



## **Prof. Dr. med. Christoph Driessen**

chief physician / head of institution

Medizinische Onkologie und Hämatologie · Dept. I

### **Contact**

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### **Units**

Medizinische Onkologie und Hämatologie

### **Former Positions**

01/96 - 06/96: Clinical Resident (Assistenzarzt), Department of Rheumatology and Clinical Immunology, University of Freiburg i.Br., Medical Center, Prof. H.H. Peter

07/96 - 04/98 and 05/00 - 12/05: Clinical Resident (Assistenzarzt, Facharzt) Department of Hematology/Oncology/Immunology/Rheumatology, University of Tübingen Medical Center

04/98 - 05/00: Research Fellow, Harvard Medical School, Immunology and Protease Biology, Prof. Hidde Ploegh

12/04: Board-certified in Internal Medicine (Facharzt Innere Medizin)

(Zusatzbezeichnung Hämatologie/Onkologie)

12/05: Habilitation of Internal Medicine

01/06: Consulting Hematologist/Oncologist (Oberarzt), Associate Professor, Department of Hematology/Oncology/Immunology, University of Tübingen Medical Center (Head: Prof. L. Kanz)

10/06: Board-certified for Haematology/Oncology

06/00 - present: Head of Laboratory for Immunology and Protease Biology

Since 11/06: Department of Oncology/Hematology Kantonsspital St.Gallen (KSSG)

Since 07/08: Head of Clinical Trials Unit Kantonsspital St.Gallen (KSSG), Senior mbf

### **Profile Function**

chief physician / head of institution

## **Research Area**

Design and application of small-molecule protease inhibitors as

a) research tools to dissect the biology of protease networks (functional proteomics)

b) potential therapeutic agents in cancer and autoimmunity (combinatorial chemistry-approach, high-throughput screening)

## **Affiliations**

German Society for Immunobiology

American Society for Hämatology

## Publications (125)

Kliebhan J, Besse A, Kampa-Schittenhelm K, Schittenhelm M, Driessen C. Mutant driving the Warburg Effect in Mantle Cell lymphoma.. *Clin Case Rep* 2022; 10:e6296.

Ferguson I, Lin Y, Lam C, Shao H, Tharp K, Hale M, Kasap C, Mariano M, Kishishita A, Patiño Escobar B, Mandal K, Steri V, Wang D, Phojanakong P, Tuomivaara S, Hann B, Driessen C, Van Ness B, Gestwicki J, Wiita A. Allosteric HSP70 inhibitors perturb mitochondrial proteostasis and overcome proteasome inhibitor resistance in multiple myeloma.. *Cell Chem Biol* 2022; 29:1288-1302.e7.

Ferguson I, Patiño-Escobar B, Tuomivaara S, Lin Y, Nix M, Leung K, Kasap C, Ramos E, Nieves Vasquez W, Talbot A, Hale M, Naik A, Kishishita A, Choudhry P, Lopez-Girona A, Miao W, Wong S, Wolf J, Martin T, Shah N, Vandenberg S, Prakash S, Besse L, Driessen C, Posey A, Mullins R, Eyquem J, Wells J, Wiita A. The surfaceome of multiple myeloma cells suggests potential immunotherapeutic strategies and protein markers of drug resistance.. *Nat Commun* 2022; 13:4121.

Schwestermann J, Besse A, Driessen C, Besse L. Contribution of the Tumor Microenvironment to Metabolic Changes Triggering Resistance of Multiple Myeloma to Proteasome Inhibitors.. *Front Oncol* 2022; 12:899272.

Lalive d'Epina M, Güsewell S, Graf N, Mey U, Driessen C, Hitz F. Outcome of older myeloma patients in relationship to comorbidities and availability of second-generation novel agents in a real-life setting.. *Hematol Oncol* 2022; 40:716-723.

Besse A, Kraus M, Mendez-Lopez M, Maurits E, Overkleeft H, Driessen C, Besse L. Immunoproteasome Activity in Chronic Lymphocytic Leukemia as a Target of the Immunoproteasome-Selective Inhibitors.. *Cells* 2022; 11

Berner F, Appenzeller C, Cicin-Sain C, Lenz T, Speiser D, Ludewig B, Driessen C, Jörger M, Früh M, Jochum W, Cozzio A, Rammensee H, Walz J, Neeffjes J, Baumgaertner P, Abdou M, Dubbelaar M, Niederer R, Luimstra J, Pop O, Jochum A, Purde M, Hasan Ali O, Bomze D, Bauer J, Freudenmann L, Marcu A, Wolfschmitt E, Haen S, Gross T, Flatz L. Keratinocyte differentiation antigen-specific T cells in immune checkpoint inhibitor-treated NSCLC patients are associated with improved survival. *Oncoimmunology* 2021; 10:2006893.

