

Stichting Hematologisch-Oncologisch Wetenschapsonderzoek (SHOW)

Bestuursverslag 2024

Inleiding

De Stichting Hematologisch-Oncologisch Wetenschapsonderzoek (SHOW) is opgericht op 13 oktober 1997. Statuten zijn vanaf die datum niet gewijzigd. De doelstelling van de stichting is het bevorderen van wetenschappelijk onderzoek van de afdeling Klinische Hematologie van het AMC. Dit onderzoek betreft oorzaak, diagnostiek en behandeling van bloedziekten. De financiële middelen van de stichting worden gebruikt om delen van dit onderzoek te financieren. De financiering kan bestaan uit salariskosten voor onderzoekspersoneel (overigens niet in dienst van de stichting) of bijdragen in de materiële kosten van het onderzoek. Op 1 januari 2008 heeft de belastingdienst de stichting aangemerkt als een Algemeen Nut Beogende Instelling (ANBI). Conform de per 1-1-2014 geldende nieuwe ANBI voorwaarden van de belastingdienst zijn begin november 2013 op de website www.steunhematologie.nl bestuurssamenstelling, bestuursverslag, samenvatting financieel verslag en de SHOW folder geplaatst. Een jaarlijkse update is verplicht (vóór 1 juli).

Overzicht van de belangrijkste ontwikkelingen in 2024

In 2024 werd 23.065 € aan donaties ontvangen, deels bestaand uit directe donaties, deels uit het laatste deel van de in 2023 ontvangen erfenis.

Activiteiten betreffende de doelstelling van de stichting

In 2024 werd 10.345,93€ betaald voor de kosten van wetenschappelijke publicaties van mede door de stichting gefinancierd onderzoek. Betaling van de sinds medio 2013 via de AMR aangestelde research analist(e) is in 2024 geschied vanuit een andere externe bron. Deze analist(e) heeft een belangrijke rol in bewerking van bloedmonsters die patiënten voor onderzoek ter beschikking stellen. Deze worden vervolgens opgeslagen in de biobank, onder beheer van de afdeling. Deze biobank is van zeer grote waarde voor het onderzoek van de afdeling en draagt jaarlijks bij aan het tot stand komen van ongeveer 10 publicaties (zie publicatielijst).

Publicaties voortkomend uit door SHOW gefinancierd onderzoek

1. M. Jak et al. Enhanced formation and survival of CD4+ CD25hiFOXP3 + T cells in chronic lymphocytic leukemia. Leukemia Lymphoma 2009, vol. 50, p788-801.
2. M. Jak et al. CD40 Stimulation enhances sensitivity of CLL cells to Rituximab-induced cell death. Leukemia, 2011 Jun;25 (6):968-78.

3. M. Jak et al. CD 40 Stimulation sensitizes CLL cells to lysosomal cell death induction by GA101- A novel type II anti CD20 monoclonal antibody. *Blood* 2011. 118(19):5178-88
4. Tonino SH, van Laar J, van Oers MH, Wang JY, Eldering E, Kater A.P. ROS-mediated upregulation of Noxa overcomes chemoresistance in chronic lymphocytic leukemia *Oncogene*. 2011 Feb 10;30(6):701-13.
5. M.Jak: proefschrift : Micro-enviroment and anti-CD20 based therapies in CLL, 24 april 2012
6. Pascutti MF, Jak M, Tromp JM, Derks IA, Remmerswaal EB, Thijssen R, van Attekum MH, van Bochove GG, Luijckx DM, Pals ST, van Lier RA, Kater AP, van Oers MH, Eldering E. IL-21 and CD40L signals from autologous T cells can induce antigen-independent proliferation of CLL cells. *Blood*. 2013 Oct 24;122(17):3010-9.
7. Mohr J, Helfrich H, Fuge M, Eldering E, Bühler A, Winkler D, Volden M, Kater AP, Mertens D, Te Raa D, Döhner H, Stilgenbauer S, Zenz T. DNA damage-induced transcriptional program in CLL: biological and diagnostic implications for functional p53 testing. *Blood*. 2011 Feb 3;117(5):1622-32.
8. te Raa GD, Fischer K, Verweij W, van Houte AJ, Kater AP, Biesma DH. Use of the CD19 count in a primary care laboratory as a screening method for B-cell chronic lymphoproliferative disorders in asymptomatic patients with lymphocytosis. *Clin Chem Lab Med*. 2011 Jan;49(1):115-20.
9. te Raa GD, van Oers MH, Kater AP; HOVON CLL working party. Monoclonal B-cell lymphocytosis: recommendations from the Dutch Working Group on CLL for daily practice. *Neth J Med*. 2012 Jun;70(5):236-41. Review
10. te Raa GD, Tonino SH, Remmerswaal EB, van Houte AJ, Koene HR, van Oers MH, Kater AP. Chronic lymphocytic leukemia specific T-cell subset alterations are clone-size dependent and not present in monoclonal B lymphocytosis. *Leuk Lymphoma*. 2012 Nov;53(11):2321-5.
11. Te Raa GD, Malcikova J, Pospisilova S, Trbusek M, Mraz M, Garff-Tavernier ML, Merle-Béral H, Lin K, Pettitt AR, Merkel O, Stankovic T, van Oers MH, Eldering E, Stilgenbauer S, Zenz T, Kater AP; European Research Initiative on CLL (ERIC) Overview of available p53 function tests in relation to TP53 and ATM gene alterations and chemoresistance in chronic lymphocytic leukemia. *Leuk Lymphoma*. 2013 Aug;54(8):1849-53.
12. Jethwa A, Hüllein J, Stolz T, Blume C, Sellner L, Jauch A, Sill M, Kater AP, te Raa GD, Geisler C, van Oers M, Dietrich S, Dreger P, Ho AD, Paruzynski A, Schmidt M, von Kalle C, Glimm H, Zenz T. Targeted resequencing for analysis of clonal composition of

