



MURIEL CUENDET

Business Address

School of Pharmaceutical Sciences
University of Geneva, University of Lausanne
Pharmacognosy
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EDUCATION

- 1995-1999 Université de Lausanne, Lausanne, Switzerland
Ph.D. degree in Phytochemistry
- 1989-1994.1 Université de Lausanne, Lausanne, Switzerland
PharmD. degree

RESEARCH EXPERIENCE

- 2009-present **Associate Professor**
School of Pharmaceutical Sciences, University of Geneva, Geneva, Switzerland
- 2007-2009 **Research Scientist**
Gerald P Murphy Cancer Foundation, West Lafayette, IN, USA

Study of natural and semi-synthetic compounds with cancer chemopreventive activity.
Testing of their activity *in vitro* and *in vivo* using pet dogs.
- 2005-2006 **Visiting Assistant Professor**
Department of Medicinal Chemistry and Molecular Pharmacology
Purdue University, West Lafayette, IN, USA

Mechanistic studies on natural inhibitors of carcinogenesis. Activity guided
fractionation of cancer chemopreventive and chemotherapeutic agents from plants and
marine organisms. *In vivo* testing of promising compounds.
- 2003-2005 **Research Assistant Professor**
Department of Medicinal Chemistry and Pharmacognosy
University of Illinois at Chicago, Chicago, IL, USA

Characterization of dietary supplements used for women's health, such as *Humulus lupulus*,
Cimicifuga racemosa and *Angelica sinensis*.
Research in the area of hormonal carcinogenesis specifically related to reactive
intermediates generated from hormone replacement therapy.
- 1999-2003 **Postdoctoral Research**
Department of Medicinal Chemistry and Pharmacognosy
University of Illinois at Chicago, Chicago, IL, USA
Supervisor: John M. Pezzuto, Ph.D.

Mechanistic studies of cancer chemopreventive agents isolated from plants.
Bruceantin, a quassinoid isolated from *Brucea* species was studied in a multiple
myeloma model. Activity guided fractionation of cancer chemopreventive agents from
plants.
- 1995-1999 **Doctoral Studies**
School of Pharmacy
University of Lausanne, Lausanne, Switzerland
Supervisor: Kurt Hostettmann, Ph.D.

Dissertation Title: *Search for new radical scavenging and antioxidant compounds from*

one Indonesian plant: *Fagraea blumei* (*Loganiaceae*) and three altitude plants: *Bartsia alpina* (*Scrophulariaceae*), *Loiseleuria procumbens* (*Ericaceae*) and *Campanula barbata* (*Campanulaceae*).

PUBLICATIONS

Peer-reviewed publications, in press or published (*list of the last 5 years, 88 publications total*)

