Development of novel Michael acceptors targeting rhodesain as antitrypanosomal agents. Book of abstract pag 116, 4th EFMC Young Medicinal Chemist Symposium. 31 August- 1 September 2017, Vienna (A)
Poster
7. **S. Previti**, R. Ettari, S. Cosconati, T. Schirmeister, P. J. Rosenthal, S. Grasso, M. Zappalà. Development of Novel Peptide-based Michael Acceptors Targeting Rhodesain and Falcipain-2 for the Treatment of Neglected Tropical Diseases (NTDs). Book of abstracts P48, 19th RSC/SCI Medicinal Chemistry Symposium, September 10-13 2017, Churchill College, Cambridge (UK).
Flash poster presentation
8. **S. Previti**, A. Chastel, R. Fanelli, E. Hindié, E. Rémond, C. Morgat, F. Cavelier. Novel radiopharmaceutical neurotensin analogues as potential agents for cancer theranostic. 21st GFPP meeting (Group Français des Peptides et Protéines), May 12-16 2019, Amboise (FR).
Oral communication
9. **S. Previti**, A. Chastel, R. Fanelli, E. Hindié, E. Rémond, C. Morgat, F. Cavelier. Development of novel radiolabelled neurotensin analogues: a valuable approach for NTS₁-positive tumours imaging and therapy. 6^{ème} Journée SCF d'Avenir, Société Chimique de France – Section régionale Occitanie-Méditerranée. July 16 2019, Montpellier (FR).
Oral communication
10. **S. Maiorana**, R. Ettari, **S. Previti**, S. Cosconati, M. Zappalà. Design, synthesis and biological evaluation of novel rhodesain inhibitors for the treatment of Human African Trypanosomiasis. XXVI National Meeting in Medicinal Chemistry. July 16-19 2019, Milano (IT).
Poster
11. **S. Maiorana**, R. Ettari, **S. Previti**, S. Cosconati, M. Zappalà. Development of novel irreversible rhodesain inhibitors as antitrypanosomal agents. EFMC International Symposium on Advances in Synthetic and Medicinal Chemistry. September 1-5 2019, Atene (GR).
Poster
12. **S. Previti**, A. Chastel, R. Fanelli, E. Hindié, E. Rémond, C. Morgat, F. Cavelier. Development and optimization of novel radiolabelled neurotensin analogues for NTS₁-positive tumours theranostic. 8th Annual Meeting of GDR3545, GPCR, October 9-11 2019, Montpellier (FR).
Oral communication
13. A. Chastel, R. Fanelli, **S. Previti**, D. Vimont, P. Zanotti-Fregonara, B. Guillet, P. Garrigue, L. Balasse, P. Fernandez, E. Rémond, E. Hindié, F. Cavelier, **C. Morgat**. Novel radiolabelled neurotensin analogues containing silylated amino acid for improved neurotensin receptor-1 (NTS₁) targeting. Annual Congress of the European Association of Nuclear Medicine. October 12-16 2019, Barcelona (ES).
Oral communication
14. **S. Previti**, A. Chastel, R. Fanelli, E. Hindié, E. Rémond, C. Morgat, F. Cavelier. Novel radiopharmaceuticals based on stable neurotensin analogues as promising theranostic agents for NTS₁-positive tumours. GSO-JMJC-JED congress, October 16-18 2019, Montpellier (FR).
Oral communication

15. **S. Previti**, M. Vivancos, A. Chastel, E. Rémond, C. Morgat, P. Sarret, F. Cavelier. Neurotensin, a multi-faceted peptide. Italian Young Medicinal Chemistry Virtual Meeting. Book of abstract: pag.58 (P30). July 22-24 2020. Virtual meeting
Poster

16. **C. Di Chio**, **S. Previti**, G. Amendola, S. Cosconati, M. Zappalà, R. Ettari. Discovery of novel peptidomimetics containing a benzodiazepine scaffold as inhibitors of rhodesain of Trypanosoma brucei rhodesiense. Italian Young Medicinal Chemistry Virtual Meeting. Book of abstract: pag 41 (P13). July 22-24 2020. Virtual meeting.
Poster

17. **C. Di Chio**, **S. Previti**, S. Cosconati, M. Zappalà, R. Ettari. Development of novel benzodiazepine-based peptidomimetics as inhibitors of rhodesain of Trypanosoma brucei rhodesiense. Workshop della Sezione Sicilia 2020. December 3 2020. P11 (pag. 35)– Virtual Meeting.
Poster