recurrent gene mutations in chronic lymphocytic leukaemia. *Br J Haematol.* 2013 Nov;163(4):496-500

13. te Raa GD, Pascutti MF, García-Vallejo JJ, Reinen E, Remmerswaal EB, ten Berge IJ, van Lier RA, Eldering E, van Oers MH, Tonino SH, Kater AP. CMV-specific CD8+ T-cell function is not impaired in chronic lymphocytic leukemia. *Blood.* 2014 Jan 30;123(5):717-24.
14. Te Raa GD, Malčiková J, Mraz M, Trbusek M, Le Garff-Tavernier M, Merle-Béral H, Greil R, Merkel O, Pospíšilová S, Lin K, Pettitt AR, Stankovic T, van Oers MH, Eldering E, Stilgenbauer S, Zenz T, Kater AP; European Research Initiative on CLL (ERIC). Assessment of TP53 functionality in chronic lymphocytic leukaemia by different assays; an ERIC-wide approach *Br J Haematol.* 2014 167(4):565-9.
15. Te Raa GD, Derks IA, Navrkalova V, Skowronska A, Moerland PD, van Laar J, Oldreive C, Monsuur H, Trbusek M, Malcikova J, Lodén M, Geisler CH, Hüllelin J, Jethwa A, Zenz T, Pospisilova S, Stankovic T, van Oers MH, Kater AP, Eldering E. The impact of SF3B1 mutations in CLL on the DNA-damage response. *Leukemia* 2015 May;29(5):1133-42.
16. te Raa GD¹, Moerland PD², Leeksa AC¹, Derks IA³, Yigittop H⁴, Laddach N⁴, Loden-van Straaten M⁴, Navrkalova V⁵, Trbusek M⁵, Luijks DM¹, Zenz T⁶, Skowronska A⁷, Hoogendoorn M⁸, Stankovic T⁷, van Oers MH⁹, Eldering E¹⁰, Kater AP¹ Assessment of p53 and ATM functionality in chronic lymphocytic leukemia by multiplex ligation-dependent probe amplification. *Cell Death Dis.* 2015 Aug 6;6:e1852
17. Blume CJ¹, Hotz-Wagenblatt A², Hüllelin J¹, Sellner L^{1,3}, Jethwa A¹, Stolz T¹, Slabicki M¹, Lee K¹, Sharathchandra A⁴, Benner A⁵, Dietrich S^{1,3}, Oakes CC⁶, Dreger P³, te Raa D^{7,8}, Kater AP^{7,8}, Jauch A⁹, Merkel O^{1,10}, Oren M⁴, Hielscher T⁵, Zenz T^{1,3} p53-dependent non-coding RNA networks in chronic lymphocytic leukemia. *Leukemia.* 2015 Oct;29(10):2015-23.
18. te Raa GD: Proefschrift "Molecular characterization and prognosis in CLL"; 20 maart 2015
19. de Heer K, van der Schee MP, Zwinderman K, van den Berk IA, Visser CE, van Oers R, Sterk PJ. Electronic nose technology for detection of invasive pulmonary aspergillosis in prolonged chemotherapy-induced neutropenia: a proof-of-principle study. *J Clin Microbiol.* 2013 May;51(5):1490-5.
20. de Heer K¹, Kok MG², Fens N³, Weersink EJ³, Zwinderman AH⁴, van der Schee MP³, Visser CE⁵, van Oers MH², Sterk PJ³. Detection of Airway Colonization by *Aspergillus fumigatus* by Use of Electronic Nose Technology in Patients with Cystic Fibrosis. *J Clin Microbiol.* 2016 Mar;54(3):569-75
21. de Heer, K.; Vonk, S. I.; Kok, M.; Kolader, M.; Zwinderman, A. H.; van Oers, M. H. J.; Sterk, P. J.; Visser, C. E. eNose technology can detect and classify human pathogenic molds in vitro: a proof-of-concept study of *Aspergillus fumigatus* and *Rhizopus oryzae*. *Journal of Breath research* 2016, Vol. 10 (3);036008