Ludwig H, Weisel K, Jackson G, Garderet L, van de Donk N, Leleu X, Goldschmidt H, Beksac M, Nijhof I, Schreder M, Abildgaard N, Hájek R, Zojer N, Kastritis E, Broijl A, Schjesvold F, Boccadoro M, Caers J, Delforge M, Sonneveld P, Facon T, San-Miguel J, Avet-Loiseau H, Mohty M, Mateos M, Moreau P, Cavo M, Pawlyn C, Zweegman S, Engelhardt M, Driessen C, Cook G, Dimopoulos M, Gay F, Einsele H, Terpos E. COVID-19 vaccination in patients with multiple myeloma: a consensus of the European Myeloma Network. *Lancet Haematol* 2021; 8:e934-e946.

Bolomsky A, Caers J, Hübl W, Schreder M, Zojer N, Driessen C, Tang J, Besse L, Heckman C, Kubicek S, Hannich J, Miettinen J, Maljutina A, Besse A, Huber J, Fellingner S, Breid H, Parsons A, Klavins K, Ludwig H. Heterogeneous modulation of Bcl-2 family members and drug efflux mediate MCL-1 inhibitor resistance in multiple myeloma. *Blood Adv* 2021; 5:4125-4139.

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Driessen C, Noppen C, Boonen G, Drewe J. Complete hematological and major molecular response through treatment with low-dose Interferon alpha 2a in high-risk polycythemia vera patient: a case report. *Clin Case Rep* 2021; 9:e04903.

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Bringhen S, Ludwig H, Driessen C, Auner H, Caers J, Gramatzki M, Dimopoulos M, Boccadoro M, Einsele H, Sonneveld P, Cavo M, Goldschmidt H, Milan A, D'Agostino M, Ferri C, Wäsch R, Gay F, Larocca A, Offidani M, Zweegman S, Terpos E, Engelhardt M. Prevention, monitoring and treatment of cardiovascular adverse events in myeloma patients receiving carfilzomib A consensus paper by the European Myeloma Network and the Italian Society of Arterial Hypertension. *J Intern Med* 2019; 286:63–74.

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Downey-Kopyscinski S, Overkleeft H, Driessen C, Richardson P, Mitsiades C, Florea B, Bhatt A, Gautier M, Daily E, Kisselev A. An inhibitor of proteasome  $\beta$ 2 sites sensitizes myeloma cells to immunoproteasome inhibitors. *Blood Adv* 2018; 2:2443–2451.

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Ludwig H, Cook G, Leleu X, Goldschmidt H, Jackson G, Kaiser M, Weisel K, van de Donk N, Waage A, Beksac M, Mellqvist U, Engelhardt M, Caers J, Driessen C, Bladé J, Mateos M, Garderet L, Delforge M, Facon T, Einsele H, Gay F, Moreau P, Avet-Loiseau H, Boccadoro M, Hájek R, Mohty M, Cavo M, Dimopoulos M, San-Miguel J, Terpos E, Zweegman S, Sonneveld P. Prevention and management of adverse events of novel agents in multiple myeloma: a consensus of the European Myeloma Network. *Leukemia* 2018

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## Projects (23)

**A Study to Evaluate Imetelstat (GRN163L) in Transfusion-Dependent Subjects with IPSS Low or Intermediate-1 Risk Myelodysplastic Syndrome (MDS) that is Relapsed/Refractory to Erythropoiesis-Stimulating Agent (ESA) Treatment**

*Clinical Studies - Mar 15, 2021 - Apr 7, 2030*

*Scheduled*

**A Phase 1b/2 Multicenter, Open-label, Expansion Study to Assess the Safety and Efficacy of AMG 420 as Monotherapy in Subjects With Relapsed and/or Refractory Multiple Myeloma**

*Clinical Studies - Dec 5, 2019 - Dec 23, 2020*

*Automatically Closed*

**Klinische Phase-I-Studie zur Beurteilung der Sicherheit, der pharmakokinetischen Profile sowie der Wirksamkeit von EDO-S101, einem First-in-Class alkylierenden HDA-Ci-Fusionsmolekül, bei rezidivierenden/refraktären hämatologischen Malignitäten**

*Clinical Studies - May 4, 2016 - Jan 1, 2018*

*Automatically Closed*

**Combination of ibrutinib and bortezomib followed by ibrutinib maintenance to treat patients with relapsed and refractory mantle cell lymphoma; a multicenter Phase I/II trial**

