Stanford Cancer Institute
Division of Oncology
259 Campus Drive, Lorry Lokey SIM1, G2120B
Stanford, California 94305-5458
United States

Arash Ash Alizadeh, MD, PhD

Web Academic Profiles

Stanford	*https://med.stanford.edu/profiles/arash-alizadeh*
MyNCBI Bibliography	*http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/40471369*
NIH Biosketch	*http://www.ncbi.nlm.nih.gov/myncbi/arash ash.alizadeh.1/cv/44235*
Google Scholar	*https://goo.gl/nujSbP*
Research Gate	*https://www.researchgate.net/profile/Ash_Alizadeh*
ORCID	*http://orcid.org/0000-0002-5153-5625*
Academia	*https://stanford.academia.edu/AshAlizadeh*
Publons	*https://publons.com/researcher/2859790/ash-a-alizadeh/*
Scopus	*https://www.scopus.com/authid/detail.uri?authorId=7006542787*

Education & Training

1989 – 1994 **B.S., Biochemistry; College & Departmental Honors *(Magna cum laude)***
University of California, Los Angeles (UCLA)
Los Angeles, CA, United States

1994 – 2003 **M.D., Medical Scientist Training Program (NIH MSTP)**
Stanford University School of Medicine
Stanford, CA, United States

1996 – 2001 **Ph.D., Biophysics (Advisor: Patrick O. Brown, MD/PhD)**
Thesis: *Genome-scale characterization of normal & pathological expression programs in immune cells*
Department of Biochemistry, Stanford University & HHMI-NIH
Stanford, CA and Bethesda, MD, United States

2004 – 2006 **Intern/Resident in Medicine, Clinical Investigator Pathway**
Stanford Hospital & Stanford University School of Medicine
Stanford, CA, United States

2006 – 2009 **Fellow in Hematology & Medical Oncology**
Stanford University School of Medicine
Stanford, CA, United States
Clinical Mentor: Sandra Horning, MD

2007 – 2010 **Post-Doctoral Fellowship**
Stanford University School of Medicine
Stanford, CA, United States
Training Program in Investigative Hematology
Lab Mentors: Irving Weissman, MD & Ronald Levy, MD

Academic Appointments

07/01/03 – 06/01/04 **Fellow**, Department of Microbiology & Immunology, UC San Francisco

09/01/09 – 08/31/10	**Instructor**, Department of Medicine (Oncology), Stanford University
09/01/10 – 06/30/11	**Acting Assistant Professor of Medicine** (Oncology), Stanford University
07/01/11 – 03/31/18	**Assistant Professor of Medicine** (Oncology), Stanford University
04/01/18 – 08/31/21	**Associate Professor of Medicine** (Oncology), Stanford University
09/01/21 – Present	**Professor of Medicine** (Oncology), Stanford University

Licensure & Certifications

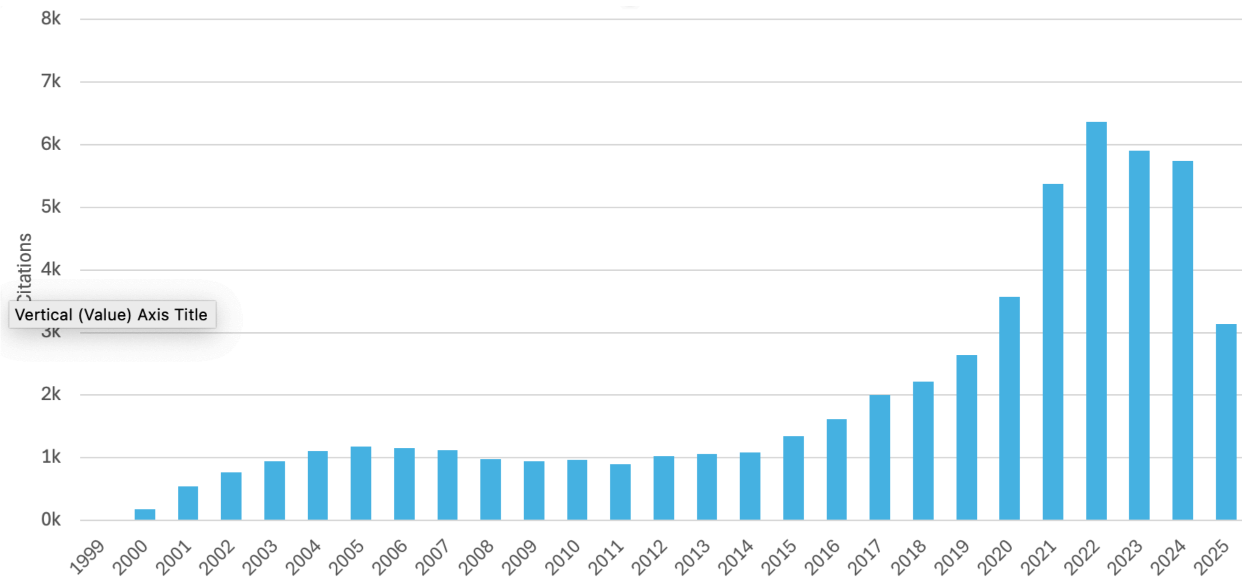
June 2005	Practitioner, Drug Enforcement Administration, US Department of Justice
August 2005	**Physician & Surgeon**, Medical Board of California
October 2006	National Provider, US Department of Health & Human Services
August 2008	**Diplomate, Board Certification in Internal Medicine** American Board of Internal Medicine
November 2009	**Diplomate, Board Certification in Hematology** American Board of Internal Medicine
November 2009	**Diplomate, Board Certification in Medical Oncology** American Board of Internal Medicine

