

**UNIVERSITÀ DEGLI STUDI DI MILANO**

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## **Alberto Dal Corso**

### **CURRICULUM VITAE**

**Personal Information**

First name / Surname **Alberto Dal Corso**  
Address Università degli Studi di Milano, Dipartimento di Chimica  
Via Golgi 19, 20133 Milan (Italy)  
e-mail alberto.dalcorso@unimi.it ; alberto.dalcorso@pec.it  
Nationality Italian  
Date of birth 24<sup>th</sup> January 1989  
ORCID 0000-0003-4437-8307

**Professional Experience**

March 2018 - now **Postdoctoral Fellow - Assegno di Ricerca di tipo A**  
Università degli Studi di Milano - Milan (Italy)  
Dipartimento di Chimica  
*Research Activities* Synthesis of small-molecule ligands for therapeutically-relevant proteins; synthesis of novel tumor-targeted conjugates and new linkers for tumor-selective release of anticancer drugs  
Position renewed from 1<sup>st</sup> March 2020 to 28<sup>th</sup> February 2022  
*Supervisor* Prof. Dr. Cesare Gennari

January 2017 - February 2018 **Postdoctoral Fellow**  
Swiss Federal Institute of Technology (ETH) - Zurich (Switzerland)  
Department of Chemistry and Applied Biosciences  
Institute of Pharmaceutical Sciences (IPW)  
1-year Scholarship granted by Novartis Foundation for Medical-Biological Research  
Project title: *Next-Generation Targeted Anticancer Drugs from DNA-Encoded Chemical Libraries*  
*Research Activities* Fragment-based drug discovery; validation and affinity maturation of small organic binders identified by screening DNA-encoded chemical libraries; determination of binding affinities ( $K_d$ ) through fluorescence polarization, surface plasmon resonance and microscale thermophoresis experiments  
*Supervisor* Prof. Dr. Dario Neri

August 2016 - December 2016 **Research Scientist**  
Philochem AG - Otelfingen (Switzerland)  
*Research Activities* Synthesis of small organic scaffolds for the construction of DNA-Encoded Chemical Libraries; synthesis of fluorescent ligands of tumor-associated antigens as tools in immunohistochemistry of tissue sections; synthesis and biological evaluation of Small Molecule-Drug Conjugates

November 2015 - July 2016

**Postdoctoral Fellow**

Swiss Federal Institute of Technology (ETH) - Zurich (Switzerland)  
Department of Chemistry and Applied Biosciences  
Institute of Pharmaceutical Sciences (IPW)

*Research Activities* Synthesis and *in vitro/in vivo* biological evaluation of Antibody-Drug Conjugates and Small Molecule-Drug Conjugates

*Supervisor* Prof. Dr. Dario Neri

**Education and Training**

October 2015

**PhD in Industrial Chemistry**

Università Degli Studi di Milano - Milan (Italy)  
Dipartimento di Chimica

*Thesis Title* "Tumor Targeting via Integrin Ligands: Synthesis and Biological Evaluation of RGD Peptidomimetic-Drug Conjugates"

*Supervisors* Prof. Dr. Cesare Gennari (tutor, University of Milan)  
Dr. Luca Pignataro (academic co-tutor, University of Milan)  
Dr. Michele Caruso (industrial co-tutor, Nerviano Medical Sciences)

October 2012

**MSc in Chemical Sciences (110/110)**

Università Degli Studi di Milano - Milan (Italy)

*Principal subjects* Organic chemistry, advanced synthetic and catalytic methodologies, medicinal chemistry

*Thesis Title* "Synthesis of cyclic peptidomimetics containing the isoDGR sequence as new potent integrin ligands"

*Supervisors* Prof. Dr. Cesare Gennari (tutor, University of Milan)  
Dr. Luca Pignataro (co-tutor, University of Milan)

**Teaching and tutoring  
Activities**

March - June 2020

10-hour tutoring activity within the course "Chimica Organica I" supervised by Prof. A. Bernardi (B.Sc. course in Chemistry, Università degli Studi di Milano) according to Art. 45 of the General Regulation of the University of Milan

