

Curriculum Vitae

Christian S. Hinrichs, M.D.
Investigator, Lasker Clinical Research Scholar
National Cancer Institute

Date

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Education

1990-1996 Doctor of Medicine
 Bachelor of Arts in biology, Minor in Spanish
 University of Missouri – Kansas City Combined 6 Year BA/MD Program

Post Graduate Education and Training

2010-2014 Fellowship, Medical Oncology
 National Cancer Institute – Medical Oncology Branch
2009-2010 Residency, Internal Medicine
 The George Washington University School of Medicine and Health
2005-2009 Fellowship, Immunotherapy and Tumor Immunology
 National Cancer Institute – Surgery Branch 2003-2005
Fellowship, Surgical Oncology
 National Cancer Institute – Surgery Branch
2001-2003 Fellowship, Surgical Oncology (Society of Surgical Oncology)
 Roswell Park Cancer Institute
1996-2001 Residency, General Surgery
 University of Missouri – Kansas City School of Medicine

Board Certifications

2013-present American Board of Internal Medicine, Medical Oncology
2011-present American Board of Internal Medicine, Internal Medicine
2003-2013 American Board of Surgery

Medical Licensure

Medicine and Surgery, District of Columbia (active)
Medicine, New York (inactive)
Physician and Surgeon, Missouri (inactive)

Employment History

2015-present Investigator, Lasker Clinical Research Scholar, National Cancer Institute – Experimental Transplantation and Immunology Branch
2012-2015 Assistant Clinical Investigator, National Cancer Institute – Surgery Branch

Professional Society Memberships

American Society of Clinical Oncology
Society for Immunotherapy of Cancer

Honors and Awards

2015-present Lasker Clinical Research Scholar
2018-2019 Associate Scientific Advisor, *Science Translational Medicine*
2018 Federal Laboratory Consortium for Technology Transfer Mid-Atlantic Award
2018 NCI Technology Transfer Award
2018 The 3rd New Horizons in Immunotherapy for Head and Neck Cancer Conference, Keynote Speaker
2018 The San Diego Center for Precision Immunotherapy (SDCPI) Inaugural Scientific Retreat, Keynote Speaker
2018 NIH Performance Award
2017 NIH Performance Award
2017 NCI Center for Cancer Research Grand Rounds presenter
2016 NCI Technology Transfer Award
2016 NIH Performance Award
2016 NIH Clinical Center Grand Rounds
2012-2015 NCI Clinical Investigator Development Program
2015 Mentor, NCI Director's Career Development Award
2015 NIH Performance Award
2015 NCI Technology Transfer Award
2015 NCI Research Highlights Award
2015 Alpha Omega Alpha Honor Medical Society selection
2014 NIH Performance Award
2014 American Society of Clinical Oncology Merit Award
2014 American Society of Clinical Oncology Annual Meeting Press Program
2014 Mentor, NIH FARE Award
2013 NIH Time-off Award
2013 Society for Immunotherapy of Cancer Abstract Travel Award
2011 National Cancer Institute – Medical Oncology Branch Herb Kotz Award Alternate

1999	University of Missouri – Kansas City Department of Surgery Outstanding Resident Performance Award
1996	UMKC Department of Surgery Award
1996	Western Friends of UMKC School of Medicine Harry S. Jonas Ambassador’s Award

NIH Grants

2019-2024	21 st Century Cure Act, Cancer Moonshot, “High-Throughput Discovery and Widespread Dissemination of T Cell Receptor Gene Therapy for Human Cancers,”
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Leadership and Administrative Service