22. de Heer K, Kok MG, Fens N, Weersink EJ, Zwinderman AH, van der Schee MP, Visser CE, van Oers MH, Sterk PJ. Correction for de Heer et al., Detection of Airway Colonization by *Aspergillus fumigatus* by Use of Electronic Nose Technology in Patients with Cystic Fibrosis. *J Clin Microbiol*. 2016 Jul;54(7):1926.
23. de Kruif MD^{1,2}, Gerritsen MG^{2,3}, van Haren EH¹, Bel EH², Jonkers RE². Timing of broncho-alveolar lavage for galactomannan testing in hematological oncology patients. *Clin Respir J*. 2017 Jul;11(4):534-536.
24. Gerritsen MG, Willemink MJ, Pompe E, van der Bruggen T, van Rhenen A, Lammers JW, Wessels F, Sprengers RW, de Jong PA, Minnema MC. Improving early diagnosis of pulmonary infections in patients with febrile neutropenia using low-dose chest computed tomography. *PLoS One*. 2017 Feb 24;12(2)
25. Gerritsen MG, Brinkman P, Escobar N, Bos LD, de Heer K, Meijer M, Janssen HG, de Cock H, Wösten HAB, Visser CE, van Oers MHJ, Sterk PJ. Profiling of volatile organic compounds produced by clinical *Aspergillus* isolates using gas chromatography-mass spectrometry. *Med Mycol*. 2018 Feb 1;56(2):253-256
26. Kater AP, Kersting S, van Norden Y, Dubois J, Dobber JA, Mellink CH, Evers LM, Croon-de Boer F, Schreurs J, van der Spek E, Visser H, Idink C, Wittebol S, Hoogendoorn M, Tonino SH, Mobasher M, Levin MD; HOVON CLL study group. Obinutuzumab pretreatment abrogates tumor lysis risk while maintaining undetectable MRD for venetoclax + obinutuzumab in CLL. *Blood Adv*. 2018 Dec 26;2(24):3566-3571.
27. de Weerd I, Hofland T, Lameris R, Endstra S, Jongejan A, Moerland PD, de Bruin RCG, Remmerswaal EBM, Ten Berge IJM, Liu N, van der Stelt M, Faber LM, Levin MD, Eldering E, Tonino SH, de Gruijl TD, van der Vliet HJ, Kater AP. Improving CLL V γ 9V δ 2-T-cell fitness for cellular therapy by ex vivo activation and ibrutinib. *Blood*. 2018 Nov 22;132(21):2260-2272.
28. Kater AP, van Oers MHJ, van Norden Y, van der Straten L, Driessen J, Posthuma WFM, Schipperus M, Chamuleau MED, Nijland M, Doorduijn JK, Van Gelder M, Hoogendoorn M, De Croon F, Wittebol S, Kerst JM, Marijt EWA, Raymakers RAP, Schaafsma MR, Dobber JA, Kersting S, Levin MD; HOVON CLL study group. Feasibility and efficacy of addition of individualized-dose lenalidomide to chlorambucil and rituximab as first-line treatment in elderly and FCR-unfit patients with advanced chronic lymphocytic leukemia. *Haematologica*. 2019 Jan;104(1):147-154.
29. Leeksa AC, Taylor J, Wu B, Gardner JR, He J, Nahas M, Gonen M, Alemayehu WG, Te Raa D, Walther T, Hüllein J, Dietrich S, Claus R, de Boer F, de Heer K, Dubois J, Dampmann M, Dürig J, van Oers MHJ, Geisler CH, Eldering E, Levine RL, Miller V, Mughal T, Lamanna N, Frattini MG, Heaney ML, Zelenetz A, Zenz T, Abdel-Wahab O, Kater AP. Clonal diversity predicts adverse outcome in chronic lymphocytic

