



PhD Lenka Besse

Medizinische Onkologie und Hämatologie · Dept. I

Kontakt

PhD Lenka Besse
Rorschacherstrasse 95
9007 St. Gallen
Switzerland

T +41 71 494 3508
Lenka.Besse@kssg.ch

Orcid

0000-0003-4739-7618

Bereiche

Medizinische Onkologie und Hämatologie

Publikationen (23)

Besse L, Kraus M, Besse A, Driessen C, Tarantino I. The cytotoxic activity of carfilzomib together with nelfinavir is superior to the bortezomib/nelfinavir combination in non-small cell lung carcinoma. *Sci Rep* 2023; 13:4411.

Zhou X, Besse A, Peter J, Steinhardt M, Vogt C, Nerretter S, Teufel E, Stanojkovska E, Xiao X, Hornburger H, Haertle L, Lopez M, Munawar U, Riedel A, Han S, Maurits E, Overkleef H, Florea B, Einsele H, Kortüm K, Driessen C, Besse L, Rasche L. High-dose carfilzomib achieves superior anti-tumor activity over lowdose and recaptures response in relapsed/refractory multiple myeloma resistant to low-dose carfilzomib by co-inhibiting the $\beta 2$ and $\beta 1$ subunits of the proteasome complex. *Haematologica* 2023

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.

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

Bolomsky A, Caers J, Hübl W, Schreder M, Zojer N, Driessen C, Tang J, Besse L, Heckman C, Kubicek S, Hannich J, Miettinen J, Malyutina 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.

Besse L, Besse A, Kraus M, Maurits E, Overkleef H, Bornhauser B, Bourquin J, Driessen C. High Immunoproteasome Activity and sXBP1 in Pediatric Precursor B-ALL Predicts Sensitivity towards Proteasome Inhibitors. *Cells* 2021; 10

Mendez-Lopez M, Besse A, Florea B, Zuppinger C, Overkleef H, Besse L, Driessen C (2021). Carfilzomib-induced acute cardiotoxicity is mediated through angiotensin and caused by cardiomyocyte energy depletion.

Besse L, Bolomsky A, Ludwig H, Hannich J, Loguinov A, Everts B, Berkers C, Pilon M, Farhan H, Vulpe C, Overkleef H, Huber J, Ståhlman M, Borén J, Besse A, Stolze S, Sobh A, Zaal E, van der Ham A, Ruiz M, Phuyal S, Büchler L, Sathianathan M, Florea B, Driessen C. Treatment with HIV-Protease Inhibitor Nelfinavir Identifies Membrane Lipid Composition and Fluidity as a Therapeutic Target in Advanced Multiple Myeloma. *Cancer Res* 2021; 81:4581-4593.

Byrgazov K, Besse A, Kraus M, Slipicevic A, Lehmann F, Driessen C, Besse L. Novel Peptide-drug Conjugate Melflufen Efficiently Eradicates Bortezomib-resistant Multiple Myeloma Cells Including Tumor-initiating Myeloma Progenitor Cells. *Hemasphere* 2021; 5:e602.

Byrgazov K, Kraus M, Besse A, Slipicevic A, Lehmann F, Driessen C, Besse L. Up-regulation of multidrug resistance protein MDR1/ABCB1 in carfilzomib-resistant multiple myeloma differentially affects efficacy of anti-myeloma drugs. *Leuk Res* 2020; 101:106499.

Brenig R, Antoniadou C, Wendon J, Heim M, Ludwig B, Weston C, Duong F, Semela D, Brand S, Boldanova T, Künzler-Heule P, Cupovic J, Besse L, Perez Shibayama C, Singanayagam A, Geng A, Triantafyllou E, Pop O, Bernsmeier C. Expression of AXL receptor tyrosine kinase relates to monocyte dysfunction and severity of cirrhosis. *Life Sci Alliance* 2019; 3

Vrabel D, Sevcikova S, Pour L, Stork M, Sandecka V, Jelinek T, Plonkova H, Jarkovsky J, Brožová L, Kubackova V, Almasi M, Bezdekova R, Rihova L, Besse L, Sedlarikova L, Hájek R. Dynamics of tumor-specific cfDNA in response to therapy in multiple myeloma patients. *Eur J Haematol* 2019

Mendez-Lopez M, Sutter T, Driessen C, Besse L. HIV protease inhibitors for the treatment of multiple myeloma. *Clin Adv Hematol Oncol* 2019; 17:615–623.

Hitz F, Driessen C, Mey U, Samaras P, Vilei S, Stüdeli S, Rondeau S, Seipel K, Novak U, Silzle T, Besse L, Hess D, Pabst T, Kraus M, Swiss Group for Clinical Cancer Research SAKK. Nelfinavir and lenalidomide/dexamethasone in patients with lenalidomide-refractory multiple myeloma. A phase I/II Trial (SAKK 39/10). *Blood Cancer J* 2019; 9:70.