*Clinical Studies - Sep 9, 2015 - Mar 31, 2021*

*Automatically Closed*

**Improving the activity of proteasome inhibitors for potential treatment of**

*Fundamental Research - Mar 31, 2015 - Dec 7, 2018*

*Automatically Closed*

**HOVON 103 / SAKK 30/10 protocol Tosedostat**

*Clinical Studies - Mar 19, 2015 - Mar 19, 2015*

*Automatically Closed*

**Etablierung eines humanisierten Maus-Myelom-Modells**

*Fundamental Research - May 1, 2014 - Dec 31, 2015*

*Automatically Closed*

**In vitro proteotoxic synergism of nelfinavir and carfilzomib in solid cancer cell lines**

*Fundamental Research - Mar 1, 2013 - Dec 31, 2014*

*Automatically Closed*

**Development and preclinical characterization of third-generation proteasome inhibitors**

*Clinical Studies - Jan 1, 2013 - Dec 31, 2015*

*Automatically Closed*

**In vitro proteotoxic synergism of nelfinavir and carfilzomib in solid cancer cell lines**

*Fundamental Research - Jan 1, 2013 - Dec 31, 2014*

*Automatically Closed*

**Praeklinische Charakterisierung neuer Einsatzmöglichkeiten von Proteasominhibitoren zur Vorbereitung innovativer klinischer Investigator-initiiertes Studien in der Onkologie**

*Fundamental Research - Jul 1, 2012 - Jun 30, 2013*

*Automatically Closed*

**SAKK 39/10**

*Clinical Studies - Apr 11, 2012 - Jun 11, 2014*

*Automatically Closed*

**An open, multicentric phase II trial to evaluate the efficacy and safety of Bendamustine, Lenalidomide (Revlimid®) and Dexamethasone (BRd) as 2nd-line therapy for patients with relapsed or refractory multiple myeloma**

*Clinical Studies - Feb 17, 2012 - Jul 17, 2014*

*Automatically Closed*

**Master Protokoll: A Program of randomized phase II multicenter studies to assess the tolerability and efficacy of the addition of new drugs to standard induction chemotherapy in AML and RAEB ≥ 66 years and very poor risk AML ≥ 66 years**

*Clinical Studies - Feb 9, 2012 - Feb 9, 2016*

*Automatically Closed*

**Development of third-generation proteasome inhibitors for clinical applications**

*Clinical Studies - Jan 1, 2012 - Dec 31, 2012*

*Automatically Closed*

**Randomized study with a run-in feasibility phase to assess the added value of Clofarabine in combination with standard remission-induction chemotherapy in patients aged 18-65 years with previously untreated acute myeloid leukemia (AML) or myelodysplasia (MDS) RAEB with IPSS (größer gleich 1.5) A multicenter phase III trial**

*Clinical Studies - Oct 22, 2010 - Dec 31, 2013*

*Automatically Closed*

**Phase I trial of nelfinavir and bortezomib in advanced hematologic malignancies**

*Clinical Studies - Jun 15, 2010 - Sep 30, 2011*

*Automatically Closed*

**Phase III trial of combined immunochemotherapy with Fludarabine, Cyclophosphamide and Rituximab (FCR) versus Bendamustine and Rituximab (BR) in patients with previously untreated chronic lymphocytic leukaemia**

*Clinical Studies - May 31, 2010 - Jan 31, 2015*

*Automatically Closed*

**Rituximab, bendamustine and lenalidomide in patients with relapsed or refractory aggressive B-cell lymphoma not eligible for high dose chemotherapy. A phase I/II trial**

*Clinical Studies - Dec 2, 2009 - Apr 30, 2012*

*Automatically Closed*

**An open-label, multi-centre, dose escalating, phase I/II study to investigate the safety and tolerability of RO5072759 given as monotherapy in patients with CD 20+ malignant disease**

*Clinical Studies - Jul 16, 2009 - Jul 16, 2013*

*Automatically Closed*

**In vitro Untersuchung der Proteasen-Aktivität und der Wirkung von Proteasen-Inhibitoren bei hämatologischen Neoplasien**

*Clinical Studies - May 18, 2009 - May 18, 2020*

*Automatically Closed*

**Prospective evaluation of the predictive value of PET in patients with diffuse large B-cell-lymphoma under R-CHOP-14. A multicenter study**

*Clinical Studies - Jan 28, 2008 - Sep 28, 2011*

*Automatically Closed*

**Protocole multicentrique de traitement**

*Clinical Studies - Nov 1, 2007 - Nov 1, 2015*

*Automatically Closed*

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