

Prof. Dr. med. Christoph Driessen

Kantonsspital St.Gallen
ONKO
Rorschacher Strasse 95
9007 St.Gallen
Switzerland

publications

as of: 10.11.2016

journal paper/review

Kraus M, Bader J, Geurink P P, Weyburne E S, Mirabella A C, Silzle T, Shabaneh T B, van der Linden W A, de Bruin G, Haile S, van Rooden E, Appenzeller C, Li N, Kisselev A F, Overkleef H, Driessen C. The novel β 2-selective proteasome inhibitor LU-102 synergizes with bortezomib and carfilzomib to overcome proteasome inhibitor resistance of myeloma cells. *Haematologica* 2015; 100:1350-60.

Tornatore L, Sandomenico A, Raimondo D, Low C, Rocci A, Tralau-Stewart C, Capece D, D'Andrea D, Bua M, Boyle E, van Duin M, Zoppoli P, Jaxa-Chamiec A, Thotakura A K, Dyson J, Walker B A, Leonardi A, Chambery A, Driessen C, Sonneveld P, Morgan G, Palumbo A, Tramontano A, Rahemtulla A, Ruvo M, Franzoso G. Cancer-Selective Targeting of the NF- κ B Survival Pathway with GADD45 β /MKK7 Inhibitors. *Cancer Cell* 2014; 26:495-508.

Engelhardt M, Terpos E, Kleber M, Gay F, Wäsch R, Morgan G, Cavo M, van de Donk N, Beilhack A, Bruno B, Johnsen H E, Hájek R, Driessen C, Ludwig H, Beksac M, Boccadoro M, Straka C, Brighen S, Gramatzki M, Larocca A, Lokhorst H, Magarotto V, Morabito F, Dimopoulos M A, Einsele H, Sonneveld P, Palumbo A, European Myeloma Network . European Myeloma Network recommendations on the evaluation and treatment of newly diagnosed patients with multiple myeloma. *Haematologica* 2014; 99:232-42.

de Bruin G, Huber E M, Xin B T, van Rooden E J, Al-Ayed K, Kim K B, Kisselev A F, Driessen C, van der Stelt M, van der Marel G A, Groll M, Overkleef H S. Structure-based design of β 1i or β 5i specific inhibitors of human immunoproteasomes. *J Med Chem* 2014; 57:6197-209.

Kraus M, Müller-Ide H, Rückrich T, Bader J, Overkleef H, Driessen C. Ritonavir, nelfinavir, saquinavir and lopinavir induce proteotoxic stress in acute myeloid leukemia cells and sensitize them for proteasome inhibitor treatment at low micromolar drug concentrations. *Leuk Res* 2013; 38:383-92.

Kraus M, Bader J, Overkleef H, Driessen C. Nelfinavir augments proteasome inhibition by bortezomib in myeloma cells and overcomes bortezomib and carfilzomib resistance. *Blood Cancer J* 2013; 3:e103.