2018-present	Committee member, United States Food and Drug Administration Oncologic Drugs Advisory Committee (ODAC)
2018-present	Associate editor, <i>Journal for ImmunoTherapy of Cancer</i>
2017-present	Committee member, Center for Cancer Research Clinical Review Panel
2017-present	Committee member, Center for Cancer Research Protocol Review Committee
2016-present	Committee member, NIH Immunotherapy Fellowship Executive Committee
2017-2019	Acting Director, ETIB Preclinical Development Core
2013-2018	Committee member, NRG Oncology, Cervix Committee
2017-2018	21 st Century Cures Act Cancer Immunotherapy Translational Science Network—Adult Implementation Team
2017	AACR Annual Meeting Minisymposium, Adoptive T-cell Therapy for Cancer, Co-Chair
2017	AACR Annual Meeting Clinical Trials Plenary Session, Discussant
2016-2017	Center for Cancer Research Grand Rounds Committee
2002-2003	Roswell Park Cancer Institute Surgical Oncology Administrative Fellow
2000-2001	UMKC Department of Surgery Administrative Chief Resident
1999-2001	UMKC Department of Surgery Residency Recruitment Committee
1999-2000	UMKC School of Medicine Coordinating Committee

Publications

1. C. T. Allen, S. Lee, S. M. Norberg, D. Kovalovsky, H. Ye, P. E. Clavijo, S. Hu-Lieskovan, R. Schlegel, J. Schlom, J. Strauss, J. L. Gulley, J. Trepel, C. S. Hinrichs, Safety and clinical activity of PD-L1 blockade in patients with aggressive recurrent respiratory papillomatosis, *J Immunother Cancer* **7**, 119 (2019).
2. B. M. Warner, A. N. Baer, E. J. Lipson, C. Allen, C. Hinrichs, A. Rajan, E. Pelayo, M. Beach, J. L.

- Gulley, R. A. Madan, J. Feliciano, M. Grisius, L. Long, A. Powers, D. E. Kleiner, L. Cappelli, I. Alevizos, Sicca Syndrome Associated with Immune Checkpoint Inhibitor Therapy, *The Oncologist* (2019), doi:[10.1634/theoncologist.2018-0823](https://doi.org/10.1634/theoncologist.2018-0823).
3. S. Stevanović, S. R. Helman, J. R. Wunderlich, M. M. Langhan, S. L. Doran, M. L. M. Kwong, R. P. T. Somerville, C. A. Klebanoff, U. S. Kammula, R. M. Sherry, J. C. Yang, S. A. Rosenberg, C. S. Hinrichs, A Phase II Study of Tumor-infiltrating Lymphocyte Therapy for Human Papillomavirus-associated Epithelial Cancers, *Clin. Cancer Res.* **25**, 1486–1493 (2019).
 4. C. S. Hinrichs, A killer sidekick for antitumor T cells, *Science Translational Medicine* **11**, eaaw5325 (2019).
 5. C. S. Hinrichs, T cell receptors communicate by movement, *Science Translational Medicine* **10**, eaaw0522 (2018).
 6. C. S. Hinrichs, Self-defeating CAR-Ts protect leukemic cells, *Science Translational Medicine* **10**, eaav3888 (2018).
 7. C. S. Hinrichs, Tumor influence over immune cells, *Science Translational Medicine* **10**, eaau8873 (2018).
 8. Helman SR, Stevanović S, Campbell TE, et al, Human papillomavirus T-cell cross-reactivity in cervical cancer: Implications for immunotherapy clinical trial design, *JAMA Network Open* **1**, e180706 (2018).
 9. B. Y. Jin, T. E. Campbell, L. M. Draper, S. Stevanović, B. Weissbrich, Z. Yu, N. P. Restifo, S. A. Rosenberg, C. L. Trimble, C. S. Hinrichs, Engineered T cells targeting E7 mediate regression of human papillomavirus cancers in a murine model, *JCI Insight* **3** (2018), doi:[10.1172/jci.insight.99488](https://doi.org/10.1172/jci.insight.99488).
 10. J. Jin, N. Gkitsas, V. S. Fellowes, J. Ren, S. A. Feldman, C. S. Hinrichs, D. F. Stroncek, S. L. Highfill, Enhanced clinical-scale manufacturing of TCR transduced T-cells using closed culture system modules, *Journal of Translational Medicine* **16** (2018), doi:[10.1186/s12967018-1384-z](https://doi.org/10.1186/s12967018-1384-z).
 11. C. S. Hinrichs, Tumor influence over immune cells, *Science Translational Medicine* **10** (2018), doi:[10.1126/scitranslmed.aau8873](https://doi.org/10.1126/scitranslmed.aau8873).
 12. C. S. Hinrichs, Gene transfer delivers (β-globin), *Science Translational Medicine* **10** (2018), doi:[10.1126/scitranslmed.aat8522](https://doi.org/10.1126/scitranslmed.aat8522).
 13. C. S. Hinrichs, Cell-based molecularly targeted therapy: Targeting oncoproteins with T cell receptor gene therapy, *Journal of Clinical Investigation* **128**, 1261–1263 (2018).
 14. C. S. Hinrichs, Can interleukin-15 keep its therapeutic promise?, *Science Translational Medicine* **10** (2018), doi:[10.1126/scitranslmed.aar7532](https://doi.org/10.1126/scitranslmed.aar7532).
 15. C. Hinrichs, The hidden agenda for immune escape in colorectal cancer, *Science Translational Medicine* **10** (2018), doi:[10.1126/scitranslmed.aau1967](https://doi.org/10.1126/scitranslmed.aau1967).
 16. S. Stevanović, A. Pasetto, S. R. Helman, J. J. Gartner, T. D. Prickett, B. Howie, H. S. Robins, P. F. Robbins, C. A. Klebanoff, S. A. Rosenberg, C. S. Hinrichs, Landscape of immunogenic tumor antigens in successful immunotherapy of virally induced epithelial cancer, *Science* **356**, 200–205 (2017).

