



Prof. Daniele Passarella

Curriculum vitae

- 1986 Degree in Chemistry - Università degli Studi di Milano
- 1988-1991 PhD - Università degli Studi di Milano
- 1992 Post-doc under the supervision of Prof. J. Bosch - Universitat de Barcelona
- 1993 Researcher at the “Dipartimento di Chimica Organica e Industriale” (Università degli Studi di Milano)
- 2006 Ass. Prof. Chimica Organica Università degli Studi di Milano – Fac. Sc. Mat Fis. Nat.
- 2006 Collaborating Prof. Univ. Barcelona
- 2007- 2011 Chair – COST Action CM 0602 Inhibitors of Angiogenesis: Design, Synthesis and Biological Exploitation
- 2012 - 2016 Chair – Cost Action CM 1106 Chemical Approaches to Targeting Drug Resistance in cancer Stem cells

Teaching Activity in the field of Organic Chemistry, Organic Synthesis, Natural Products

Research interests: in the field of Organic and Bioorganic Chemistry

- Preparation of quality collections of heterocyclic and natural compounds with biological interest
 - New scaffolds for inhibitors of TK (*cMet*, *Abl*, *Src*), p53, HDAC, tubulin, topoisomerase I and II
- **Chemistry of Natural Products:** Camptothecin, Podophillotoxin, Thiocolchicine, Colchicine, Evodiamine, Vinca Alkaloids (vincristine, vinblastine), Makaluvamine, Piperidine Alkaloids, Epothilone A, Cannabinoids, Steroids, Maytansine
- Application of “Flow Chemistry” to “Medicinal Chemistry” and to the Synthesis of Natural Products
- Enantioselective synthesis of nitrogen containing compounds
- Preparation of hybrid compounds
 - Multiple interaction with biological targets involved in the biology of cancer
 - Preparation of prodrugs
 - Dynamic Combinatorial Libraries

Scientific communications, seminars and courses

- Papers on international journals: 122
- Patents: 1
- Conferences: 58

Collaborations (*synthesis, pharmacological evaluation, isolation of natural products, computational chemistry*)

- *National and International Research Institutions*
- *Pharmaceutical Companies*

Papers in the period 2010-2018

G. Fumagalli, L. Polito, E. Colombo, F. Foschi, M.S. Christodoulou, F. Galeotti, D. Perdicchia, I. Bassanini, S. Riva, P. Seneci, A. García-Argáez, L. Dalla Via, D. Passarella
Self-assembling Releasable Thiocolchicine-Diphenylbutenylaniline Conjugates
ACS Med. Chem.Lett.
DOI: 10.1021/acsmedchemlett.8b00605

E. Bonandi, F. Foschi, C. Marucci, F. Dapiaggi, M. Sironi, S. Pieraccini, M.S. Christodoulou, F. Balaguer, J.F. Díaz, N. Zidar,, D. Passarella
Synthesis of Thicolchicine-Based Conjugates: Investigation towards Bivalent Tubulin/Microtubules Binders
ChemPlusChem
DOI: 10.1002/cplu.201800497

F. Foschi, E. Bonandi, A. Mereu, B. Pacchetti, D. Gozzini, D. Passarella
Selective synthesis of methyl dithienyl-glycolates
Arkivoc (2018), 423-430
doi.org/10.24820/ark.5550190.p010.717

Carlino, L., Christodoulou, M.S.; Restelli, V.; Caporuscio, F.; Foschi, F.; Semrau, M.S.; Costanzi, E.; Tinivella, A.; Pinzi, L.; Lo Presti, L.; Battistutta, R.; Storici, P.; Broggin, M.; Passarella, D.; Rastelli, G.;
Structure–Activity Relationships of Hexahydrocyclopenta[c]quinoline Derivatives as Allosteric Inhibitors of CDK2 and EGFR
ChemMedChem (2018),
DOI: 10.1002/cmcd.201800687

F. Ricci, L. Carrassa, M. S. Christodoulou, D. Passarella, B. Michel, R. Benhida, N. Martinet, A. Hunyadi, E. Ioannou, V. Roussis, L. Musso, S. Dallavalle, R. Silvestri, N. Westwood, M. Mori, C. Ingallina, B. Botta, E. Kavetsou, A. Detsi, Z. Majer, F.Hudecz, S. Bősze, B. Kaminska, T.V. Hansen, P. Bertrand, C. M. Athanassopoulos, G. Damia
A High-throughput Screening of a Chemical Compound Library in Ovarian Cancer Stem Cells
Combinatorial Chemistry & High Throughput Screening – CCHTS (2018), 21, 50-56
DOI: 10.2174/1386207321666180124094055