- Gallerani E, Zucchetti M, Brunelli D, Marangon E, Noberasco C, Hess U, Delmonte A, Martinelli G, Böhm S, Driessen C, De Braud F, Marsoni S, Cereda R, Sala F, D'Incalci M, Sessa C. A first in human phase I study of the proteasome inhibitor CEP-18770 in patients with advanced solid tumours and multiple myeloma. *Eur J Cancer* 2012; 49:290-6.
- Hundsberger T, Cogliatti S B, Kleger G R, Fretz C, Gähler A, Anliker M D, Fournier J Y, von Moos R, Tettenborn B, Driessen C. Intravascular lymphoma mimicking cerebral stroke: report of two cases. *Case Rep Neurol* 2011; 3:278-283.
- Engelhardt M, Udi J, Kleber M, Spencer A, Rocci A, Knop S, Bruno B, Brighen S, Pérez-Simón J A, Zweegman S, Driessen C, Patriarca F, Gramatzki M, Terpos E, Sezer O, Kropff M, Straka C, Johnsen H E, Waage A, Boegsted M, Lokhorst H, Hájek R, Morgan G, Boccadoro M, Ludwig H, Cavo M, Polliack A, Sonneveld P, Einsele H, Palumbo A. European Myeloma Network: the 3rd Trialist Forum Consensus Statement from the European experts meeting on multiple myeloma. *Leuk Lymphoma* 2010; 51:2006-11.
- Rückrich T, Kraus M, Gogel J, Beck A, Ovaa H, Verdoes M, Overkleeft H S, Kalbacher H, Driessen C. Characterization of the ubiquitin-proteasome system in bortezomib-adapted cells. *Leukemia : official journal of the Leukemia Society of America, Leukemia Research Fund, U.K* 2009; 23:1098-105.
- Harman A N, Kraus M, Bye C R, Byth K, Turville S G, Tang O, Mercier S K, Nasr N, Stern J L, Slobedman B, Driessen C, Cunningham A L. HIV-1-infected dendritic cells show 2 phases of gene expression changes, with lysosomal enzyme activity decreased during the second phase. *Blood* 2009; 114:85-94.
- Clerc J, Florea B I, Kraus M, Groll M, Huber R, Bachmann A S, Dudler R, Driessen C, Overkleeft H S, Kaiser M. Syringolin A selectively labels the 20 S proteasome in murine EL4 and wild-type and bortezomib-adapted leukaemic cell lines. *Chembiochem : a European journal of chemical biology* 2009; 10:2638-43.
- Hillaert U, Verdoes M, Florea B I, Saragliadis A, Saragliadis A, Habets K L L, Kuiper J, Van Calenbergh S, Ossendorp F, van der Marel G A, Driessen C, Overkleeft H S. Receptor-mediated targeting of cathepsins in professional antigen presenting cells. *Angewandte Chemie (International ed. in English)* 2009; 48:1629-32.
- Horger M, Pereira P, Claussen C D, Kanz L, Vonthein R, Denecke B, Driessen C. Hyperattenuating bone marrow abnormalities in myeloma patients using whole-body non-enhanced low-dose MDCT: correlation with haematological parameters. *The British journal of radiology* 2008; 81:386-96.
- Kraus M, Malenke E, Gogel J, Müller H, Rückrich T, Overkleeft H, Ovaa H, Koscielniak E, Hartmann J T, Driessen C. Ritonavir induces endoplasmic reticulum stress and sensitizes sarcoma cells toward bortezomib-induced apoptosis. *Molecular cancer therapeutics* 2008; 7:1940-8.
- Fissolo N, Kraus M, Reich M, Ayturan M, Overkleeft H, Driessen C, Weissert R. Dual inhibition of proteasomal and lysosomal proteolysis ameliorates autoimmune central nervous system inflammation. *European journal of immunology* 2008; 38:2401-11.
- Busse A, Kraus M, Na I K, Rietz A, Scheibenbogen C, Driessen C, Blau I W, Thiel E, Keilholz U. Sensitivity of tumor cells to proteasome inhibitors is associated with expression levels and composition of proteasome subunits. *Cancer* 2008; 112:659-70.
- Kessler T, Reich M, Jahn G, Tolosa E, Beck A, Kalbacher H, Overkleeft H, Schempp S, Driessen C. Human cytomegalovirus infection interferes with major histocompatibility complex type II maturation and endocytic proteases in dendritic cells at multiple levels. *The Journal of general virology* 2008; 89:2427-36.