17. Z. Kang, S. Stevanovic, C. S. Hinrichs, L. Cao, Circulating cell-free DNA for metastatic cervical cancer detection, genotyping, and monitoring, *Clinical Cancer Research* **23**, 6856–6862 (2017).
18. C. S. Hinrichs, Molecular pathways: Breaking the epithelial cancer barrier for chimeric antigen receptor and t-cell receptor gene therapy, *Clinical Cancer Research* **22**, 1559–1564 (2016).
19. S. Stevanović, L. M. Draper, M. M. Langhan, T. E. Campbell, M. L. Kwong, J. R. Wunderlich, M. E. Dudley, J. C. Yang, R. M. Sherry, U. S. Kammula, N. P. Restifo, S. A. Rosenberg, C. S. Hinrichs, Complete regression of metastatic cervical cancer after treatment with human papillomavirus-targeted tumor-infiltrating T cells, *Journal of Clinical Oncology* **33**, 1543–1550 (2015).
20. L. M. Draper, M. L. M. Kwong, A. Gros, S. Stevanović, E. Tran, S. Kerkar, M. Raffeld, S. A. Rosenberg, C. S. Hinrichs, Targeting of HPV-16+epithelial cancer cells by TCR gene engineered T cells directed against E6, *Clinical Cancer Research* **21**, 4431–4439 (2015).
21. E. Tran, S. Turcotte, A. Gros, P. F. Robbins, Y.-C. Lu, M. E. Dudley, J. R. Wunderlich, R. P. Somerville, K. Hogan, C. S. Hinrichs, M. R. Parkhurst, J. C. Yang, S. A. Rosenberg, Cancer immunotherapy based on mutation-specific CD4+ T cells in a patient with epithelial cancer, *Science* **344**, 641–645 (2014).
22. C. S. Hinrichs, S. A. Rosenberg, Exploiting the curative potential of adoptive T-cell therapy for cancer, *Immunological Reviews* **257**, 56–71 (2014).
23. S. Turcotte, A. Gros, K. Hogan, E. Tran, C. S. Hinrichs, J. R. Wunderlich, M. E. Dudley, S. A. Rosenberg, Phenotype and function of T cells infiltrating visceral metastases from gastrointestinal cancers and melanoma: Implications for adoptive cell transfer therapy, *Journal of Immunology* **191**, 2217–2225 (2013).
24. C. S. Hinrichs, N. P. Restifo, Reassessing target antigens for adoptive T-cell therapy, *Nature Biotechnology* **31**, 999–1008 (2013).
25. C. A. Klebanoff, L. Gattinoni, D. C. Palmer, P. Muranski, Y. Ji, C. S. Hinrichs, Z. A. Borman, S. P. Kerkar, C. D. Scott, S. E. Finkelstein, S. A. Rosenberg, N. P. Restifo, Determinants of successful CD8+T-cell adoptive immunotherapy for large established tumors in mice, *Clinical Cancer Research* **17**, 5343–5352 (2011).
26. S. P. Kerkar, L. Sanchez-Perez, S. Yang, Z. A. Borman, P. Muranski, Y. Ji, D. Chinnasamy, A. D. M. Kaiser, C. S. Hinrichs, C. A. Klebanoff, C. D. Scott, L. Gattinoni, R. A. Morgan, S. A. Rosenberg, N. P. Restifo, Genetic engineering of murine CD8+ and CD4+ T cells for preclinical adoptive immunotherapy studies, *Journal of Immunotherapy* **34**, 343–352 (2011).
27. C. S. Hinrichs, Z. A. Borman, L. Gattinoni, Z. Yu, W. R. Burns, J. Huang, C. A. Klebanoff, L. A. Johnson, S. P. Kerkar, S. Yang, P. Muranski, D. C. Palmer, C. D. Scott, R. A. Morgan, P. F. Robbins, S. A. Rosenberg, N. P. Restifo, Human effector CD8+ T cells derived from naive rather than memory subsets possess superior traits for adoptive immunotherapy, *Blood* **117**, 808–814 (2011).
28. W. R. Burns, Y. Zhao, T. L. Frankel, C. S. Hinrichs, Z. Zheng, H. Xu, S. A. Feldman, S. Ferrone,