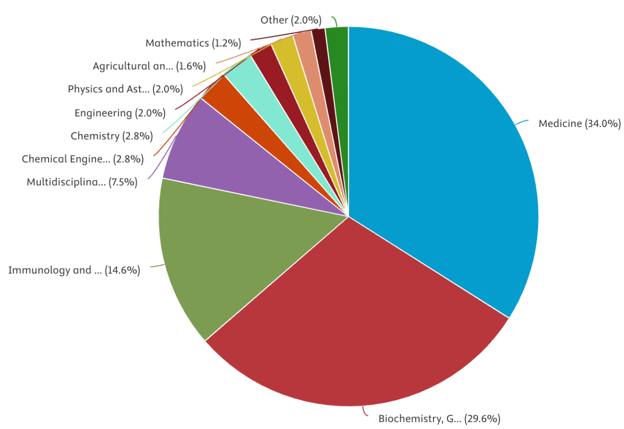
Honors & Awards

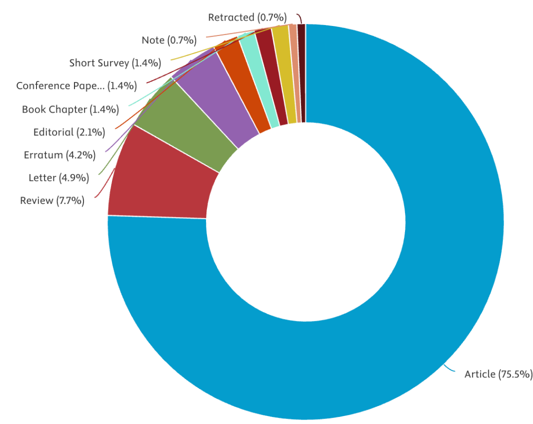
1990 – 1994	UCLA Honors Collegium, *Magna cum laude*
Jun. 1995	NIH Medical Student Research Fellow Award, NIH/NCI
1996 – 1998	Research Scholar Award, HHMI-NIH
1997 – 1998	Intramural Research Award, NIH/NCI
Jun. 1998	Research Scholar Award for Outstanding Research, HHMI
1998 – 2003	Medical Scientist Training Program (MSTP) Award, NIH
2003 – 2004	UCSF Faculty Fellow Award/Sandler Foundation Award
2004 – 2005	Franklin G. Ebaugh, Jr. Award, Dept. of Medicine, Stanford
2004 – 2010	Clinical Investigator Program: Award, Stanford Medical Center
2008 – 2009	Ruth L. Kirschstein National Research Service Award
2010 – 2013	Leukemia & Lymphoma Society Special Fellow in Clinical Research
2010 – 2013	American Society of Clinical Oncology Career Development Award
2010 – Pres	Josephine Q. Berry Faculty Scholar in Cancer Research, Stanford
2010 – Pres	Bent & Janet Cardan Oncology Research Fellow
2011 – 2014	Doris Duke Clinical Scientist Development Award
2012 – 2015	Gabrielle's Angel Foundation Research Award
2012 – 2015	Lymphoma Research Foundation, FL Pathways Research Award
2012 – 2014	Stanford Hospital & Clinics, Cancer Innovation Award
2013 – 2014	Coulter Foundation Award
2014 – 2017	Damon Runyon Cancer Research Foundation Clinical Investigator
2014 – 2015	Celgene Young Investigator Award (Clinical Research in Hematology)
2014 – 2016	V-Foundation Scholar Award/Martin Abeloff Award (Top Ranking Scholar)
2015 – 2017	American Society of Hematology Scholar Award
Oct. 2016	American Red Cross (Blood Services Hero)
Jan. 2017	Inducted into American Society of Clinical Investigation
2019 – 2024	Leukemia & Lymphoma Society Scholar Award
Oct. 2021	Moghadam Family Professor of Medicine

Publication Metrics (as of 07-07-2025 as measured by Google Scholar & Scopus)

Citations = 89,125 h-Index = 99 i10-Index = 199







Peer Reviewed Original Articles (n=143)

1998 – 2000 (n=4)