1. Faria Freitas, M., Cuendet, M., Bertrand, P. (2018) HDAC inhibitors: a 2013-2017 patent survey, *Expert Opinion on Therapeutic Patents*, (in press).
2. Monteillier, A., Allard, P.-M., Gindro, K., Wolfender, J.-L., Cuendet, M. (2018) Lung cancer chemopreventive activity of patulin isolated from *Penicillium vulpinum*, *Molecules*, **23**, 636.
3. Berndt, S., Issa, M.E., Carpentier, G., Cuendet, M. (2018) A bivalent role of genistein in sprouting angiogenesis, *Planta Medica*, **84**, 1-10.
4. Ndongo, J.T., Ngo Mbing, J., Tala, M.F., Monteillier, A., Pegnyemb, D.E., Cuendet, M., Laatsch, H. (2017) Indoline alkaloids from *Tabernaemontana contorta* with cancer chemopreventive activity, *Phytochemistry*, **144**, 189-196.
5. Issa, M.E., Wijeratne, E.M.K., Gunatilaka, A.A.L., Cuendet, M. (2017) Withanolide D exhibits similar cytostatic effect in drug-resistant and drug-sensitive multiple myeloma cells, *Frontiers in Pharmacology*, **8**, 610.
6. Pu, W.L., Sun L.K., Gao, X.M., Rüegg, C., Cuendet, M., Hottiger, M.O., Kun, Z., Miao, L., Zhang, Y.S., Gebauer, C. (2017) Targeting tumor-associated macrophages by anti-tumor Chinese Materia Medica, *Chinese Journal of Integrative Medicine*, **23**, 723-732.
7. Issa, M.E., Cretton, S., Cuendet, M. (2017) Targeting multiple myeloma cancer stem cells with natural products – lessons from other hematological malignancies, *Planta Medica*, **83**, 752-760.
8. Simoes-Pires, C., Zwick, V., Cretton, S., Cuendet, M. (2017) Simultaneous measurement of HDAC1 and HDAC6 activity in HeLa cells using UHPLC-MS, *Journal of Visualized Experiments*, **126**, e55878.
9. Monteillier, A., Cretton, S., Ciclet, O., Marcourt, L., Ebrahimi, S., Christen, Ph., Cuendet, M. (2017) Cancer chemopreventive activity of compounds isolated from *Waltheria indica*, *Journal of Ethnopharmacology*, **203**, 214-225.
10. Issa, M.E., Sedigheh Takhasha, F., Sekhar Chirumamilla, C., Perez-Novo, C., Vanden Berghe, W., Cuendet, M. (2017) Epigenetic strategies to reverse drug resistance in heterogeneous multiple myeloma, *Clinical Epigenetics*, **9**, 17.
11. Traoré, M., Zwick, V., Simões-Pires, C., Nurisso, A., Issa, M., Cuendet, M., Maynadier, M., Wein, S., Vial, H., Jamet, H., Wong, Y.-S. (2017) Hydroxyl ketone-based histone deacetylase inhibitors to gain insight into class I HDAC selectivity versus that of HDAC6, *ACS Omega*, **2**, 1550-1562.
12. Francisco Hilario, F., Traoré, M., Zwick, V., Berry, L., Simões-Pires, C., Cuendet, M., Fantozzi, N., Pereira de Freitas, R., Maynadier, M., Wein, S., Vial, H., Wong, Y.-S. (2017) Synthesis of an uncharged tetra-cyclopeptide acting as transmembrane carrier: enhanced cellular and nuclear uptake, *Organic Letters*, **19**, 612-615.
13. Simoes-Pires, C., Bertrand, P., Cuendet, M. (2017) Novel histone deacetylase 6 (HDAC6) selective inhibitors: a patent evaluation (WO2014181137), *Expert Opinion on Therapeutic Patents*, **27**, 229-236.
14. Issa, M.E., Cuendet, M. (2017) Withaferin A induces cell death and differentiation in multiple myeloma cancer stem cells, *MedChemComm*, **8**, 112-121.