March - June 2019

20-hour tutoring activity within the course "Laboratorio di Chimica (con Prevenzione e Sicurezza)" supervised by prof. Passarella/Raimondi/Rizzato/Carlucci/Rossi (B.Sc. course in Biological Sciences, Università degli Studi di Milano) according to Art. 45 of the General Regulation of the University of Milan

April - June 2014/2015

In charge of exercise sessions within the course "Approfondimenti di Chimica Organica" supervised by prof. Passarella (B.Sc. course in Chemistry, Università degli Studi di Milano)

**Contribution to  
Network Grants**

November 2019 - now

Participation to the research project: "Small Molecule Drug Conjugates for Targeted Delivery in Tumor Therapy" (MAGICBULLET::RELOADED).  
Funding Program: "Marie Skłodowska-Curie" ITN-ETN Network (Horizon 2020) contract no. 861316.  
Funding agency: European Commission.  
Coordinator: Prof. Norbert Sewald (University of Bielefeld, Germany).  
Partner units: Università degli Studi di Milano (UNIMI), 8 other academic partners, 1 public research institute and 5 industrial partners. Scientist in Charge of the UNIMI unit: Prof. Cesare Gennari.  
Start/end date of the project: 1<sup>st</sup> November 2019 - 31<sup>st</sup> October 2023.

*Role of the candidate  
within the project*

Elaboration of the scientific program; contribution to the candidate selection for the doctoral fellowship; participation to the kick-off Network meeting; day-to-day training of the PhD student.

March 2018 - February 2020 Participation to the research project: "Tumor-targeting peptidomimetics: synthesis and bio-medical applications".  
 Funding Program: PRIN 2015, project no. 20157WW5EH.  
 Funding agency: Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR).  
 Coordinator: Prof. Cesare Gennari (Università degli Studi di Milano).  
 Partner units: Università degli Studi di Milano and 8 other academic partners.  
 Start/end date of the project: 5<sup>th</sup> February 2017 - 5<sup>th</sup> February 2020.

*Role of the candidate within the project* Elaboration of the scientific program and practical laboratory work; day-to-day training of Master and PhD students; article writing and submission for publication.

January 2015 - October 2015 Participation to the research project: "Peptide-Drug Conjugates for Targeted Delivery in Tumor Therapy"  
March 2018 - December 2018 (MAGICBULLET).  
 Funding Program: "Marie Skłodowska-Curie" ITN-ETN Network (Horizon 2020), contract no. 642004.  
 Funding agency: European Commission.  
 Coordinator: Prof. Norbert Sewald (University of Bielefeld, Germany).  
 Partner units: Università degli Studi di Milano (UNIMI), 6 other academic partners and 2 industrial partners.  
 Scientist in Charge of the UNIMI unit: Prof. Cesare Gennari.  
 Start/end date of the project: 1<sup>st</sup> January 2015 - 31<sup>st</sup> December 2018

*Role of the candidate within the project* Elaboration of the scientific program; day-to-day training of PhD students; article writing and submission for publication.

### **Additional Courses and Activities**

28<sup>th</sup> February 2019 Attended training course: "*Incontro di formazione organizzato dal COSP nell'ambito del Piano Lauree Scientifiche (PLS)*" - Università degli Studi di Milano (Italy)

3<sup>rd</sup> - 5<sup>th</sup> April 2017 Individual training session on Microscale Thermophoresis (MST) - NanoTemper Technologies GmbH, Munich (Germany)

Since 2017 Reviewer for international journals such as EBioMedicine (Elsevier, IF 2019: 5.736), Molecular Cancer Therapeutics (AACR; IF 2019: 5.615) and Molecules (MDPI, IF 2019: 3.267)

### **Prizes and Awards**

- Prize "Organic Chemistry for Life Sciences 2019 - Junior" by the Organic Chemistry Division of the Italian Chemical Society (SCI)