1. Pollack JR, Perou CM, **Alizadeh AA**, Eisen MB, Pergamenschikov A, Williams CF, Jeffrey SS, Botstein D, Brown PO. Genome-wide analysis of DNA copy-number changes using cDNA microarrays. _Nat Genet_. 1999;23(1):41-6. doi:10.1038/12640. PubMedID: 10471496

2. **Alizadeh AA**, Eisen MB, Davis RE, Ma C, Lossos IS, Rosenwald A, Boldrick JC, Sabet H, Tran T, Yu X, Powell JI, Yang L, Marti GE, Moore T, Hudson J, Jr., Lu L, Lewis DB, Tibshirani R, Sherlock G, Chan WC, Greiner TC, Weisenburger DD, Armitage JO, Warnke R, Levy R, Wilson W, Grever MR, Byrd JC, Botstein D, Brown PO, Staudt LM. Distinct types of diffuse large B-cell lymphoma

identified by gene expression profiling. <u>Nature</u>. 2000;403(6769):503-11. doi:10.1038/35000501. PubMedID: 10676951

3. Hastie T, Tibshirani R, Eisen MB, **Alizadeh A**, Levy R, Staudt L, Chan WC, Botstein D, Brown P. 'Gene shaving' as a method for identifying distinct sets of genes with similar expression patterns. <u>Genome Biol</u>. 2000;1(2):RESEARCH0003. doi:10.1186/gb-2000-1-2-research0003. PubMedID: 11178228; PMCID: 15015

4. Lossos IS, **Alizadeh AA**, Eisen MB, Chan WC, Brown PO, Botstein D, Staudt LM, Levy R. Ongoing immunoglobulin somatic mutation in germinal center B cell-like but not in activated B cell-like diffuse large cell lymphomas. <u>Proc Natl Acad Sci U S A</u>. 2000;97(18):10209-13. doi:10.1073/pnas.180316097. PubMedID: 10954754; PMCID: 27813

2001– 2005 (n=20)

1. Rosenwald A, **Alizadeh AA**, Widhopf G, Simon R, Davis RE, Yu X, Yang L, Pickeral OK, Rassenti LZ, Powell J, Botstein D, Byrd JC, Grever MR, Cheson BD, Chiorazzi N, Wilson WH, Kipps TJ, Brown PO, Staudt LM. Relation of gene expression phenotype to immunoglobulin mutation genotype in B cell chronic lymphocytic leukemia. <u>J Exp Med</u>. 2001;194(11):1639-47. doi:10.1084/jem.194.11.1639. PubMedID: 11733578; PMCID: 2193523

2. Boldrick JC, **Alizadeh AA**, Diehn M, Dudoit S, Liu CL, Belcher CE, Botstein D, Staudt LM, Brown PO, Relman DA. Stereotyped and specific gene expression programs in human innate immune responses to bacteria. <u>Proc Natl Acad Sci U S A</u>. 2002;99(2):972-7. doi:10.1073/pnas.231625398. PubMedID: 11805339; PMCID: 117415

3. Clement K, Viguerie N, Diehn M, **Alizadeh A**, Barbe P, Thalamas C, Storey JD, Brown PO, Barsh GS, Langin D. In vivo regulation of human skeletal muscle gene expression by thyroid hormone. <u>Genome Res</u>. 2002;12(2):281-91. doi:10.1101/gr.207702. PubMedID: 11827947; PMCID: 155277

4. Diehn* M, **Alizadeh* AA**, Rando* OJ, Liu* CL, Stankunas K, Botstein D, Crabtree GR, Brown PO. Genomic expression programs and the integration of the CD28 costimulatory signal in T cell activation. <u>Proc Natl Acad Sci U S A</u>. 2002;99(18):11796-801. doi:10.1073/pnas.092284399. PubMedID: 12195013; PMCID: 129348. (*Contributed Equally)

5. Huang JZ, Sanger WG, Greiner TC, Staudt LM, Weisenburger DD, Pickering DL, Lynch JC, Armitage JO, Warnke RA, **Alizadeh AA**, Lossos IS, Levy R, Chan WC. The t(14;18) defines a unique subset of diffuse large B-cell lymphoma with a germinal center B-cell gene expression profile. <u>Blood</u>. 2002;99(7):2285-90. doi:10.1182/blood.v99.7.2285. PubMedID: 11895757

6. Liu CL, Prapong W, Natkunam Y, **Alizadeh A**, Montgomery K, Gilks CB, van de Rijn M. Software tools for high-throughput analysis and archiving of immunohistochemistry staining data obtained with tissue microarrays. <u>Am J Pathol</u>. 2002;161(5):1557-65. doi:10.1016/S0002-9440(10)64434-3. PubMedID: 12414504; PMCID: 1850765

7. Lossos* IS, **Alizadeh* AA**, Diehn M, Warnke R, Thorstenson Y, Oefner PJ, Brown PO, Botstein D, Levy R. Transformation of follicular lymphoma to diffuse large-cell lymphoma: alternative patterns

with increased or decreased expression of c-myc and its regulated genes. *Proc Natl Acad Sci U S A*. 2002;99(13):8886-91. doi:10.1073/pnas.132253599. PubMedID: 12077300; PMCID: 124393. (*Contributed Equally)