leukemia. *Leukemia*. 2019 Feb;33(2):390-402

30. Kater AP, Tonino SH, Spiering M, Chamuleau MED, Liu R, Adewoye AH, Gao J, Dreiling L, Xin Y, Doorduijn JK, Kersten MJ; HOVON Lunenburg Lymphoma Phase I/II Consortium. Final results of a phase 1b study of the safety and efficacy of the PI3K δ inhibitor acalisib (GS-9820) in relapsed/refractory lymphoid malignancies. *Blood Cancer J*. 2018 Feb 12;8(2):16.
31. de Heer K, Gerritsen MG, Visser CE, Leeftang MM. Galactomannan detection in broncho-alveolar lavage fluid for invasive aspergillosis in immunocompromised patients. *Cochrane Database Syst Rev*. 2019 May 20;5.
32. van Bruggen JAC, Martens AWJ, Fraietta JA, Hofland T, Tonino SH, Eldering E, et al. Chronic lymphocytic leukemia cells impair mitochondrial fitness in CD8(+) T cells and impede CAR T-cell efficacy. *Blood*. 2019 Jul 4;134(1):44-58.
33. Leeksma AC, Taylor J, Wu B, Gardner JR, He J, Nahas M, et al. Clonal diversity predicts adverse outcome in chronic lymphocytic leukemia. *Leukemia*. 2019 Feb;33(2):390-402.
34. Hofland T, de Weerd I, Ter Burg H, de Boer R, Tannheimer S, Tonino SH, et al. Dissection of the Effects of JAK and BTK Inhibitors on the Functionality of Healthy and Malignant Lymphocytes. *J Immunol*. 2019 Oct 15;203(8):2100-9.
35. de Weerd I, Hofland T, de Boer R, Dobber JA, Dubois J, van Nieuwenhuize D, et al. Distinct immune composition in lymph node and peripheral blood of CLL patients is reshaped during venetoclax treatment. *Blood Adv*. 2019 Sep 10;3(17):2642-52
36. Hofland T, Endstra S, Gomes CKP, de Boer R, de Weerd I, Bobkov V, et al. Natural Killer Cell Hypo-responsiveness in Chronic Lymphocytic Leukemia can be Circumvented In Vitro by Adequate Activating Signaling. *Hemasphere*. 2019 Dec;3(6):e308.
37. De Heer K. Thesis "Exhaled Breath Analysis in the Diagnosis of Invasive Pulmonary Aspergillosis". Amsterdam June 26 2020. ISBN-13: 987-65-432-1234-5
38. Hofland T, de Weerd I, Endstra S, Jongejan A, Platenkamp L, Remmerswaal EBM, et al. Functional Differences Between EBV- and CMV-Specific CD8(+) T cells Demonstrate Heterogeneity of T cell Dysfunction in CLL. *Hemasphere*. 2020 Apr;4(2):e337.
39. Saberi Hosnijeh F, van der Straten L, Kater AP, van Oers MHJ, Posthuma WFM, Chamuleau MED, Bellido M, Doorduijn JK, van Gelder M, Hoogendoorn M, de Boer R, Te Raa GD, Kerst JM, Marijt EWA, Raymakers RAP, Koene HR, Schaafsma MR, Dobber JA, Tonino SH, Kersting SS, Langerak AW, Levin MD. Proteomic markers with prognostic impact on outcome of chronic lymphocytic leukemia patients under chemo-immunotherapy: results from the HOVON 109 study. *Exp Hematol*. 2020