- S. A. Rosenberg, R. A. Morgan, A high molecular weight melanoma-associated antigen - Specific chimeric antigen receptor redirects lymphocytes to target human melanomas, *Cancer Research* **70**, 3027–3033 (2010).
29. C. S. Hinrichs, A. Kaiser, C. M. Paulos, L. Cassard, L. Sanchez-Perez, B. Heemskerk, C. Wrzesinski, Z. A. Borman, P. Muranski, N. P. Restifo, Type 17 CD8+ T cells display enhanced antitumor immunity, *Blood* **114**, 596–599 (2009).
 30. C. S. Hinrichs, Z. A. Borman, L. Cassard, L. Gattinoni, R. Spolski, Y. Zhiya, L. Sanchez-Perez, P. Muranski, S. J. Kern, C. Logun, D. C. Palmer, J. Yun, R. N. Reger, W. J. Leonard, R. L. Danner, S. A. Rosenberg, N. P. Restifo, Adoptively transferred effector cells derived from naïve rather than central memory CD8+ T cells mediate superior antitumor immunity, *Proceedings of the National Academy of Sciences of the United States of America* **106**, 17469–17474 (2009).
 31. L. Gattinoni, X.-S. Zhong, D. C. Palmer, Y. Ji, C. S. Hinrichs, Z. Yu, C. Wrzesinski, A. Boni, L. Cassard, L. M. Garvin, C. M. Paulos, P. Muranski, N. P. Restifo, Wnt signaling arrests effector T cell differentiation and generates CD8 + memory stem cells, *Nature Medicine* **15**, 808–813 (2009).
 32. D. C. Palmer, C.-C. Chan, L. Gattinoni, C. Wrzesinski, C. M. Paulos, C. S. Hinrichs, D. J. Powell Jr., C. A. Klebanoff, S. E. Finkelstein, R. N. Fariss, Z. Yu, R. B. Nussenblatt, S. A. Rosenberg, N. P. Restifo, Effective tumor treatment targeting a melanoma/melanocyte-associated antigen triggers severe ocular autoimmunity, *Proceedings of the National Academy of Sciences of the United States of America* **105**, 8061–8066 (2008).
 33. P. Muranski, A. Boni, P. A. Antony, L. Cassard, K. R. Irvine, A. Kaiser, C. M. Paulos, D. C. Palmer, C. E. Touloukian, K. Ptak, L. Gattinoni, C. Wrzesinski, C. S. Hinrichs, K. W. Kerstann, L. Feigenbaum, C.-C. Chan, N. P. Restifo, Tumor-specific Th17-polarized cells eradicate large established melanoma, *Blood* **112**, 362–373 (2008).
 34. C. S. Hinrichs, R. Spolski, C. M. Paulos, L. Gattinoni, K. W. Kerstann, D. C. Palmer, C. A. Klebanoff, S. A. Rosenberg, W. J. Leonard, N. P. Restifo, IL-2 and IL-21 confer opposing differentiation programs to CD8+ T cells for adoptive immunotherapy, *Blood* **111**, 5326–5333 (2008).
 35. A. Boni, P. Muranski, L. Cassard, C. Wrzesinski, C. M. Paulos, D. C. Palmer, L. Gattinoni, C. S. Hinrichs, C.-C. Chan, S. A. Rosenberg, N. P. Restifo, Adoptive transfer of allogeneic tumorspecific T cells mediates effective regression of large tumors across major histocompatibility barriers, *Blood* **112**, 4746–4754 (2008).
 36. C. M. Paulos, C. Wrzesinski, A. Kaiser, C. S. Hinrichs, M. Chieppa, L. Cassard, D. C. Palmer, A. Boni, P. Muranski, Z. Yu, L. Gattinoni, P. A. Antony, S. A. Rosenberg, N. P. Restifo, Microbial translocation augments the function of adoptively transferred self/tumor-specific CD8+ T cells via TLR4 signaling, *Journal of Clinical Investigation* **117**, 2197–2204 (2007).
 37. C. M. Paulos, A. Kaiser, C. Wrzesinski, C. S. Hinrichs, L. Cassard, A. Boni, P. Muranski, L. Sanchez-Perez, D. C. Palmer, Z. Yu, P. A. Antony, L. Gattinoni, S. A. Rosenberg, N. P. Restifo, Toll-like receptors in tumor immunotherapy, *Clinical Cancer Research* **13**, 5280–5289 (2007).