### **Publications and Communication Activities**

#### *Communications in International Conferences*

- Junior Prize Lecture at the "XXXIX Convegno Nazionale della Divisione di Chimica Organica della Società Chimica Italiana" (PR-J4, Torino, Italy; 8<sup>th</sup> - 12<sup>th</sup> September 2019): "*New-generation Self-Immolative Spacers Enable Fast Release of Anticancer Drugs*"
- Flash Communication at the "XXII International Conference on Organic Synthesis - 22-ICOS" (FLP8, Firenze, Italy; 16<sup>th</sup> - 21<sup>st</sup> September 2018): "*Chemically-defined Antibody- and Small Molecule-Drug Conjugates for in vivo Tumor Targeting Applications: a Comparative Analysis*" - Scholarship granted by Società Chimica Italiana
- Flash Communication at the 25<sup>th</sup> Meeting of the Portuguese Chemical Society (FC2, Lisbon, Portugal; 16<sup>th</sup> - 19<sup>th</sup> June 2017): "*Noninternalizing antibody-drug conjugates release potent cytotoxic agents at the tumor site upon proteolytic linker cleavage*"
- Oral Communication at the 40<sup>th</sup> ed. "A. Corbella" International Summer School on Organic Synthesis ISOS 2015 (O4, Gargnano, Italy; 14<sup>th</sup> - 18<sup>th</sup> June 2015): "*Synthesis and Biological Evaluation of RGD Peptidomimetic-Paclitaxel Conjugates bearing Lysosomally Cleavable Linkers*" - Scholarship granted by Società Chimica Italiana

- Poster Communication at the Ischia Advanced School of Organic Chemistry (P12, Lacco Ameno - Ischia - Naples, Italy; 21<sup>st</sup> - 25<sup>th</sup> September 2014): "Synthesis and Biological Evaluation of a New RGD-Camptothecin Conjugate Bearing a Cathepsin B-Sensitive Linker" - Scholarship granted by Società Chimica Italiana

#### Book Chapter

- A. Dal Corso, S. Cazzamalli, D. Neri. (2018) *Antibody-Drug Conjugates: Targeting the Tumor Microenvironment*. DOI: 10.1007/978-3-319-78154-9\_13  
In: Damelin M. (eds) "Innovations for Next-Generation Antibody-Drug Conjugates"  
Cancer Drug Discovery and Development. Humana Press, Cham

#### Publications - Outreach Activities

- A. Dal Corso – Chemioterapia a Bersaglio Molecolare.  
*La Chimica e L'industria* **2020**, 3, 59-61. DOI: 10.17374/CI.2020.102.3.59