G. Fumagalli, B. Stella, I. Pastushenko, F. Ricci, M. S. Christodoulou, G. Damia, D. Mazza, S. Arpicco, C. Giannini, L. Morosi, F. Dosio, P. A. Sotiropoulou, D. Passarella.
Hetero-Nanoparticles by self-assembly of doxorubicin and cyclopamine conjugates
ACS Med. Chem.Lett. (2017), 8 (9), 953–957
DOI: 10.1021/acsmchemlett.7b00262

Bogdán, D.; Haessner, R.; Vágvölgyi, M.d, Passarella, D.e, Hunyadi, A.d,f, Gáti, T.g, Tóth, G.d,h
Stereochemistry and complete ¹H and ¹³C NMR signal assignment of C-20-oxime derivatives of posterone 2,3-acetonide in solution state
Magnetic Resonance in Chemistry (2018), 56, 859-866
DOI: 10.1002/mrc.4750

G. Fumagalli, G. Giorgi, M. Vágvölgyi, E. Colombo, M.S. Christodoulou, V. Collico, D. Prospero, F. Dosio, A. Hunyadi, M. Montopoli, M. Hyeraci, A. Silvani, G. Lesma, L. Dalla Via, D. Passarella
Heteronanoparticles by Self-Assembly of Ecdysteroid and Doxorubicin Conjugates to Overcome Cancer Resistance
ACS Med. Chem.Lett. (2018), 9, 468
10.1021/acsmchemlett.8b00078

M. S. Christodoulou, F. Dapiaggi, F. Ghiringhelli, S. Pieraccini, M. Sironi, M. Lucafò, D. Curci, G. Decorti, G. Stocco, C. S. Chirumamilla, W.V. Berghe, P. Balaguer, B. Y. Michel, A. Burger, E. M. Beccalli, D. Passarella, N. Martinet
Imidazo[2,1-b]benzothiazol Derivatives as Potential Allosteric Inhibitors of the Glucocorticoid Receptor
ACS Med. Chem.Lett. (2018), 9, 339
DOI: 10.1021/acsmchemlett.7b00527

E. Bonandi, M. S. Christodoulou, G. Fumagalli, D. Perdicchia, G. Rastelli, D. Passarella
1,2,3-Triazole ring as bioisostere in medicinal chemistry
Drug Discovery Today (2017), 22, 1572-1581
DOI: 10.1016/j.drudis.2017.05.014

G. Fumagalli, M. S. Christodoulou, B. Riva, I. Revuelta, C. Marucci, V. Collico, D. Prospero, S. Riva, D. Perdicchia, I. Bassanini, A. García-Argáez, L. Dalla Via, D. Passarella

Self-assembled 4-(1,2-diphenylbut-1-en-1-yl)aniline based Nanoparticles: Podophyllotoxin and Aloin as building blocks
Org. Biomol. Chem., (2017), 15, 1106

M. S. Christodoulou, F. Caporuscio, V. Restelli, L. Carlino, G. Cannazza, E. Costanzi, C. Citti, L. Lo Presti, P. Pisani, R. Battistutta, M. Broggin, D. Passarella, G. Rastelli
Probing an allosteric pocket of CDK2 with small-molecules
ChemMedChem (2017), 12, 33–41
DOI is 10.1002/cmdc.201600474

A. Gabba, S. Robakiewicz, B. Taciak, K. Ulewicz, G. Broggin, G. Rastelli, M. Krol, P. V. Murphy, D. Passarella
Synthesis and Biological Evaluation of Migrastatin Macrotriazoles
Eur.J.Org.Chem. (2017), 60-69
DOI: 10.1002/ejoc.201600988

G. Cappelletti, D. Cartelli, M. S. Christodoulou, D. Passarella
Microtubule-directed therapeutic strategy for neurodegenerative disorders: starting from the basis and looking on the emergences
Current Pharmaceutical Design 2017, 23, 784-408
DOI: 10.2174/1381612822666161214150544

J. Marangon, M. S. Christodoulou, F.V.M. Casagrande, G. Tiana, L. Dalla Via, A. Aliverti, D. Passarella, G. Cappelletti, S. Ricagno
Tools for the rational design of bivalent microtubule-targeting drugs
Biochemical and Biophysical Research Communications (2016), 479, 48-53
10.1016/j.bbrc.2016.09.022

G. Fumagalli, C. Marucci, M. S. Christodoulou, B. Stella, F. Dosio, D. Passarella
Self-assembling drug-conjugates for anticancer treatment
Drug Discovery Today (2016), 21, 1321-1329
DOI: 10.1016/j.drudis.2016.06.018

R. Navakauskienė, M. Mori, M. S. Christodoulou, A. Zentelytė, B. Botta, L. Dalla Via, F. Ricci, G. Damia, D. Passarella, C. Zilio, and N. Martinet
Histones demethylating agent as potential S-adenosyl-L-methionine
MedChemComm (2016), 7, 1245-1255
DOI: 10.1039/c6md00170j

C. Marucci, M.S. Christodoulou, S. Pieraccini, M. Sironi, F. Dapiaggi, D. Cartelli, A.M. Calogero, G. Cappelletti, C. Vilanova, S. Gazzola, G. Broggin, D. Passarella
Synthesis of pironetin-dumetorine hybrids as new tubulin binders
Eur.J.Org.Chem. (2016), 2029-2036.