8. Diehn M, Sherlock G, Binkley G, Jin H, Matese JC, Hernandez-Boussard T, Rees CA, Cherry JM, Botstein D, Brown PO, **Alizadeh AA**. SOURCE: a unified genomic resource of functional annotations, ontologies, and gene expression data. *Nucleic Acids Res*. 2003;31(1):219-23. doi:10.1093/nar/gkg014. PubMedID: 12519986; PMCID: 165461

9. Lossos IS, **Alizadeh AA**, Rajapaksa R, Tibshirani R, Levy R. HGAL is a novel interleukin-4-inducible gene that strongly predicts survival in diffuse large B-cell lymphoma. *Blood*. 2003;101(2):433-40. doi:10.1182/blood-2002-06-1931. PubMedID: 12509382

10. Martinez-Climent JA, **Alizadeh AA**, Segraves R, Blesa D, Rubio-Moscardo F, Albertson DG, Garcia-Conde J, Dyer MJ, Levy R, Pinkel D, Lossos IS. Transformation of follicular lymphoma to diffuse large cell lymphoma is associated with a heterogeneous set of DNA copy number and gene expression alterations. *Blood*. 2003;101(8):3109-17. doi:10.1182/blood-2002-07-2119. PubMedID: 12406872

11. Roose JP, Diehn M, Tomlinson MG, Lin J, **Alizadeh AA**, Botstein D, Brown PO, Weiss A. T cell receptor-independent basal signaling via Erk and Abl kinases suppresses RAG gene expression. *PLoS Biol*. 2003;1(2):E53. doi:10.1371/journal.pbio.0000053. PubMedID: 14624253; PMCID: 261890

12. Sarwal M, Chen* X, Chua M, Kambham N, Hsieh S, Satterwhite T, **Alizadeh* A**, Masek M, Diehn* M, Salvatierra O, Jr., Brown* P. Molecular heterogeneity in acute renal allograft rejection identified by DNA microarray profiling. *N Engl J Med*. 2003;349(2):125-38. doi:10.1056/NEJMoa035588. PubMedID: 12853585. (*4 authors withdrew names in protesting NEJM open access publication policy as described here https://www.nature.com/articles/425334a ; PubMed PMID: PMID: 14508450).

13. van der Pouw Kraan TC, van Gaalen FA, Kasperkovitz PV, Verbeet NL, Smeets TJ, Kraan MC, Fero M, Tak PP, Huizinga TW, Pieterman E, Breedveld FC, **Alizadeh AA**, Verweij CL. Rheumatoid arthritis is a heterogeneous disease: evidence for differences in the activation of the STAT-1 pathway between rheumatoid tissues. *Arthritis Rheum*. 2003;48(8):2132-45. doi:10.1002/art.11096. PubMedID: 12905466

14. Whitney AR, Diehn M, Popper SJ, **Alizadeh AA**, Boldrick JC, Relman DA, Brown PO. Individuality and variation in gene expression patterns in human blood. *Proc Natl Acad Sci U S A*. 2003;100(4):1896-901. doi:10.1073/pnas.252784499. PubMedID: 12578971; PMCID: 149930

15. Chang HY, Sneddon JB, **Alizadeh AA**, Sood R, West RB, Montgomery K, Chi JT, van de Rijn M, Botstein D, Brown PO. Gene expression signature of fibroblast serum response predicts human cancer progression: similarities between tumors and wounds. *PLoS Biol*. 2004;2(2):E7. doi:10.1371/journal.pbio.0020007. PubMedID: 14737219; PMCID: 314300

16. Lossos IS, Czerwinski DK, **Alizadeh AA**, Wechser MA, Tibshirani R, Botstein D, Levy R. Prediction of survival in diffuse large-B-cell lymphoma based on the expression of six genes. N Engl J Med. 2004;350(18):1828-37. doi:10.1056/NEJMoa032520. PubMedID: 15115829

17. Lossos IS, Levy R, **Alizadeh AA**. AID is expressed in germinal center B-cell-like and activated B-cell-like diffuse large-cell lymphomas and is not correlated with intraclonal heterogeneity. Leukemia. 2004;18(11):1775-9. doi:10.1038/sj.leu.2403488. PubMedID: 15385936

18. Pathan N, Hemingway* CA, **Alizadeh* AA**, Stephens AC, Boldrick JC, Oragui EE, McCabe C, Welch SB, Whitney A, O'Gara P, Nadel S, Relman DA, Harding SE, Levin M. Role of interleukin 6 in myocardial dysfunction of meningococcal septic shock. Lancet. 2004;363(9404):203-9. doi:10.1016/S0140-6736(03)15326-3. PubMedID: 14738793. (*Contributed Equally)