#### Publications in Peer-Reviewed International Journals

\* = corresponding Author

‡ = equal contribution

- [26] A. Pina, M. Kadri, D. Arosio, A. Dal Corso, J. L. Coll, C. Gennari, D. Boturny, Multimeric Presentation of RGD Peptidomimetics Enhances Integrin Binding and Tumor Cell Uptake.  
*Chem. Eur. J.* **2020**, 26, 7492-7496  
IF (2019) 4.857 – Citations (Scopus): 0 (Total) 0 (Excluding self-citations)
- [25] A. Dal Corso,\* V. Borlandelli, C. Corno, P. Perego, L. Belvisi, L. Pignataro, C. Gennari\* - Fast Cyclization of a Proline-Derived Self-Immolative Spacer Improves the Efficacy of Carbamate Prodrugs.  
*Angew. Chem. Int. Ed.* **2020**, 59, 4176-4181  
IF (2019) 12.959 – Citations (Scopus): 1 (Total) 1 (Excluding self-citations)
- [24] G. Sacco, A. Dal Corso,\* D. Arosio, L. Belvisi, M. Paolillo, L. Pignataro, C. Gennari\* - A dimeric bicyclic RGD ligand displays enhanced integrin binding affinity and strong biological effects on U-373 MG glioblastoma cells.  
*Org. Biomol. Chem.* **2019**, 17, 8913-8917  
IF (2019) 3.412 – Citations (Scopus): 0 (Total) 0 (Excluding self-citations)
- [23] A. Dal Corso,\* L. Pignataro, L. Belvisi, C. Gennari\* - Innovative linker strategies for tumor-targeted drug conjugates.  
*Chem. Eur. J.* **2019**, 25, 14740-14757  
IF (2019) 4.857 – Citations (Scopus): 3 (Total) 2 (Excluding self-citations)  
- Selected by the Editors for the "Review Showcase" of *Chem. Eur. J.*  
- Recognized as a "Top Downloaded Paper 2018-2019", being among the top 10% downloaded articles published in *Chem. Eur. J.* from January 2018 to December 2019.
- [22] X. Bai, F. Aiolfi, M. Cettolin, U. Piarulli, A. Dal Corso, L. Pignataro, C. Gennari - Hydrogen-Borrowing Amination of Secondary Alcohols Promoted by a (Cyclopentadienone)iron Complex.  
*Synthesis* **2019**, 51, 3545-3555  
IF (2019) 2.675 – Citations (Scopus): 2 (Total) 2 (Excluding self-citations)
- [21] P. López Rivas, C. Müller, C. Breunig, T. Hechler, A. Pahl, D. Arosio, L. Belvisi, L. Pignataro, A. Dal Corso, C. Gennari -  $\beta$ -Glucuronidase Triggers Extracellular MMAE Release from an Integrin-Targeted Conjugate.  
*Org. Biomol. Chem.* **2019**, 17, 4705-4710  
IF (2019) 3.412 – Citations (Scopus): 1 (Total) 0 (Excluding self-citations)
- [20] A. Raposo Moreira Dias, L. Boderio, A. Martins, D. Arosio, S. Gazzola, L. Belvisi, L. Pignataro, C. Steinkühler, A. Dal Corso, C. Gennari, U. Piarulli - Synthesis and Biological Evaluation of RGD and isoDGR-Monomethyl Auristatin Conjugates Targeting Integrin  $\alpha v \beta_3$ .  
*ChemMedChem* **2019**, 14, 938-942  
IF (2019) 3.124 – Citations (Scopus): 1 (Total) 0 (Excluding self-citations)
- [19] X. Bai, M. Cettolin, G. Mazzocanti, M. Pierini, U. Piarulli, V. Colombo, A. Dal Corso, L. Pignataro, C. Gennari - Chiral (cyclopentadienone)iron complexes with a stereogenic plane as pre-catalysts for the asymmetric hydrogenation of polar double bonds.  
*Tetrahedron* **2019**, 75, 1415-1424  
IF (2019) 2.233 – Citations (Scopus): 4 (Total) 3 (Excluding self-citations)