Besse L, Law B, Castellano R, Ferreira R, Bader J, Kraus M, Vanhara P, Sedlackova M, Vasickova K, Mendez-Lopez M, Besse A, Driessen C. A metabolic switch in proteasome inhibitor-resistant multiple myeloma ensures higher mitochondrial metabolism, protein folding and sphingomyelin synthesis. *Haematologica* 2019; 104:e415–e419.

Besse A, Overkleeft H, Maurits E, de Bruin G, Xin B, Bader J, Mendez-Lopez M, Kraus M, Besse L, Driessen C. Proteasome Inhibition in Multiple Myeloma: Head-to-Head Comparison of Currently Available Proteasome Inhibitors. *Cell Chem Biol* 2018

Driessen C, Pabst T, Hitz F, Hawle H, Rondeau S, Berset C, Besse A, Besse L, Ribí K, Samaras P, Mey U, Rüfer A, Mach N, Betticher D, Cantoni N, Novak U, Müller R, Zander T. Promising activity of nelfinavir-bortezomib-dexamethasone (NeVd) in proteasome inhibitor-refractory multiple myeloma. *Blood* 2018

Krupkova O, Cambria E, Besse L, Besse A, Bowles R, Wuertz-Kozak K. The potential of CRISPR/Cas9 genome editing for the study and treatment of intervertebral disc pathologies. *JOR Spine* 2018; 1:e1003.

Abt D, Driessen C, Engeler D, Schmid H, Slaby O, Vodinska M, Silzle T, Bader J, Kraus M, Sedlarikova L, Besse A, Besse L. Improving the efficacy of proteasome inhibitors in the treatment of renal cell carcinoma by combination with the human immunodeficiency virus (HIV)-protease inhibitors lopinavir or nelfinavir. *BJU Int* 2017

Besse L, Kraus M, Besse A, Bader J, Silzle T, Mehring T, Driessen C. The first-in-class alkylating HDAC inhibitor EDO-S101 is highly synergistic with proteasome inhibition against multiple myeloma through activation of multiple pathways. *Blood Cancer J* 2017; 7:e589.

Besse A, Besse L, Overkleeft H, Bader J, Kraus M, Morgan G, Weinhold N, Rasche L, Stolze S, Driessen C. Carfilzomib resistance due to ABCB1/MDR1 overexpression is overcome by nelfinavir and lopinavir in multiple myeloma. *Leukemia* 2017; 32:391–401.

Kraus J, Kraus M, Liu N, Besse L, Bader J, Geurink P, de Bruin G, Kisselev A, Overkleeft H, Driessen C. The novel β 2-selective proteasome inhibitor LU-102 decreases phosphorylation of I kappa B and induces highly synergistic cytotoxicity in combination with ibrutinib in multiple myeloma cells. *Cancer Chemother Pharmacol* 2015; 76:383–96.

Projekte (11)

Genetic contributors of multiple myeloma cells involved in their homing and escape from T-cell recognition

Grundlagenforschung - 01.07.2022 - 30.06.2023

Laufend

ALK-Inhibitoren als potentielle Therapie bei Proteasom-Inhibitor-resistentem Multiplen Myelom

Grundlagenforschung - 01.10.2021 - 30.09.2023

Laufend

Immunoproteasome activity as a predictive marker and therapeutic target in hematological malignancies

Grundlagenforschung - 01.07.2021 - 31.12.2021

Automatisch geschlossen

Towards identification of novel therapeutic targets: Assessment of proteasome-related alterations in MM patients' datasets

Grundlagenforschung - 01.01.2021 - 31.12.2021

Automatisch geschlossen

The molecular landscape of proteasome inhibitor resistance of multiple myeloma in vivo

Grundlagenforschung - 01.07.2020 - 31.12.2023

Laufend

Revealing molecular basis of cardiotoxicity of carfilzomib towards its safer use in the patients with multiple myeloma

Grundlagenforschung - 01.03.2020 - 28.02.2021

Automatisch geschlossen

The „seed and soil“-based pathogenesis of proteasome inhibitor resistance in multiple myeloma

Grundlagenforschung - 01.01.2019 - 31.12.2019

Automatisch geschlossen

Identifying and targeting the "Achilles' heel" in proteasome inhibitor-resistant multiple myeloma

Grundlagenforschung - 01.10.2018 - 31.12.2021

Automatisch geschlossen

Preclinical investigation of cardiotoxicity as a clinically important side effect of proteasome inhibitor-based therapy

Grundlagenforschung - 01.07.2017 - 30.06.2018

Automatisch geschlossen

HIV-Proteaseinhibitoren als Basis für Krebstherapie: Verständnis des Mechanismus, Identifikation der Targets, Entwicklung wirksamerer Substanzen

Grundlagenforschung - 01.11.2016 - 31.10.2018

Automatisch geschlossen

Proteasominhibitor-resistentes Multiples Myelom: Biologie und Therapieoptionen

Grundlagenforschung - 05.01.2015 - 31.12.2015

Automatisch geschlossen

Kantonsspital St.Gallen
Rorschacher Strasse 95
CH-9007 St.Gallen

T: +41 71 494 11 11

support.forschung@kssg.ch