19. Rosenwald A, Chuang EY, Davis RE, Wiestner A, **Alizadeh AA**, Arthur DC, Mitchell JB, Marti GE, Fowler DH, Wilson WH, Staudt LM. Fludarabine treatment of patients with chronic lymphocytic leukemia induces a p53-dependent gene expression response. Blood. 2004;104(5):1428-34. doi:10.1182/blood-2003-09-3236. PubMedID: 15138159

20. Lu X, Nechushtan H, Ding F, Rosado MF, Singal R, **Alizadeh AA**, Lossos IS. Distinct IL-4-induced gene expression, proliferation, and intracellular signaling in germinal center B-cell-like and activated B-cell-like diffuse large-cell lymphomas. Blood. 2005;105(7):2924-32. doi:10.1182/blood-2004-10-3820. PubMedID: 15591113

2006 – 2010 (n=12)

1. Palmer C, Diehn M, **Alizadeh AA**, Brown PO. Cell-type specific gene expression profiles of leukocytes in human peripheral blood. BMC Genomics. 2006;7:115. doi:10.1186/1471-2164-7-115. PubMedID: 16704732; PMCID: 1479811

2. Chiu CY, **Alizadeh AA**, Rouskin S, Merker JD, Yeh E, Yagi S, Schnurr D, Patterson BK, Ganem D, DeRisi JL. Diagnosis of a critical respiratory illness caused by human metapneumovirus by use of a pan-virus microarray. J Clin Microbiol. 2007;45(7):2340-3. doi:10.1128/JCM.00364-07. PubMedID: 17494722; PMCID: 1933008

3. Gentles AJ, **Alizadeh AA**, Lee SI, Myklebust JH, Shachaf CM, Shahbaba B, Levy R, Koller D, Plevritis SK. A pluripotency signature predicts histologic transformation and influences survival in follicular lymphoma patients. Blood. 2009;114(15):3158-66. doi:10.1182/blood-2009-02-202465. PubMedID: 19636063; PMCID: 2759646. (*Contributed Equally)

4. Houot R, Goldstein MJ, Kohrt HE, Myklebust JH, **Alizadeh AA**, Lin JT, Irish JM, Torchia JA, Kolstad A, Chen L, Levy R. Therapeutic effect of CD137 immunomodulation in lymphoma and its enhancement by Treg depletion. Blood. 2009;114(16):3431-8. doi:10.1182/blood-2009-05-223958. PubMedID: 19641184; PMCID: 2765679

5. Majeti* R, Chao* MP, **Alizadeh AA**, Pang WW, Jaiswal S, Gibbs KD, Jr., van Rooijen N, Weissman IL. CD47 is an adverse prognostic factor and therapeutic antibody target on human acute myeloid

leukemia stem cells. _Cell_. 2009;138(2):286-99. doi:10.1016/j.cell.2009.05.045. PubMedID: 19632179; PMCID: 2726837. (*Contributed Equally)

6. **Alizadeh AA**, Bohen SP, Lossos C, Martinez-Climent JA, Ramos JC, Cubedo-Gil E, Harrington WJ, Jr., Lossos IS. Expression profiles of adult T-cell leukemia-lymphoma and associations with clinical responses to zidovudine and interferon alpha. _Leuk Lymphoma_. 2010;51(7):1200-16. doi:10.3109/10428191003728628. PubMedID: 20370541; PMCID: 4296320

7. Chao MP, Jaiswal S, Weissman-Tsukamoto R, **Alizadeh AA**, Gentles AJ, Volkmer J, Weiskopf K, Willingham SB, Raveh T, Park CY, Majeti R, Weissman IL. Calreticulin is the dominant pro-phagocytic signal on multiple human cancers and is counterbalanced by CD47. _Sci Transl Med_. 2010;2(63):63ra94. doi:10.1126/scitranslmed.3001375. PubMedID: 21178137; PMCID: 4126904

8. Chao* MP, **Alizadeh* AA**, Tang C, Myklebust JH, Varghese B, Gill S, Jan M, Cha AC, Chan CK, Tan BT, Park CY, Zhao F, Kohrt HE, Malumbres R, Briones J, Gascoyne RD, Lossos IS, Levy R, Weissman IL, Majeti R. Anti-CD47 antibody synergizes with rituximab to promote phagocytosis and eradicate non-Hodgkin lymphoma. _Cell_. 2010;142(5):699-713. doi:10.1016/j.cell.2010.07.044. PubMedID: 20813259; PMCID: 2943345. (*Contributed Equally)

9. Gentles AJ, Plevritis SK, Majeti R, **Alizadeh AA**. Association of a leukemic stem cell gene expression signature with clinical outcomes in acute myeloid leukemia. _JAMA_. 2010;304(24):2706-15. doi:10.1001/jama.2010.1862. PubMedID: 21177505; PMCID: 4089862