- [18] A. Raposo Moreira Dias, A. Pina, A. Dean, H.-G. Lerchen, M. Caruso, F. Gasparri, I. Fraietta, S. Troiani, D. Arosio, L. Belvisi, L. Pignataro, A. Dal Corso, C. Gennari - Neutrophil Elastase Promotes Linker Cleavage and Paclitaxel Release from an Integrin-Targeted Conjugate.  
*Chem. Eur. J.* **2019**, 25, 1696-1700  
IF (2019) 4.857 – Citations (Scopus): 9 (Total) 4 (Excluding self-citations)  
- Marked as "Hot Paper" by *Chem. Eur. J.*  
- Highlighted in ChemViews Magazine edited by Wiley-VCH and ChemPubSoc Europe: *Tumor Targeting Using Cancer-Associated Inflammation* ([www.chemistryviews.org](http://www.chemistryviews.org)).
- [17] P. López Rivas, I. Randelović, A. Raposo Moreira Dias, A. Pina, D. Arosio, J. Tóvári, G. Mező, A. Dal Corso, L. Pignataro, C. Gennari - Synthesis and Biological Evaluation of Paclitaxel Conjugates Involving Linkers Cleavable by Lysosomal Enzymes and  $\alpha\beta_3$ -Integrin Ligands for Tumor Targeting.  
*Eur. J. Org. Chem.* **2018**, 2018, 2902-2909  
IF (2019) 2.889 – Citations (Scopus): 6 (Total) 3 (Excluding self-citations)
- [16] A. Dal Corso,<sup>†</sup> M. Catalano,<sup>‡</sup> A. Schmid, J. Scheuermann, D. Neri - Affinity enhancement of protein ligands by reversible covalent modification of neighboring lysine residues.  
*Angew. Chem. Int. Ed.* **2018**, 57, 17178-17182  
IF (2019) 12.959 – Citations (Scopus): 6 (Total) 6 (Excluding self-citations)  
- Highlighted in "Swiss Science Concentrates", edited by the Swiss Chemical Society: - Affinity Enhancement of Protein Ligands by Reversible Covalent Modifications (*CHIMIA* **2019**, 73, 205)  
- Featured in the Virtual Issue: "54<sup>th</sup> Bürgenstock Conference" (*Angew. Chem. Int. Ed.*, 1 May 2018)
- [15] S. Cazzamalli, A. Dal Corso, F. Widmeyer, D. Neri - Chemically-defined antibody- and small molecule-drug conjugates for *in vivo* tumor targeting applications: a comparative analysis.  
*J. Am. Chem. Soc.* **2018**, 140, 1617-1621  
IF (2019) 14.612 – Citations (Scopus): 33 (Total) 28 (Excluding self-citations)  
- Highlighted in "Medicinal Chemistry and Chemical Biology Highlights", edited by the Swiss Chemical Society: K. H. Altmann - *Tumor Targeting with Small Molecule-Drug Conjugates (SMDCs) - Can They be Better than ADCs?* (*CHIMIA* **2018**, 72, 154-155).
- [14] S. Cazzamalli, A. Dal Corso, D. Neri - Targeted Delivery of Cytotoxic Drugs: Challenges, Opportunities and New Developments.  
*CHIMIA* **2017**, 71, 712-715  
IF (2019) 1.478 – Citations (Scopus): 3 (Total) 3 (Excluding self-citations)
- [13] M. Bigatti, A. Dal Corso, S. Vanetti, S. Cazzamalli, U. Rieder, J. Scheuermann, D. Neri, F. Sladojevich - Impact of a central scaffold on the binding affinity of fragment pairs isolated from DNA-encoded self-assembling chemical libraries.  
*ChemMedChem* **2017**, 12, 1748-1752  
IF (2019) 3.124 – Citations (Scopus): 10 (Total) 9 (Excluding self-citations)
- [12] A. Dal Corso, R. Gébleux, P. Murer, A. Soltermann, D. Neri - A non-internalizing antibody-drug conjugate based on an anthracycline payload displays potent therapeutic activity *in vivo*.  
*J. Control. Release* **2017**, 264, 211-218  
IF (2019) 7.727 – Citations (Scopus): 21 (Total) 15 (Excluding self-citations)
- [11] A. Raposo Moreira Dias, A. Pina, A. Dal Corso, D. Arosio, L. Belvisi, L. Pignataro, M. Caruso, C. Gennari - Multivalency Increases the Binding Strength of RGD Peptidomimetic-Paclitaxel Conjugates to Integrin  $\alpha\beta_3$ .  
*Chem. Eur. J.* **2017**, 23, 14410-14415  
IF (2019) 4.857 – Citations (Scopus): 11 (Total) 5 (Excluding self-citations)
- [10] A. Dal Corso,<sup>†</sup> S. Cazzamalli,<sup>‡</sup> R. Gébleux, M. Mattarella, D. Neri - Protease-Cleavable Linkers Modulate the Anticancer Activity of Noninternalizing Antibody-Drug Conjugates.  
*Bioconjugate Chem.* **2017**, 28, 1826-1833  
IF (2019) 4.031 – Citations (Scopus): 24 (Total) 18 (Excluding self-citations)
- [9] A. Pina, A. Dal Corso, M. Caruso, L. Belvisi, D. Arosio, S. Zanella, F. Gasparri, C. Albanese, U. Cucchi, I. Fraietta, A. Marsiglio, L. Pignataro, D. Donati, C. Gennari - Targeting Integrin  $\alpha\beta_3$  with Theranostic RGD-Camptothecin Conjugates Bearing a Disulfide Linker: Biological Evaluation Reveals a Complex Scenario.  
*ChemistrySelect* **2017**, 2, 4759-4766  
IF (2019) 1.811 – Citations (Scopus): 9 (Total) 4 (Excluding self-citations)
- [8] S. Cazzamalli,<sup>†</sup> A. Dal Corso,<sup>‡</sup> D. Neri - Linker stability influences the anti-tumor activity of acetazolamide-drug conjugates for the therapy of renal cell carcinoma.  
*J. Control. Release* **2016**, 246, 39-45  
IF (2019) 7.727 – Citations (Scopus): 33 (Total) 27 (Excluding self-citations)