15. Del Rio-Sancho, S., Cros, C., Coutaz, B., Cuendet, M., Kalia, Y.N. (2016) Cutaneous iontophoresis of μ -conotoxin CnIIIC-A potent $\text{Na}_v1.4$ antagonist with analgesic, anaesthetic and myorelaxant properties, *International Journal of Pharmaceutics*, **518**, 59-65.
16. Zwick, V., Allard, P.M., Ory, L., Simoes-Pires, C., Marcourt, L., Gindro, K., Wolfender, J.L., Cuendet, M. (2016) UHPLC/MS-based HDAC assay applied to bio-guided microfractionation of fungal extracts, *Phytochemical Analysis*, **28**, 93-100.
17. Zwick, V., Simoes-Pires, C., Nurisso, A., Petit, C., Dos Santos Passos, C., Randazzo, G.M., Martinet, N., Bertrand, P., Cuendet, M. (2016) Synthesis of a selective HDAC6 inhibitor active in neuroblasts, *Bioorganic & Medicinal Chemistry Letters*, **26**, 4955-4959.
18. Issa, M.E., Berndt, S., Carpentier, G., Pezzuto, J.M., Cuendet, M. (2016) Bruceantin inhibits multiple myeloma cancer stem cell proliferation, *Cancer Biology and Therapy*, **17**, 966-975.
19. Zwick, V., Simoes-Pires, C., Cuendet, M. (2016) Cell-based multi-substrate assay coupled to UHPLC-ESI-MS/MS for a quick identification of class-specific HDAC inhibitors, *Journal of Enzyme Inhibition and Medicinal Chemistry*, **31**, 209-214.
20. Cretton, S., Dorsaz, S., Azzollini, A., Favre-Godal, Q., Marcourt, L., Ebrahimi, S., Voinesco, F., Michellod, E., Sanglard, D., Gindro, K., Wolfender, J.-L., Cuendet, M., Christen, Ph. (2016) Antifungal quinoline alkaloids from *Waltheria indica*, *Journal of Natural Products*, **79**, 300-307.
21. Cincinelli, R., Zwick, V., Musso, L., Zuco, V., De Cesare, M., Zunino, F., Simoes-Pires, C., Nurisso, A., Giannini, G., Cuendet, M., Dallavalle, S. (2016) Biphenyl-4-yl-acrylohydroxamic acids: identification of a novel indolyl-substituted HDAC inhibitor with antitumor activity, *European Journal of Medicinal Chemistry*, **112**, 99-105.
22. Bertrand, S., Azzollini, A., Nievergelt, A., Boccard, J., Rudaz, S., Cuendet, M., Wolfender, J.L. (2016) Statistical correlations between HPLC activity-based profiling results and NMR/MS microfractions data to deconvolute bioactive compounds in mixture, *Molecules*, **21** (3), 259.
23. Sakr, O.S., Berndt, S., Carpentier, G., Cuendet, M., Jordan, O., Borchard, G. (2016) Arming embolic beads with anti-VEGF antibodies and controlling their release using LbL technology, *Journal of Controlled Release*, **224**, 199-207.
24. Zeraik, M.L., Queiroz, E.F., Marcourt, L., Ciclet, O., Castro-Gamboa, I., Silva, D. H. S., Cuendet, M., Bolzani, V., Wolfender, J.-L. (2016) Antioxidants, quinone reductase inducers and acetylcholinesterase inhibitors from *Spondias tuberosa* fruits, *Journal of Functional Foods*, **21**, 396-405.
25. Zwick, V., Nurisso, A., Simoes-Pires, C., Martinet, N., Lehotzky, A., Ovadi, J., Cuendet, M., Blanquart, Ch., Bertrand, Ph. (2016) Cross metathesis with hydroxamate and benzamide BOC-protected alkenes to access HDAC inhibitors and their biological evaluation highlighted intrinsic activity of BOC-protected dihydroxamates, *Bioorganic & Medicinal Chemistry Letters*, **26**, 154-159.
26. Musso, L., Cincinelli, R., Zuco, V., Zunino, F., Nurisso, A., Cuendet, M., Giannini, G., Vesci, L., Pisano, C., Dallavalle, S. (2015) Investigation on the ZBG-functionality of phenyl-4-yl-acrylohydroxamic acid derivatives as histone deacetylase inhibitors, *Bioorganic & Medicinal Chemistry Letters*, **25**, 4457-4460.
27. Taibon, J., Ankli, A., Schwaiger, S., Magnenat, C., Boka, V.I., Simoes-Pires, C., Aligiannis, N., Cuendet, M., Skaltsounis, A.L., Reich, E., Stuppner, H. (2015) Prevention of false positive results: development of an HPTLC autographic assay for the detection of natural tyrosinase inhibitors, *Planta Medica*, **81**, 1198-1204.
28. Cretton, S., Breant, L., Pourrez, L., Ambuehl, Ch., Perozzo, R., Marcourt, L., Kaiser, M., Cuendet, M., Christen, Ph. (2015) Chemical constituents from *Waltheria indica* exert *in vitro* activity against *Trypanosoma brucei* and *T. cruzi*, *Fitoterapia*, **105**, 55-60.