10. Irish JM, Myklebust JH, **Alizadeh AA**, Houot R, Sharman JP, Czerwinski DK, Nolan GP, Levy R. B-cell signaling networks reveal a negative prognostic human lymphoma cell subset that emerges during tumor progression. _Proc Natl Acad Sci U S A_. 2010;107(29):12747-54. doi:10.1073/pnas.1002057107. PubMedID: 20543139; PMCID: 2919949

11. Kohrt HE, Patel S, Ho M, Owen T, Pollyea DA, Majeti R, Gotlib J, Coutre S, Liedtke M, Berube C, **Alizadeh AA**, Medeiros BC. Second-line mitoxantrone, etoposide, and cytarabine for acute myeloid leukemia: a single-center experience. _Am J Hematol_. 2010;85(11):877-81. doi:10.1002/ajh.21857. PubMedID: 20872554

12. Medeiros BC, Kohrt HE, Arber DA, Bangs CD, Cherry AM, Majeti R, Kogel KE, Azar CA, Patel S, **Alizadeh AA**. Immunophenotypic features of acute myeloid leukemia with inv(3)(q21q26.2)/t(3;3)(q21;q26.2). _Leuk Res_. 2010;34(5):594-7. doi:10.1016/j.leukres.2009.08.029. PubMedID: 19781775; PMCID: 5568665

2011– 2015 (n=35)

1. **Alizadeh AA**, Gentles AJ, Alencar AJ, Liu CL, Kohrt HE, Houot R, Goldstein MJ, Zhao S, Natkunam Y, Advani RH, Gascoyne RD, Briones J, Tibshirani RJ, Myklebust JH, Plevritis SK, Lossos IS, Levy R. Prediction of survival in diffuse large B-cell lymphoma based on the expression of 2 genes reflecting tumor and microenvironment. _Blood_. 2011;118(5):1350-8. doi:10.1182/blood-2011-03-345272. PubMedID: 21670469; PMCID: 3152499

2. Chao MP, **Alizadeh AA**, Tang C, Jan M, Weissman-Tsukamoto R, Zhao F, Park CY, Weissman IL, Majeti R. Therapeutic antibody targeting of CD47 eliminates human acute lymphoblastic leukemia. *Cancer Res*. 2011;71(4):1374-84. doi:10.1158/0008-5472.CAN-10-2238. PubMedID: 21177380; PMCID: 3041855

3. Hosein PJ, Pastorini VH, Paes FM, Eber D, Chapman JR, Serafini AN, **Alizadeh AA**, Lossos IS. Utility of positron emission tomography scans in mantle cell lymphoma. *Am J Hematol*. 2011;86(10):841-5. doi:10.1002/ajh.22126. PubMedID: 21922524

4. Jan M, Chao MP, Cha AC, **Alizadeh AA**, Gentles AJ, Weissman IL, Majeti R. Prospective separation of normal and leukemic stem cells based on differential expression of TIM3, a human acute myeloid leukemia stem cell marker. *Proc Natl Acad Sci U S A*. 2011;108(12):5009-14. doi:10.1073/pnas.1100551108. PubMedID: 21383193; PMCID: 3064328

5. Kohrt HE, Houot R, Goldstein MJ, Weiskopf K, **Alizadeh AA**, Brody J, Muller A, Pachynski R, Czerwinski D, Coutre S, Chao MP, Chen L, Tedder TF, Levy R. CD137 stimulation enhances the antilymphoma activity of anti-CD20 antibodies. *Blood*. 2011;117(8):2423-32. doi:10.1182/blood-2010-08-301945. PubMedID: 21193697; PMCID: 3062409

6. Levy D, Liu CL, Yang Z, Newman AM, **Alizadeh AA**, Utz PJ, Gozani O. A proteomic approach for the identification of novel lysine methyltransferase substrates. *Epigenetics Chromatin*. 2011;4:19. doi:10.1186/1756-8935-4-19. PubMedID: 22024134; PMCID: 3212905. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

7. Anderson MW, Zhao S, Freud AG, Czerwinski DK, Kohrt H, **Alizadeh AA**, Houot R, Azambuja D, Biasoli I, Morais JC, Spector N, Molina-Kirsch HF, Warnke RA, Levy R, Natkunam Y. CD137 is expressed in follicular dendritic cell tumors and in classical Hodgkin and T-cell lymphomas: diagnostic and therapeutic implications. *Am J Pathol*. 2012;181(3):795-803. doi:10.1016/j.ajpath.2012.05.015. PubMedID: 22901750; PMCID: 3432425. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

8. Huse K, Bakkebo M, Walchli S, Oksvold MP, Hilden VI, Forfang L, Bredahl ML, Liestol K, **Alizadeh AA**, Smeland EB, Myklebust JH. Role of Smad proteins in resistance to BMP-induced growth inhibition in B-cell lymphoma. *PLoS One*. 2012;7(10):e46117. doi:10.1371/journal.pone.0046117. PubMedID: 23049692; PMCID: 3462182. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

9. Liu CL, Tangsombatvisit S, Rosenberg JM, Mandelbaum G, Gillespie EC, Gozani OP, **Alizadeh* AA**, Utz* PJ. Specific post-translational histone modifications of neutrophil extracellular traps as immunogens and potential targets of lupus autoantibodies. *Arthritis Res Ther*. 2012;14(1):R25. doi:10.1186/ar3707. PubMedID: 22300536; PMCID: 3392818. (*Contributed Equally/Corresponding Author) Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

10. McClellan JS, Kohrt HE, Coutre S, Gotlib JR, Majeti R, **Alizadeh* AA**, Medeiros* BC. Treatment advances have not improved the early death rate in acute promyelocytic leukemia. *Haematologica*.