40. Haselager MV, Kielbassa K, Ter Burg J, Bax DJC, Fernandes SM, Borst J, Tam C, Forconi F, Chiodin G, Brown JR, Dubois J, Kater AP, Eldering E. Changes in Bcl-2 members after ibrutinib or venetoclax uncover functional hierarchy in determining resistance to venetoclax in CLL. *Blood*. 2020 Dec 17;136(25):2918-2926.
41. Martens AWJ, Janssen SR, Derks IAM, Adams Iii HC, Izhak L, van Kampen R, Tonino SH, Eldering E, van der Windt GJW, Kater AP. CD3xCD19 DART molecule treatment induces non-apoptotic killing and is efficient against high-risk chemotherapy and venetoclax-resistant chronic lymphocytic leukemia cells. *J Immunother Cancer*. 2020 Jun;8(1):e000218.
42. Hofland T, de Weerd I, Endstra S, Jongejan A, Platenkamp L, Remmerswaal EBM, Moerland PD, Ten Berge IJM, Levin MD, Kater AP, Tonino SH. Functional Differences Between EBV- and CMV-Specific CD8+T cells Demonstrate Heterogeneity of T cell Dysfunction in CLL. *Hemasphere*. 2020 Feb 13;4(2):e337.
43. Janssen J, Donner N, Li Z, Wormhoudt TAM, Wagner K, Guikema JEJ, van der Schoot CE, Kater AP, Feizi T, Bende RJ, van Noesel CJM. A Major Subset of Mutated CLL Expresses Affinity-selected and Functionally Proficient Rheumatoid Factors. *Hemasphere*. 2021 Mar 23;5(4):e550
44. Leeksma AC, Baliakas P, Moysiadis T, Puiggros A, Plevova K, Van der Kevie-Kersemaekers AM, Posthuma H, Rodriguez-Vicente AE, Tran AN, Barbany G, Mansouri L, Gunnarsson R, Parker H, Van den Berg E, Bellido M, Davis Z, Wall M, Scarpelli I, Österborg A, Hansson L, Jarosova M, Ghia P, Poddighe P, Espinet B, Pospisilova S, Tam C, Ysebaert L, Nguyen-Khac F, Oscier D, Haferlach C, Schoumans J, Stevens-Kroef M, Eldering E, Stamatopoulos K, Rosenquist R, Strefford JC, Mellink C, Kater AP. Genomic arrays identify high-risk chronic lymphocytic leukemia with genomic complexity: a multi-center study. *Haematologica*. 2021 Jan 1;106(1):87-97.
45. Hofland T, Martens AWJ, van Bruggen JAC, de Boer R, Schetters S, Remmerswaal EBM, Bemelman FJ, Levin MD, Bins AD, Eldering E, Kater AP, Tonino SH. Human CXCR5+ PD-1+ CD8 T cells in healthy individuals and patients with hematologic malignancies. *Eur J Immunol*. 2021 Mar;51(3):703-713.
46. Leeksma AC, Derks IAM, Kasem MH, Kilic E, de Klein A, Jager MJ, van de Loosdrecht AA, Jansen JH, Navrkalova V, Faber LM, Zaborsky N, Egle A, Zenz T, Pospisilova S, Abdel-Wahab O, Kater AP, Eldering E. The Effect of SF3B1 Mutation on the DNA Damage Response and Nonsense-Mediated mRNA Decay in Cancer. *Front Oncol*. 2021 Jan 29;10:609409
47. de Weerd I, Lameris R, Ruben JM, de Boer R, Kloosterman J, King LA, Levin MD, Parren PWHL, de Gruijl TD, Kater AP, van der Vliet HJ. A Bispecific Single-

Domain Antibody Boosts Autologous V γ 9V δ 2-T Cell Responses Toward CD1d in Chronic Lymphocytic Leukemia. *Clin Cancer Res.* 2021 Mar 15;27(6):1744-1755.

48. Delgado R, Kielbassa K, Ter Burg J, Klein C, Trumpfheller C, de Heer K, Kater AP, Eldering E. Co-Stimulatory versus Cell Death Aspects of Agonistic CD40 Monoclonal Antibody Selicrelumab in Chronic Lymphocytic Leukemia. *Cancers (Basel).* 2021 Jun 21;13(12):3084
49. de Weerd I, Lameris R, Scheffer GL, Vree J, de Boer R, Stam AG, van de Ven R, Levin MD, Pals ST, Roovers RC, Parren PWHI, de Gruijl TD, Kater AP, van der Vliet HJ. A Bispecific Antibody Antagonizes Prosurvival CD40 Signaling and Promotes V γ 9V δ 2 T cell-Mediated Antitumor Responses in Human B-cell Malignancies. *Cancer Immunol Res.* 2021 Jan;9(1):50-61
50. Ren Z, Lantermans H, Kuil A, Kraan W, Arenzana-Seisdedos F, Kersten MJ, Spaargaren M, Pals ST. The CXCL12gamma chemokine immobilized by heparan sulfate on stromal niche cells controls adhesion and mediates drug resistance in multiple myeloma. *J Hematol Oncol.* 2021 Jan 12;14(1):11.
51. Slomp A, Moesbergen LM, Eldering E, Kersten MJ, Minnema MC, Peperzak V. Phosphatase PP2A enhances MCL-1 protein half-life in multiple myeloma cells. *Cell Death Dis.* 2021 Mar 3;12(3):229.
52. Lantermans HC, Minderman M, Kuil A, Kersten MJ, Pals ST, Spaargaren M. Identification of the SRC-family tyrosine kinase HCK as a therapeutic target in mantle cell lymphoma. *Leukemia.* 2021 Mar;35(3):881-886.
53. Chen Z, Simon-Molas H, Cretenet G, Valle-Argos B, Smith LD, Forconi F, Schomakers BV, van Weeghel M, Bryant DJ, van Bruggen JAC, Peters FS, Rathmell JC, van der Windt GJW, Kater AP, Packham G, Eldering E. Characterization of metabolic alterations of chronic lymphocytic leukemia in the lymph node microenvironment. *Blood.* 2022 Aug 11;140(6):630-643
54. Haggenburg S, Lissenberg-Witte BI, van Binnendijk RS, den Hartog G, Bhoekhan MS, Haverkate NJE, de Rooij DM, van Meerloo J, Cloos J, Kootstra NA, Wouters D, Weijers SS, van Leeuwen EMM, Bontkes HJ, Tonouh-Aajoud S, Heemskerk MHM, Sanders RW, Roelandse-Koop E, Hofsink Q, Groen K, Çetinel L, Schellekens L, den Hartog YM, Toussaint B, Kant IMJ, Graas T, de Pater E, Dik WA, Engel MD, Pierie CRN, Janssen SR, van Dijkman E, Poniman M, Burger JA, Bouhuijs JH, Smits G, Rots NY, Zweegman S, Kater AP, van Meerten T, Mutsaers PGNJ, van Doesum JA, Broers AEC, van Gils MJ, Goorhuis A, Rutten CE, Hazenberg MD, Nijhof IS. Quantitative analysis of mRNA-1273 COVID-19 vaccination response in immunocompromised adult hematology patients. *Blood Adv.* 2022 Mar 8;6(5):1537-1546.
55. Haggenburg S, Hofsink Q, Lissenberg-Witte BI, Broers AEC, van Doesum JA, van Binnendijk RS, den Hartog G, Bhoekhan MS, Haverkate NJE, Burger JA, Bouhuijs JH,