- Schulz H, Rehwald U, Morschhauser F, Elter T, Driessen C, Rüdiger T, Borchmann P, Schnell R, Diehl V, Engert A, Reiser M. Rituximab in relapsed lymphocyte-predominant Hodgkin lymphoma: long-term results of a phase 2 trial by the German Hodgkin Lymphoma Study Group (GHSG). *Blood* 2008; 111:109-11.
- Burster T, Beck A, Poeschel S, Øren A, Baechle D, Reich M, Roetzschke O, Falk K, Boehm B O, Youssef S, Kalbacher H, Overkleef H, Tolosa E, Driessen C. Interferon-gamma regulates cathepsin G activity in microglia-derived lysosomes and controls the proteolytic processing of myelin basic protein in vitro. *Immunology* 2007; 121:82-93.
- Horger M, Kanz L, Denecke B, Vonthein R, Pereira P, Claussen C D, Driessen C. The benefit of using whole-body, low-dose, nonenhanced, multidetector computed tomography for follow-up and therapy response monitoring in patients with multiple myeloma. *Cancer* 2007; 109:1617-26.
- Zaidi N, Herrmann T, Baechle D, Schleicher S, Gogel J, Driessen C, Voelter W, Kalbacher H. A new approach for distinguishing cathepsin E and D activity in antigen-processing organelles. *The FEBS journal* 2007; 274:3138-49.
- Reich M, van Swieten P F, Sommandas V, Kraus M, Fischer R, Weber E, Kalbacher H, Overkleef H S, Driessen C. Endocytosis targets exogenous material selectively to cathepsin S in live human dendritic cells, while cell-penetrating peptides mediate nonselective transport to cysteine cathepsins. *Journal of leukocyte biology* 2007; 81:990-1001.
- Zaidi N, Burster T, Sommandas V, Herrmann T, Boehm B O, Driessen C, Voelter W, Kalbacher H. A novel cell penetrating aspartic protease inhibitor blocks processing and presentation of tetanus toxoid more efficiently than pepstatin A. *Biochemical and biophysical research communications* 2007; 364:243-9.
- Kraus M, Rückrich T, Reich M, Gogel J, Beck A, Kammer W, Berkers C R, Burg D, Overkleef H, Ovaa H, Driessen C. Activity patterns of proteasome subunits reflect bortezomib sensitivity of hematologic malignancies and are variable in primary human leukemia cells. *Leukemia : official journal of the Leukemia Society of America, Leukemia Research Fund, U.K* 2007; 21:84-92.
- Burster T, Marin-Esteban V, Boehm B O, Dunn S, Rotzschke O, Falk K, Weber E, Verhelst S H L, Kalbacher H, Driessen C. Design of protease-resistant myelin basic protein-derived peptides by cleavage site directed amino acid substitutions. *Biochemical pharmacology* 2007; 74:1514-23.
- Horger M, Brodoefel H, Driessen C. [Extramedullary myeloma manifestations: imaging findings]. *RöFo : Fortschritte auf dem Gebiete der Röntgenstrahlen und der Nuklearmedizin* 2006; 178:747-51.
- Dengjel J, Schoor O, Fischer R, Reich M, Kraus M, Müller M, Kreymborg K, Altenberend F, Brandenburg J, Kalbacher H, Brock R, Driessen C, Rammensee H G, Stevanovic S. Autophagy promotes MHC class II presentation of peptides from intracellular source proteins. *Proceedings of the National Academy of Sciences of the United States of America* 2005; 102:7922-7.
- Burster T, Beck A, Tolosa E, Schnorrer P, Weissert R, Reich M, Kraus M, Kalbacher H, Häring H U, Weber E, Overkleef H, Driessen C. Differential processing of autoantigens in lysosomes from human monocyte-derived and peripheral blood dendritic cells. *Journal of immunology (Baltimore, Md. : 1950)* 2005; 175:5940-9.
- Baechle D, Cansier A, Fischer R, Brandenburg J, Burster T, Driessen C, Kalbacher H. Biotinylated fluorescent peptide substrates for the sensitive and specific determination of cathepsin D activity. *Journal of peptide science : an official publication of the European Peptide Society* 2005; 11:166-74.