2012;97(1):133-6. doi:10.3324/haematol.2011.046490. PubMedID: 21993679; PMCID: 3248942. (*Contributed Equally) Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

11. Pachynski RK, Zabel BA, Kohrt HE, Tejeda NM, Monnier J, Swanson CD, Holzer AK, Gentles AJ, Sperinde GV, Edalati A, Hadeiba HA, **Alizadeh AA**, Butcher EC. The chemoattractant chemerin suppresses melanoma by recruiting natural killer cell antitumor defenses. *J Exp Med*. 2012;209(8):1427-35. doi:10.1084/jem.20112124. PubMedID: 22753924; PMCID: 3409495. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

12. Powel MS, **Alizadeh AA**, Budvytiene I, Schaenman JM, Banaei N. First isolation of Cryptococcus uzbekistanensis from an immunocompromised patient with Lymphoma. *J Clin Microbiol*. 2012;50(3):1125-7. doi:10.1128/JCM.05678-11. PubMedID: 22189126; PMCID: 3295126. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

13. Sachen KL, Strohman MJ, Singletary J, **Alizadeh AA**, Kattah NH, Lossos C, Mellins ED, Levy S, Levy R. Self-antigen recognition by follicular lymphoma B-cell receptors. *Blood*. 2012;120(20):4182-90. doi:10.1182/blood-2012-05-427534. PubMedID: 23024238; PMCID: 3501716. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

14. Sun D, Elson P, Liedtke M, Medeiros BC, Earl M, **Alizadeh A**, Bates J, Sekeres MA, Coutre S, Kalaycio M, Sobecks R, Copelan E, Advani AS. Absolute lymphocyte count at day 28 independently predicts event-free and overall survival in adults with newly diagnosed acute lymphoblastic leukemia. *Am J Hematol*. 2012;87(10):957-60. doi:10.1002/ajh.23279. PubMedID: 22729847

15. Volkmer JP, Sahoo D, Chin RK, Ho PL, Tang C, Kurtova AV, Willingham SB, Pazhanisamy SK, Contreras-Trujillo H, Storm TA, Lotan Y, Beck AH, Chung BI, **Alizadeh AA**, Godoy G, Lerner SP, van de Rijn M, Shortliffe LD, Weissman IL, Chan KS. Three differentiation states risk-stratify bladder cancer into distinct subtypes. *Proc Natl Acad Sci U S A*. 2012;109(6):2078-83. doi:10.1073/pnas.1120605109. PubMedID: 22308455; PMCID: 3277552. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

16. Warsch S, Hosein PJ, Maeda LS, **Alizadeh AA**, Lossos IS. A retrospective study evaluating the efficacy and safety of bendamustine in the treatment of mantle cell lymphoma. *Leuk Lymphoma*. 2012;53(7):1299-305. doi:10.3109/10428194.2011.649476. PubMedID: 22185662; PMCID: 4570573

17. Willingham SB, Volkmer JP, Gentles AJ, Sahoo D, Dalerba P, Mitra SS, Wang J, Contreras-Trujillo H, Martin R, Cohen JD, Lovelace P, Scheeren FA, Chao MP, Weiskopf K, Tang C, Volkmer AK, Naik TJ, Storm TA, Mosley AR, Edris B, Schmid SM, Sun CK, Chua MS, Murillo O, Rajendran P, Cha AC, Chin RK, Kim D, Adorno M, Raveh T, Tseng D, Jaiswal S, Enger PO, Steinberg GK, Li G, So SK, Majeti R, Harsh GR, van de Rijn M, Teng NN, Sunwoo JB, **Alizadeh AA**, Clarke MF, Weissman IL. The CD47-signal regulatory protein alpha (SIRPa) interaction is a therapeutic target for human solid tumors. *Proc Natl Acad Sci U S A*. 2012;109(17):6662-7. doi:10.1073/pnas.1121623109. PubMedID: 22451913; PMCID: 3340046. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

18. Green MR, Gentles AJ, Nair RV, Irish JM, Kihira S, Liu CL, Kela I, Hopmans ES, Myklebust JH, Ji H, Plevritis SK, Levy R, **Alizadeh AA**. Hierarchy in somatic mutations arising during genomic evolution and progression of follicular lymphoma. *Blood*. 2013;121(9):1604-11. doi:10.1182/blood-2012-09-457283. PubMedID: 23297126; PMCID: 3587323