Smits GP, Wouters D, van Leeuwen EMM, Bontkes HJ, Kootstra NA, Zweegman S, Kater AP, Heemskerk MHM, Groen K, van Meerten T, Mutsaers PGNJ, Beaumont T, van Gils MJ, Goorhuis A, Rutten CE, Hazenberg MD, Nijhof IS; COBRA KAI Study Team. Antibody Response in Immunocompromised Patients With Hematologic Cancers Who Received a 3-Dose mRNA-1273 Vaccination Schedule for COVID-19. *JAMA Oncol.* 2022

56. Kersting S, Dubois J, Nasserinejad K, Dobber JA, Mellink C, van der Kevie-Kersemaekers AF, Evers LM, de Boer F, Koene HR, Schreurs J, van der Klift M, Velders GA, van der Spek E, van der Straaten HM, Hoogendoorn M, van Gelder M, Posthuma EFM, Visser HPJ, Houtenbos I, Idink CAM, Issa DE, Dompeling EC, van Zaanen HCT, Veelken H, Levenga H, Tick LW, Terpstra WE, Tonino SH, Boyer M, Mobasher M, Levin MD, Kater AP; HOVON CLL study group. Venetoclax consolidation after fixed-duration venetoclax plus obinutuzumab for previously untreated chronic lymphocytic leukaemia (HOVON 139/GiVe): primary endpoint analysis of a multicentre, open-label, randomised, parallel-group, phase 2 trial. *Lancet Haematol.* 2022 Mar;9(3):e190-e199
57. Kater AP, Levin MD, Dubois J, Kersting S, Enggaard L, Veldhuis GJ, Mous R, Mellink CHM, van der Kevie-Kersemaekers AF, Dobber JA, Poulsen CB, Frederiksen H, Janssens A, Schjødt I, Dompeling EC, Ranti J, Brieghel C, Mattsson M, Bellido M, Tran HTT, Nasserinejad K, Niemann CU. Minimal residual disease-guided stop and start of venetoclax plus ibrutinib for patients with relapsed or refractory chronic lymphocytic leukaemia (HOVON141/VISION): primary analysis of an open-label, randomised, phase 2 trial. *Lancet Oncol.* 2022 Jun;23(6):818-828
58. Amaador K, Martens A, de Boer R, Rietveld J, Heemskerk M, Rutten CE, Eldering E, Kersten MJ, Kater AP, Vos J, Tonino S. T-cell subset composition and functionality in patients with Waldenström's macroglobulinemia. *Leuk Lymphoma.* 2022 Jun;63(6):1469-1473.
59. Hengeveld PJ, Ertem YE, Dubois JMN, Mellink CHM, van der Kevie-Kersemaekers AM, Evers LM, Heezen K, Kolijn PM, Mook ORF, Motazacker MM, Nasserinejad K, Kersting S, Westerweel PE, Niemann CU, Kater AP, Langerak AW, Levin MD. Clinicobiological characteristics and treatment efficacy of novel agents in chronic lymphocytic leukemia with IGLV3-21^{R110}. *Leukemia.* 2022 Jul;36(7):1935-1938
60. van Rees DJ, Brinkhaus M, Klein B, Verkuijlen P, Tool ATJ, Schornagel K, Treffers LW, van Houdt M, Kater AP, Vidarsson G, Gennery AR, Kuijpers TW, van Bruggen R, Matlung HL, van den Berg TK. Sodium stibogluconate and CD47-SIRPα blockade overcome resistance of anti-CD20-opsonized B cells to neutrophil killing. *Blood Adv.* 2022 Apr 12;6(7):2156-2166
61. Haselager MV, Thijssen R, Bax D, Both D, De Boer F, Mackay S, Dubois J, Mellink C, Kater AP, Eldering E. JAK-STAT signalling shapes the NF-κB response

in CLL towards venetoclax sensitivity or resistance via Bcl-XL. *Mol Oncol.* 2022 Dec 22. 1878