- van Zutphen S, Kraus M, Driessen C, van der Marel G A, Overkleef H S, Reedijk J. Probing the potential of platinum(II) complexes for the inhibition of thiol-dependent enzymatic activity. *Journal of inorganic biochemistry* 2005; 99:1384-9.
- Lautwein A, Kraus M, Reich M, Burster T, Brandenburg J, Overkleef H S, Schwarz G, Kammer W, Weber E, Kalbacher H, Nordheim A, Driessen C. Human B lymphoblastoid cells contain distinct patterns of cathepsin activity in endocytic compartments and regulate MHC class II transport in a cathepsin S-independent manner. *Journal of leukocyte biology* 2004; 75:844-55.
- van Swieten P F, Maehr R, van den Nieuwendijk A M C H, Kessler B M, Reich M, Wong C S, Kalbacher H, Leeuwenburgh M A, Driessen C, van der Marel G A, Ploegh H L, Overkleef H S. Development of an isotope-coded activity-based probe for the quantitative profiling of cysteine proteases. *Bioorganic & medicinal chemistry letters* 2004; 14:3131-4.
- Burster T, Beck A, Tolosa E, Marin-Esteban V, Röttschke O, Falk K, Lautwein A, Reich M, Brandenburg J, Schwarz G, Wiendl H, Melms A, Lehmann R, Stevanovic S, Kalbacher H, Driessen C. Cathepsin G, and not the asparagine-specific endoprotease, controls the processing of myelin basic protein in lysosomes from human B lymphocytes. *Journal of immunology (Baltimore, Md. : 1950)* 2004; 172:5495-503.
- Wiendl H, Lautwein A, Mitsdörffer M, Krause S, Erfurth S, Wienhold W, Morgalla M, Weber E, Overkleef H S, Lochmüller H, Melms A, Tolosa E, Driessen C. Antigen processing and presentation in human muscle: cathepsin S is critical for MHC class II expression and upregulated in inflammatory myopathies. *Journal of neuroimmunology* 2003; 138:132-43.
- Tolosa E, Li W, Yasuda Y, Wienhold W, Denzin L K, Lautwein A, Driessen C, Schnorrer P, Weber E, Stevanovic S, Kurek R, Melms A, Bromme D. Cathepsin V is involved in the degradation of invariant chain in human thymus and is overexpressed in myasthenia gravis. *The Journal of clinical investigation* 2003; 112:517-26.
- Rehwald U, Schulz H, Reiser M, Sieber M, Staak J O, Morschhauser F, Driessen C, Rudiger T, Muller-Hermelink K, Diehl V, Engert A, German Hodgkin Lymphoma Study Group (GHSG) . Treatment of relapsed CD20+ Hodgkin lymphoma with the monoclonal antibody rituximab is effective and well tolerated: results of a phase 2 trial of the German Hodgkin Lymphoma Study Group. *Blood* 2003; 101:420-4.
- Greiner A, Lautwein A, Overkleef H S, Weber E, Driessen C. Activity and subcellular distribution of cathepsins in primary human monocytes. *Journal of leukocyte biology* 2003; 73:235-42.
- Lautwein A, Burster T, Lennon-Duménil A M, Overkleef H S, Weber E, Kalbacher H, Driessen C. Inflammatory stimuli recruit cathepsin activity to late endosomal compartments in human dendritic cells. *European journal of immunology* 2002; 32:3348-57.
- Scheding S, Bergmann M, Shimosaka A, Wolff P, Driessen C, Rathke G, Jaschonek K, Brugger W, Kanz L. Human plasma thrombopoietin levels are regulated by binding to platelet thrombopoietin receptors in vivo. *Transfusion* 2002; 42:321-7.
- Plüger E B E, Boes M, Alfonso C, Schröter C J, Kalbacher H, Ploegh H L, Driessen C. Specific role for cathepsin S in the generation of antigenic peptides in vivo. *European journal of immunology* 2002; 32:467-76.
- Schwarz G, Brandenburg J, Reich M, Burster T, Driessen C, Kalbacher H. Characterization of legumain. *Biological chemistry* 2002; 383:1813-6.
- Driessen C, Lennon-Duménil A M, Ploegh H L. Individual cathepsins degrade immune complexes internalized by antigen-presenting cells via Fcγ receptors. *European journal of immunology* 2001; 31:1592-601.