29. Ndongo, J.T., Issa, M.E., Messi, A.N., Ngo Mbing, J., Cuendet, M., Pegnyemb, D.E., Bochet, C.G. (2015) Cytotoxic flavonoids and other constituents from the stem bark of *Ochna schweinfurthiana*, *Natural Product Research*, **2**, 1-4.
30. El Bahhaj, F., Désiré, J., Blanquart, Ch., Martinet, N., Zwick, V., Simoes-Pires, C., Cuendet, M., Grégoire, M., Bertrand, Ph. (2014) Superacid and thiol-ene reactions for access to psammaplin analogues with HDAC inhibition activities, *Tetrahedron*, **70**, 9702-9708.
31. Zwick, V., Chatzivasileiou, A.-O., Deschamps, N., Roussaki, M., Simoes-Pires, C., Nurisso, A., Denis, I., Blanquart, Ch., Martinet, N., Carrupt, P.-A., Detsi, A., Cuendet, M. (2014) Aurones as histone deacetylase inhibitors: identification of key features, *Bioorganic & Medicinal Chemistry Letters*, **24**, 5497-5501.
32. Cretton, S., Breant, L., Pourrez, L., Ambuehl, Ch., Marcourt, L., Ebrahimi, S.N., Hamburger, M. Perozzo, R., Karimou, S., Kaiser, M., Cuendet, M., Christen, Ph. (2014) Antitrypanosomal quinoline alkaloids from the roots of *Waltheria indica*, *Journal of Natural Products*, **77**, 2304-2311.
33. Kouloura, E., Danika, E., Kim, S., Hoerlé, M., Cuendet, M., Halabalaki, M., Skaltsounis, L.A. (2014) Rapid identification of coumarins from *Micromelum falcatum* by UPLC-HRMS/MS and targeted isolation of three new derivatives, *Molecules*, **19**, 15042-15057.
34. Queiroz, M.M.F., Queiroz, E.F., Zeraik, M.L., Marti, G., Favre-Godal, Q., Simoes-Pires, C., Marcourt, L., Carrupt, P.-A., Cuendet, M., Paulo, M.Q., Bolzani, V.S., Wolfender, J.-L. (2014) Antifungals and acetylcholinesterase inhibitors from the stem bark of *Croton heliotropiifolius*, *Phytochemistry Letters*, **10**, 88-93.
35. Simoes-Pires, C., Hostettmann, K., Haouala, A., Cuendet, M., Falquet, J., Graz, B., Christen, P. (2014) Reverse pharmacology for developing an anti-malarial phytomedicine. The example of *Argemone mexicana*, *Journal for Parasitology: Drugs and Drug Resistance*, **4**, 338-346.
36. Queiroz, M.M., Queiroz, E., Zeraik, M., Ebrahimi, S., Marcourt, L., Cuendet, M., Gamboa, I., Hamburger, M., Bolzani, V., Wolfender, J.-L. (2014) Chemical composition of the bark of *Tetrapteryx mucronata* and identification of acetylcholinesterase inhibitory constituents, *Journal of Natural Products*, **77**, 650-656.
37. Biloa-Messi, B., Ho, R., Meli Lannang, A., Cressend, D., Perron, K., Nkengfack, A.E., Carrupt, P.-A., Hostettmann, K., Cuendet, M. (2014) Isolation and biological activity of compounds from *Garcinia preussii*, *Pharmaceutical Biology* **52**, 706-711.

PATENTS

1. Pezzuto, J.M., McChesney, J.D., Cuendet, M.A., Helson, L. (2003). Patent: No US20030149096, WO04009078: Cancer chemopreventive compounds and composition and methods of treating cancer.
2. Zeraik M.L., Queiroz E.F., Wolfender J.L., Bolzani V., Gamboa I.C., Silva D.Q.S., Cuendet M. (2014). Patent: No BR1020140255877: processo de extração e isolamento de substâncias ativas presentes na polpa do umbu, alimentos nutracêuticos e/ou funcionais e cosméticos compreendendo as referidas substâncias ativas e seus usos.

EDITORIAL WORK

Associate Editor, *Frontiers in Ethnopharmacology* (2017 - present)

Member of the Advisory Board, *American Botanical Council* (2014 - present)

Member of the Editorial Board, *Evidence-Based Complementary and Alternative Medicine* (2014 - 2016)

Associate Editor, *Pharmaceutical Biology* (2013 - present)

Member of the Editorial Advisory Board, *Natural Products Against Cancer* (2013 - present)