62. Martens AWJ, Rietveld JM, de Boer R, Peters FS, Ngo A, van Mil LWHG, de Heer K, Spaargaren M, Verkleij CPM, van de Donk NWCJ, Adams HC 3rd, Eldering E, van Noesel CJM, Verona R, Kater AP. Redirecting T-cell Activity with Anti-BCMA/Anti-CD3 Bispecific Antibodies in Chronic Lymphocytic Leukemia and Other B-cell Lymphomas. *Cancer Res Commun.* 2022 May 9;2(5):330-341
63. van Bruggen JAC, van der Windt GJW, Hoogendoorn M, Dubois J, Kater AP, Peters FS. Depletion of CLL cells by venetoclax treatment reverses oxidative stress and impaired glycolysis in CD4 T cells. *Blood Adv.* 2022 Jul 26;6(14):4185-4195.
64. Leeksa AC, Derks IAM, Garrick B, Jongejan A, Colombo M, Bloedjes T, Trowe T, Leisten JC, Howarth M, Malek M, Mortensen DS, Blease K, Groza MC, Narla RK, Loos R, Kersten MJ, Moerland PD, Guikema JEJ, Kater AP, Eldering E, Filvaroff EH. SMG1, a nonsense-mediated mRNA decay (NMD) regulator, as a candidate therapeutic target in multiple myeloma. *Mol Oncol.* 2023 Feb;17(2):284-297.: Epub 2022 Dec 16.
65. Minderman M, Lantermans HC, Grüneberg LJ, Cillessen SAGM, Bende RJ, van Noesel CJM, Kersten MJ, Pals ST, Spaargaren M. MALT1-dependent cleavage of CYLD promotes NF- κ B signaling and growth of aggressive B-cell receptor-dependent lymphomas. *Blood Cancer J.* 2023 Mar 15;13(1):37.
66. Driessen J, Kersten MJ, Visser L, van den Berg A, Tonino SH, Zijlstra JM, Lugtenburg PJ, Morschhauser F, Hutchings M, Amorim S, Gastinne T, Nijland M, Zwezerijnen GJC, Boellaard R, de Vet HCW, Arens AIJ, Valkema R, Liu RDK, Drees EEE, de Jong D, Plattel WJ, Diepstra A; HOVON Lunenburg Lymphoma Phase I/II Consortium (LLPC). Prognostic value of TARC and quantitative PET parameters in relapsed or refractory Hodgkin lymphoma patients treated with brentuximab vedotin and DHAP. *Leukemia.* 2022 Dec;36(12):2853-2862.
67. Amaador K, Wieske L, Koel-Simmelink MJA, Kamp A, Jongerius I, de Heer K, Teunissen CE, Minnema MC, Notermans NC, Eftimov F, Kersten MJ, Vos JMI. Serum neurofilament light chain, contactin-1 and complement activation in anti-MAG IgM paraprotein-related peripheral neuropathy. *J Neurol.* 2022 Jul;269(7):3700-3705
68. Kielbassa K, Haselager MV, Bax DJC, van Driel BF, Dubois J, Levin MD, Kersting S, Svanberg R, Niemann CU, Kater AP, Eldering E. Ibrutinib sensitizes CLL cells to venetoclax by interrupting TLR9-induced CD40 upregulation and protein translation. *Leukemia.* 2023 Jun;37(6):1268-1276
69. Martens AWJ, Kavazović I, Krapić M, Pack SM, Arens R, Jongejan A, Moerland PD, Eldering E, van der Windt GJW, Wensveen FM, Peters FS, Kater AP. Chronic lymphocytic leukemia presence impairs antigen-specific CD8+ T-cell

responses through epigenetic reprogramming towards short-lived effectors. *Leukemia*. 2023 Mar;37(3):606-616.