M. S. Christodoulou, M. Zarate, F. Ricci, G. Damia, S. Pieraccini, F. Dapiaggi, M. Sironi, L. Lo Presti, A. N. García-Argáez, L. Dalla Via and D. Passarella
4-(1,2-diarylbut-1-en-1-yl)isobutyranilide derivatives as inhibitors of topoisomerase II
Eur.J.Med.Chem (2016), 118, 79-89

Moriello AS, Luongo L, Guida F, Christodoulou MS, Perdicchia D, Maione S, Passarella D, Di Marzo V, De Petrocellis L1.
Chalcone derivatives activate and desensitize the transient receptor potential ankyrin 1 cation channel, subfamily A, member 1 TRPA1 ion channel: structure-activity relationships in vitro and anti-nociceptive and anti-inflammatory activity in vivo
CNS Neurol Disord Drug Targets. (2016), 15, 987-994.
DOI: 10.1016/j.ienj.2015.05.007

D. Perdicchia, M. Christodoulou, G. Fumagalli, F. Calogero, C. Marucci, D. Passarella
Enzymatic Kinetic Resolution of 2-Piperidineethanol for the Enantioselective Targeted and Diversity Oriented Synthesis
International Journal of Molecular Sciences (2015), 17, 17
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C. Marucci, G. Fumagalli, F. Calogero, A. Silvani, M. Christodoulou, N. Martinet, D. Passarella
Natural Products and Cancer Stem Cells
Curr. Pharm. Design (2015), 21, 5547-5557

F. Calogero, P. Allegrini, E. Attolino, D. Passarella
Synthesis of silodosin via Copper catalysed C-C arylation
Eur.J.Org.Chem. (2015), 27, 6011-6016
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M. S. Christodoulou, M. Mori, R. Pantano, R. Alfonsi, P. Infante, M. Botta, G. Damia, F. Ricci, P. A. Sotiropoulou, S. Liekens, B. Botta, D. Passarella
Click reaction as a useful tool to creatively combine pharmacophores: The case of Vismodegib
ChemPlusChem (2015), 80, 938 - 943
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G. Fumagalli, D. Mazza, M. Christodoulou, G. Damia, F. Ricci, D. Perdicchia, B. Stella, F. Dosio, P. Sotiropoulou, D. Passarella
Cyclopamine-Paclitaxel Containing Nanoparticles: Internalization Detection by Confocal Microscopy and Super-Resolution
ChemPlusChem (2015), 9, 1380-1383
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M. S. Christodoulou, F. Calogero, M. Baumann, A. N. García-Argáez, S. Pieraccini, M. Sironi, F. Dapiaggi, R. Bucci, G. Brogini, S. Gazzola, S. Liekens, A. Silvani, M. Lahtela-Kakkonen, N. Martinet, A. Nonell-Canals, E. Santamaría-Navarro, I. R. Baxendale, L. Dalla Via, D. Passarella
Boehmeriasin A as new lead compound for the inhibition of Topoisomerases and SIRT2
Eur.J.Med.Chem (2015), 92, 766-775.
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S. Borrelli, D. Cartelli, F. Secundo, G. Fumagalli, M. S. Christodoulou, A. Borroni, D. Perdicchia, F. Dosio, P. Milla, G. Cappelletti, D. Passarella
Self-assembled Squalene-based Fluorescent Hetero-Nanoparticles
ChemPlusChem (2015), 80, 47 - 49
DOI: 10.1002/cplu.201402239

S. Borrelli, M.S. Christodoulou, I. Ficarra, A. Silvani, G. Cappelletti, D. Cartelli, G. Damia, F. Ricci, M. Zucchetti, F. Dosio, D. Passarella
New class of squalene-based releasable nanoassemblies of paclitaxel, podophyllotoxin, camptothecin and epothilone A
Eur.J.Med.Chem (2014), 85, 179-190

P.A. Sotiropoulou, M.S. Christodoulou, A. Silvani, C. Herold-Mende, D. Passarella
Chemical approaches to targeting drug resistance in cancer stem cells
Drug Discovery Today (2014), 19, 1547 - 1562
DOI: 10.1016/j.drudis.2014.05.002