38. C. S. Hinrichs, L. Gattinoni, N. P. Restifo, Programming CD8+T cells for effective immunotherapy, *Current Opinion in Immunology* **18**, 363–370 (2006).
39. R. Zeng, R. Spolski, S. E. Finkelstein, S. Oh, P. E. Kovanen, C. S. Hinrichs, C. A. Pise-Masison, M. F. Radonovich, J. N. Brady, N. P. Restifo, J. A. Berzofsky, W. J. Leonard, Synergy of IL-21 and IL-15 in regulating CD8+T cell expansion and function, *Journal of Experimental Medicine* **201**, 139–148 (2005).
40. C. S. Hinrichs, D. C. Palmer, S. A. Rosenberg, N. P. Restifo, Glucocorticoids do not inhibit antitumor activity of activated CD8+T cells, *Journal of Immunotherapy* **28**, 517–524 (2005).
41. C. S. Hinrichs, N. L. Watroba, H. Rezaishiraz, W. Giese, T. Hurd, K. A. Fassel, S. B. Edge, Lymphedema secondary to postmastectomy radiation: Incidence and risk factors, *Annals of Surgical Oncology* **11**, 573–580 (2004).
42. C. S. Hinrichs, J. F. Gibbs, D. Driscoll, J. L. Kepner, N. W. Wilkinson, S. B. Edge, K. A. Fassel, R. Muir, W. G. Kraybill, The Effectiveness of Complete Decongestive Physiotherapy for the Treatment of Lymphedema Following Groin Dissection for Melanoma, *Journal of Surgical Oncology* **85**, 187–192 (2004).
43. S. E. Finkelstein, D. M. Heimann, C. A. Klebanoff, P. A. Antony, L. Gattinoni, C. S. Hinrichs, L. N. Hwang, D. C. Palmer, P. J. Spiess, D. R. Surman, C. Wrzesninski, Z. Yu, S. A. Rosenberg, N. P. Restifo, Bedside to bench and back again: How animal models are guiding the development of new immunotherapies for cancer, *Journal of Leukocyte Biology* **76**, 333–337 (2004).
44. C. S. Hinrichs, C. W. Van Way III, Esophageal cancer, *Current Surgery* **59**, 12–17 (2002).
45. C. W. Van Way, C. S. Hinrichs, Electrosurgery 201: basic electrical principles, *Current Surgery* **57**, 261–264 (2000).
46. C. Hinrichs, C. W. Van Way III, Applications of electrosurgery: Radio frequency ablation of liver tumors, *Current Surgery* **57**, 509–514 (2000).