70. Haselager MV, Thijssen R, Bax D, Both D, De Boer F, Mackay S, Dubois J, Mellink C, Kater AP, Eldering E. JAK-STAT signalling shapes the NF- κ B response in CLL towards venetoclax sensitivity or resistance via Bcl-XL. *Mol Oncol*. 2023 Jun;17(6):1112-1128.
71. Haselager MV, van Driel BF, Perelaer E, de Rooij D, Lashgari D, Loos R, Kater AP, Moerland PD, Eldering E. In Vitro 3D Spheroid Culture System Displays Sustained T Cell-dependent CLL Proliferation and Survival. *Hemasphere*. 2023 Aug 23;7(9):e938.
72. Montironi C, Jacobs CF, Cretenet G, Peters FS, Schomakers BV, van Weeghel M, Kater AP, Simon-Molas H, Eldering E. T-cell dysfunction by pseudohypoxia and autocrine purinergic signaling in chronic lymphocytic leukemia. *Blood Adv*. 2023 Nov 14;7(21):6540-6552.
73. Hengeveld PJ, Kolijn PM, Demmers JAA, Doff W, Dubois JMN, Rijken M, Assmann JJC, van der Straten L, Boiten HJ, Gussinklo KJ, Valk PJM, Faber LM, Westerweel PE, Kater AP, Levin MD, Langerak AW. High-throughput Proteomics Identifies THEMIS2 as Independent Biomarker of Treatment-free Survival in Untreated CLL. *Hemasphere*. 2023 Sep 15;7(10):e951.
74. Hengeveld PJ, Veelken H, van Bergen CAM, Quinten E, Vervoordeldonk MYL, Ismailzada W, Barendse RS, Dubois JMN, van Oers MHJ, Geisler CH, Kater AP, Westerweel PE, Langerak AW, Levin MD. Prognosis of IGLV3-21^{R110} chronic lymphocytic leukemia after chemotherapy-based treatment in a real-world analysis. *Leukemia*. 2023 Sep;37(9):1929-1932.
75. Hengeveld PJ, Schilperoord-Vermeulen J, van der Kluft MY, Dubois JMN, Kolijn PM, Kavelaars FG, Rijken M, Dobber JA, Nasserinejad K, Kersting S, Westerweel PE, Kater AP, Langerak AW, Levin MD. Early-stage measurable residual disease dynamics and IGHV repertoire reconstitution during venetoclax and obinutuzumab treatment in chronic lymphocytic leukemia. *Blood Cancer J*. 2023 Jul 4;13(1):102.
76. Lareau CA, Yin Y, Maurer K, Sandor KD, Daniel B, Yagnik G, Peña J, Crawford JC, Spanjaart AM, Gutierrez JC, Haradhvala NJ, Riberdy JM, Abay T, Stickels RR, Verboon JM, Liu V, Buquicchio FA, Wang F, Southard J, Song R, Li W, Shrestha A, Parida L, Getz G, Maus MV, Li S, Moore A, Roberts ZJ, Ludwig LS, Talleur AC, Thomas PG, Dehghani H, Pertel T, Kundaje A, Gottschalk S, Roth TL, Kersten MJ, Wu CJ, Majzner RG, Satpathy AT. Latent human herpesvirus 6 is reactivated in CAR T cells. *Nature*. 2023 Nov;623(7987):608-615.
77. Campanella A, Capasso A, Heltai S, et al: Additional booster doses in patients with chronic lymphocytic leukemia induce humoral and cellular immune responses to

SARS-CoV-2 similar to natural infection regardless ongoing treatments: A study by ERIC, the European Research Initiative on CLL. *Am J Hematol* 99:745-750, 2024

78.

Chen Z, Cretenet G, Carnazzo V, et al: Electron transport chain and mTOR I inhibition synergistically decrease CD40 signaling and counteract venetoclax resistance in chronic lymphocytic leukemia. *Haematologica* 109:151-162, 2024

79.

Furstenau M, Kater AP, Robrecht S, et al: First-line venetoclax combinations versus chemoimmunotherapy in fit patients with chronic lymphocytic leukaemia (GAIA/CLL13): 4-year follow-up from a multicentre, open-label, randomised, phase 3 trial. *Lancet Oncol* 25:744-759, 2024

80.

Jalink M, Jacobs CF, Khwaja J, et al: Daratumumab monotherapy in refractory warm autoimmune hemolytic anemia and cold agglutinin disease. *Blood Adv* 8:2622-2634, 2024

81.

Kater AP, Arslan O, Demirkan F, et al: Activity of venetoclax in patients with relapsed or refractory chronic lymphocytic leukaemia: analysis of the VENICE-1 multicentre, open-label, single-arm, phase 3b trial. *Lancet Oncol* 25:463-473, 2024

82.

Kater AP, Eichhorst BF, Owen CJ, et al: Long-term immune changes in patients with relapsed/refractory chronic lymphocytic leukemia following treatment with venetoclax plus rituximab. *Hemasphere* 8:e146, 2024

83.

Teglggaard R, Marquart HV, Hartling HJ, et al: Improved Innate Immune Function in Patients with Chronic Lymphocytic Leukemia Treated with Targeted Therapy in Clinical Trials. *Clinical Cancer Research* 30:1959-1971, 2024

84.

van Bruggen JAC, Peters FS, Mes M, et al: T-cell dysfunction in CLL is mediated through expression of Siglec-10 ligands CD24 and CD52 on CLL cells. *Blood Adv* 8:4633-4646, 2024

Amsterdam, April 2025

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