P. S. Colombo, G. Flamini, M. S. Christodoulou, G. Rodondi, S. Vitalini, D. Passarella, G. Fico
Farinose alpine Primula species: phytochemical and morphological investigations
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Effect of chirality and lipophilicity in the functional activity of evodiamine and its analogues at TRPV1 channels.
Br. J. Pharmacol. (2014), 171, 2608-2620
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M. S. Christodoulou, A. Sacchetti, V. Ronchetti, S. Caufin, A. Silvani, G. Lesma, G. Fontana, F. Minicone, B. Riva, M. Ventura, M. Lahtela-Kakkonen, E. Jarho, V. Zuco, F. Zunino, N. Martinet, F. Dapiaggi, S. Pieraccini, M. Sironi, L. Dalla Via, O. M. Gia, D. Passarella
Quinazolinecarboline Alkaloid Evodiamine as Scaffold for Targeting Topoisomerase I and Sirtuins
Bioorg. Med. Chem. (2013), 21, 6920-6928
DOI: 10.1016/j.bmc.2013.09.030

M. S. Christodoulou, N. Fokialakis, D. Passarella, A. N. García-Argáez, O. M. Gia, I. Pongratz, L. Dalla Via, S. A. Haroutounian **Synthesis and biological evaluation of novel tamoxifen analogues**
Bioorg. Med. Chem. (2013), 21, 4120-4131

F. Calogero, S. Borrelli, G. Speciale, M. S. Christodoulou, D. Cartelli, D. Ballinari, F. Sola, C. Albanese, A. Ciavolella, D. Passarella, G. Cappelletti, S. Pieraccini, M. Sironi **9-Fluorenone-2-carboxylic acid as scaffold for new tubulin interacting compounds**
ChemPlusChem (2013), 78, 663-669
DOI: 10.1002/cplu.201300036

D. Cartelli, F. Casagrande, C. L. Busceti, D. Bucci, G. Molinaro, A. Traficante, D. Passarella, E. Giavini, G. Battaglia, G. Cappelletti **Microtubule alterations occur early in experimental parkinsonism and the microtubule stabilizer epothilone D is neuroprotective**
Scientific Reports 2013, 3: 1837
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C. Peruzzotti, S. Borrelli, M. Ventura, R. Pantano, G. Fumagalli, M. S. Christodoulou, D. Monticelli, M. Luzzani, A. L. Fallacara, C. Tintori, M. Botta, D. Passarella **Probing the Binding Site of Abl Tyrosine Kinase Using in Situ Click Chemistry**
ACS Med. Chem. Letters 2013, 4, 274-277
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E. Riva, M. Mattarella, S. Borrelli, M. S. Christodoulou, D. Cartelli, M. Main, S. Faulkner, D. Sykes, G. Cappelletti, J. S. Snaith, D. Passarella **Preparation of Fluorescent Tubulin Binders**
ChemPlusChem 2013, 3, 222
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M. S. Christodoulou, F. Zunino, V. Zuco, S. Borrelli, D. Comi, G. Fontana, M. Martinelli, J. Lorens, L. Evensen, M. Sironi, S. Pieraccini, L. Dalla Via, O. M. Gia, D. Passarella **Camptothecin-7-yl-methanthiole: Semisynthesis and Biological Evaluation**
ChemMedChem (2012), 7, 2134-2143
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A. Furlan, B. Roux, F. Lamballe, F. Conti, N. Issaly, F. Dalan, J-F. Gullemot, S. Richelme, M. Contersin, J. Bosch, D. Passarella, O. Piccolo, R. Dono, F. Maina **Combined drug action of 2-phenylimidazo[2,1-b]benzothiazole derivatives on cancer cells according to their oncogenic molecular signatures**
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F. Colombo, C. Tintori, A. Furlan, S. Borrelli, M. S. Christodoulou, R. Dono, F. Maina, M. Botta, M. Amat, J. Bosch, D. Passarella **'Click'synthesis of a triazole-based inhibitor of Met functions in cancer cells**
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Eur.J.Med.Chem (2012), 47, 239-254

R. Gaggeri, D. Rossi, M.S. Christodoulou, D. Passarella, F. Leoni, O. Azzolina, S. Collina **Chiral flavanones from Amygdalus lycioides Spach: structural elucidation and identification of TNFalpha inhibitors by bioactivity-guided fractionation**
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Tubulin-guided dynamic combinatorial library of thiocolchicine-podophyllotoxin conjugates

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E. Riva, A. Rencurosi, S. Gagliardi, D. Passarella, M. Martinelli **The Synthesis of (+)-Dumetorine and Congeners Using Flow Chemistry Technologies**

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M. Christodoulou, F. Colombo, D. Passarella, G. Ieronimo, V. Zuco, M. De Cesare, F. Zunino **Synthesis and biological evaluation of imidazolo[2,1-b]benzothiazole derivatives, as potential p53 inhibitors**

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E. Riva, S. Gagliardi, M. Martinelli, D. Passarella, D. Vigo, A. Rencurosi **Reaction of Grignard reagents with carbonyl compounds under continuous flow conditions**

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