- Riese R J, Shi G P, Villadangos J, Stetson D, Driessen C, Lennon-Dumenil A M, Chu C L, Naumov Y, Behar S M, Ploegh H, Locksley R, Chapman H A. Regulation of CD1 function and NK1.1(+) T cell selection and maturation by cathepsin S. *Immunity* 2001; 15:909-19.
- Beck H, Schwarz G, Schröter C J, Deeg M, Baier D, Stevanovic S, Weber E, Driessen C, Kalbacher H. Cathepsin S and an asparagine-specific endoprotease dominate the proteolytic processing of human myelin basic protein in vitro. *European journal of immunology* 2001; 31:3726-36.
- Lennon-Duménil A M, Roberts R A, Valentijn K, Driessen C, Overkleef H S, Erickson A, Peters P J, Bikoff E, Ploegh H L, Wolf Bryant P. The p41 isoform of invariant chain is a chaperone for cathepsin L. *The EMBO journal* 2001; 20:4055-64.
- Shi G P, Bryant R A, Riese R, Verhelst S, Driessen C, Li Z, Bromme D, Ploegh H L, Chapman H A. Role for cathepsin F in invariant chain processing and major histocompatibility complex class II peptide loading by macrophages. *The Journal of experimental medicine* 2000; 191:1177-86.
- Villadangos J A, Driessen C, Shi G P, Chapman H A, Ploegh H L. Early endosomal maturation of MHC class II molecules independently of cysteine proteases and H-2DM. *The EMBO journal* 2000; 19:882-91.
- Villadangos J A, Bryant R A, Deussing J, Driessen C, Lennon-Duménil A M, Riese R J, Roth W, Saftig P, Shi G P, Chapman H A, Peters C, Ploegh H L. Proteases involved in MHC class II antigen presentation. *Immunological reviews* 1999; 172:109-20.
- Driessen C, Bryant R A, Lennon-Duménil A M, Villadangos J A, Bryant P W, Shi G P, Chapman H A, Ploegh H L. Cathepsin S controls the trafficking and maturation of MHC class II molecules in dendritic cells. *The Journal of cell biology* 1999; 147:775-90.
- Wellinghausen N, Driessen C, Rink L. Stimulation of human peripheral blood mononuclear cells by zinc and related cations. *Cytokine* 1996; 8:767-71.
- Driessen C, Hirv K, Wellinghausen N, Kirchner H, Rink L. Influence of serum on zinc, toxic shock syndrome toxin-1, and lipopolysaccharide-induced production of IFN-gamma and IL-1 beta by human mononuclear cells. *Journal of leukocyte biology* 1995; 57:904-8.
- Driessen C, Hirv K, Kirchner H, Rink L. Divergent effects of zinc on different bacterial pathogenic agents. *The Journal of infectious diseases* 1995; 171:486-9.
- Driessen C, Hirv K, Kirchner H, Rink L. Zinc regulates cytokine induction by superantigens and lipopolysaccharide. *Immunology* 1995; 84:272-7.
- Driessen C, Hirv K, Rink L, Kirchner H. Induction of cytokines by zinc ions in human peripheral blood mononuclear cells and separated monocytes. *Lymphokine and cytokine research* 1994; 13:15-20.
- Schmid H, Sauerbrei R, Schwarz G, Weber E, Kalbacher H, Driessen C. Modulation of the endosomal and lysosomal distribution of cathepsins B, L and S in human monocytes/macrophages. *Biological chemistry* 383:1277-83.
- Rückrich T, Brandenburg J, Cansier A, Müller M, Stevanovic S, Schilling K, Wiederanders B, Beck A, Melms A, Reich M, Driessen C, Kalbacher H. Specificity of human cathepsin S determined by processing of peptide substrates and MHC class II-associated invariant chain. *Biological chemistry* 387:1503-11.