- [7] S. Cazzamalli, A. Dal Corso, D. Neri - Acetazolamide serves as selective delivery vehicle for dipeptide-linked drugs to renal cell carcinoma.  
*Mol. Cancer Ther.* **2016**, 15, 2926-2935  
IF (2019) 5.615 – Citations (Scopus): 23 (Total) 14 (Excluding self-citations)
- [6] A. Dal Corso, L. Pignataro, L. Belvisi, C. Gennari -  $\alpha_v\beta_3$  Integrin-Targeted Peptide/Peptidomimetic-Drug Conjugates: In-Depth Analysis of the Linker Technology.  
*Curr. Top. Med. Chem.* **2016**, 16, 314-329  
IF (2019) 3.218 – Citations (Scopus): 31 (Total) 24 (Excluding self-citations)
- [5] S. Zanella, M. Mingozi, A. Dal Corso, R. Fanelli, D. Arosio, M. Cosentino, L. Schembri, F. Marino, M. De Zotti, F. Formaggio, L. Pignataro, L. Belvisi, U. Piarulli, C. Gennari - Synthesis, characterization and biological evaluation of a dual action ligand targeting  $\alpha_v\beta_3$  integrin and VEGF receptors.  
*ChemistryOpen* **2015**, 4, 633-641  
IF (2019) 2.370 – Citations (Scopus): 16 (Total) 12 (Excluding self-citations)
- [4] A. Dal Corso, M. Caruso, L. Belvisi, D. Arosio, U. Piarulli, C. Albanese, F. Gasparri, A. Marsiglio, F. Sola, S. Troiani, B. Valsasina, L. Pignataro, D. Donati, C. Gennari - Synthesis and Biological Evaluation of RGD Peptidomimetic-Paclitaxel Conjugates bearing Lysosomally Cleavable Linkers.  
*Chem. Eur. J.* **2015**, 21, 6921-6929  
IF (2019) 4.857 – Citations (Scopus): 35 (Total) 23 (Excluding self-citations)
- [3] S. Panzeri, S. Zanella, D. Arosio, L. Vahdati, A. Dal Corso, L. Pignataro, M. Paolillo, S. Schinelli, L. Belvisi, C. Gennari, U. Piarulli - Cyclic *iso*DGR and RGD Peptidomimetics Containing Bifunctional Diketopiperazine Scaffolds are Integrin Antagonists.  
*Chem. Eur. J.* **2015**, 21, 6265-6271  
IF (2019) 4.857 – Citations (Scopus): 24 (Total) 19 (Excluding self-citations)
- [2] M. Mingozi, L. Manzoni, D. Arosio, A. Dal Corso, M. Manzotti, F. Innamorati, L. Pignataro, D. Lecis, D. Delia, P. Seneci, C. Gennari - Synthesis and biological evaluation of dual action *cyclo*-RGD/SMAC mimetic conjugates targeting  $\alpha_v\beta_3/\alpha_v\beta_5$  integrins and IAP proteins.  
*Org. Biomol. Chem.* **2014**, 12, 3288-3302  
IF (2019) 3.412 – Citations (Scopus): 17 (Total) 10 (Excluding self-citations)
- [1] M. Mingozi, A. Dal Corso, M. Marchini, I. Guzzetti, M. Civera, U. Piarulli, D. Arosio, L. Belvisi, D. Potenza, L. Pignataro, C. Gennari - Cyclic *iso*DGR Peptidomimetics as Low-Nanomolar  $\alpha_v\beta_3$  Integrin Ligands.  
*Chem. Eur. J.* **2013**, 19, 3563-3567  
IF (2019) 4.857 – Citations (Scopus): 25 (Total) 23 (Excluding self-citations)

#### Bibliometric data (Scopus)

Scopus ID: 55614026700  
Total Publications in Peer-Reviewed Journals: 26  
Total Impact Factor: 132.8  
Average Impact Factor per Article: 5.1  
Citations: 348 (Total) 255 (Excluding self-citations)  
Average Citations per Article: 13.4 (Total) 9.8 (Excluding self-citations)  
h Index: 11 (Total) 10 (Excluding self-citations)

Data

07/07/2020

Luogo

Milano