18. **S. Previti**, A. Chastel, R. Fanelli, E. Hindié, E. Rémond, C. Morgat, F. Cavelier. Optimization of radiopharmaceuticals based on neurotensin[8-13] for NTS1-positive tumours imaging. Workshop della Sezione Sicilia 2020. December 3 2020. P29 (pag. 56)– Virtual Meeting.
Poster

19. **C. Di Chio**, **S. Previti**, R. Ravichandran, S. Cosconati, T. Schirmeister, M. Zappalà, R. Ettari. Development of novel dipeptide nitrile as inhibitors of Trypanosoma brucei rhodesiense. 13th Young Medicinal chemist Symposium NPCF13, April 26-29 2021. Virtual meeting.
Poster

20. **S. Previti**, R. Ettari, C. Di Chio, S. Cosconati, G. Amendola, T. Schirmeister, M. Zappalà. Development of peptidyl Michael acceptors for S3 pocket investigation of rhodesain, cysteine protease of Trypanosoma brucei rhodesiense. XXVII Congresso Nazionale della Società Chimica Italiana. FAR OR025. September 14-23 2021. Virtual Meeting
Oral communication

21. **S. Bodin**, **S. Previti**, E. Jestin, D. Vimont, F. Lamare, I. Ait-Arsa, E. Hindié, F. Cavelier, C. Morgat. Double targeting of NTS1 and GRPR receptors using ⁶⁸Ga-labelled heterodimers. European Association of Nuclear Medicine October 20-23, 2021 Virtual. OP-0549, S191.
Oral communication

22. **S. Bodin**, **S. Previti**, E. Jestin, D. Vimont, F. Lamare, I. Ait-Arsa, S. S. Bertrand, E. Hindié, F. Cavelier, **C. Morgat**. New opportunity for imaging in oncology: targeting the neurotensin receptor-2 with JMV7488, a new peptide analogue radiolabelled with gallium-68. European Association of Nuclear Medicine October 20-23, 2021 Virtual. OP-0720, S255.
Oral communication

23. **S. Previti**, M. Vivancos, S. Bodin, E. Rémond, C. Morgat, P. Sarret, and F. Cavelier. Novel modified neurotensin analogues as potential agents for different therapeutic purposes. 22e GFPP / BPGM5, French-Belgian Joint Meeting, May 29th to June 3rd 2022, Port Leucate (FR).
Poster

ATTENDANCE AT CONFERENCES

1. 3rd EFMC Young Medicinal Chemist Symposium, September 1-2 2016, Manchester (UK)
2. Società Chimica Italiana, WorkShop delle Sezioni Sicilia e Calabria 2016-17, February 9-10 2017, Messina, (IT)
3. 4th EFMC Young Medicinal Chemist Symposium. August 31 / September 1 2017, Vienna (A)
4. 19th RSC/SCI Medicinal Chemistry Symposium, September 10-13 2017, Churchill College, Cambridge (UK).
5. 21st GFPP meeting (Group Français des Peptides et Protéines), May 12-16 2019, Amboise (FR).
6. 6^{ème} Journée SCF d'Avenir, Société Chimique de France – Section régionale Occitanie-Méditerranée. July 16 2019, Montpellier (FR).
7. 8th Annual Meeting of GDR3545, GPCR, October 9-11 2019, Montpellier (FR).
8. GSO-JMJC-JED congress, October 16-18 2019, Montpellier (FR).
9. Merck Organic Chemistry Symposium 2019, December 5-6 2019, Blankenberge (BE)
10. Italian Young Medicinal Chemistry 2020. July 22-24 2020. Virtual meeting.
11. Workshop della Sezione Sicilia 2020. December 3 2020. Virtual Meeting.
12. Congresso Nazionale della Società Chimica Italiana. September 14-23 2021. Virtual Meeting.
13. 22^e GFPP / BPGM5, French-Belgian Joint Meeting, May 29th to June 3rd 2022, Port Leucate (FR).

GUEST EDITOR ACTIVITY

1. Small Molecule Inhibitors as Anticancer Drugs: Advances and Challenges, Special Issue of *Molecules* (IF = 4.927). Deadline for manuscript submissions: 31 December 2022.

ATTENDANCE AT SCHOOLS

1. European School of Medicinal Chemistry (XXXV Advanced Course of Medicinal Chemistry). June 28 – July 3 2015. Urbino (IT)
2. European School of Medicinal Chemistry (XXXVI Advanced Course of Medicinal Chemistry). June 26– July 1 2016. Urbino (IT)
3. European School of Medicinal Chemistry (XXXVII Advanced Course of Medicinal Chemistry). July 2 - 6 2017. Urbino (IT)

Messina, July 31 2022