19. Keegan TH, Moy LM, Foran JM, **Alizadeh AA**, Chang ET, Shema SJ, Schupp CW, Clarke CA, Glaser SL. Rituximab use and survival after diffuse large B-cell or follicular lymphoma: a population-based study. *Leuk Lymphoma*. 2013;54(4):743-51. doi:10.3109/10428194.2012.727415. PubMedID: 22957852. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

20. Kohrt HE, Tian L, Li L, **Alizadeh AA**, Hsieh S, Tibshirani RJ, Strober S, Sarwal M, Lowsky R. Identification of gene microarray expression profiles in patients with chronic graft-versus-host disease following allogeneic hematopoietic cell transplantation. *Clin Immunol*. 2013;148(1):124-35. doi:10.1016/j.clim.2013.04.013. PubMedID: 23685278; PMCID: 8166221. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

21. Myklebust JH, Irish JM, Brody J, Czerwinski DK, Houot R, Kohrt HE, Timmerman J, Said J, Green MR, Delabie J, Kolstad A, **Alizadeh AA**, Levy R. High PD-1 expression and suppressed cytokine signaling distinguish T cells infiltrating follicular lymphoma tumors from peripheral T cells. *Blood*. 2013;121(8):1367-76. doi:10.1182/blood-2012-04-421826. PubMedID: 23297127; PMCID: 3578953. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

22. Romero-Camarero I, Jiang X, Natkunam Y, Lu X, Vicente-Duenas C, Gonzalez-Herrero I, Flores T, Garcia JL, McNamara G, Kunder C, Zhao S, Segura V, Fontan L, Martinez-Climent JA, Garcia-Criado FJ, Theis JD, Dogan A, Campos-Sanchez E, Green MR, **Alizadeh AA**, Cobaleda C, Sanchez-Garcia I, Lossos IS. Germinal centre protein HGAL promotes lymphoid hyperplasia and amyloidosis via BCR-mediated Syk activation. *Nat Commun*. 2013;4:1338. doi:10.1038/ncomms2334. PubMedID: 23299888; PMCID: 3545406. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

23. Green MR, Vicente-Duenas C, Romero-Camarero I, Long Liu C, Dai B, Gonzalez-Herrero I, Garcia-Ramirez I, Alonso-Escudero E, Iqbal J, Chan WC, Campos-Sanchez E, Orfao A, Pintado B, Flores T, Blanco O, Jimenez R, Martinez-Climent JA, Criado FJ, Cenador MB, Zhao S, Natkunam Y, Lossos IS, Majeti R, Melnick A, Cobaleda C, **Alizadeh AA**, Sanchez-Garcia I. Transient expression of Bcl6 is sufficient for oncogenic function and induction of mature B-cell lymphoma. *Nat Commun*. 2014;5:3904. doi:10.1038/ncomms4904. PubMedID: 24887457; PMCID: 4321731. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

24. Levy R, Ganjoo KN, Leonard JP, Vose JM, Flinn IW, Ambinder RF, Connors JM, Berinstein NL, Belch AR, Bartlett NL, Nichols C, Emmanouilides CE, Timmerman JM, Gregory SA, Link BK, Inwards DJ, Freedman AS, Matous JV, Robertson MJ, Kunkel LA, Ingolia DE, Gentles AJ, Liu CL,

Tibshirani R, **Alizadeh* AA**, Denney DW, Jr. Active idiotypic vaccination versus control immunotherapy for follicular lymphoma. J Clin Oncol. 2014;32(17):1797-803. doi:10.1200/JCO.2012.43.9273. PubMedID: 24799467; PMCID: 4039868. (*Corresponding Author) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

25. Newman AM, Bratman SV, Stehr H, Lee LJ, Liu CL, Diehn M, **Alizadeh* AA**. FACTERA: a practical method for the discovery of genomic rearrangements at breakpoint resolution. Bioinformatics. 2014;30(23):3390-3. doi:10.1093/bioinformatics/btu549. PubMedID: 25143292; PMCID: 4296148. (*Corresponding Author) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

26. Newman AM, Bratman SV, To J, Wynne JF, Eclov NC, Modlin LA, Liu CL, Neal JW, Wakelee HA, Merritt RE, Shrager JB, Loo BW, Jr., **Alizadeh* AA**, Diehn* M. An ultrasensitive method for quantitating circulating tumor DNA with broad patient coverage. Nat Med. 2014;20(5):548-54. doi:10.1038/nm.3519. PubMedID: 24705333; PMCID: 4016134. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

27. Tian L, **Alizadeh AA**, Gentles AJ, Tibshirani R. A Simple Method for Estimating Interactions between a Treatment and a Large Number of Covariates. J Am Stat Assoc. 2014;109(508):1517-32. doi:10.1080/01621459.2014.951443. PubMedID: 25729117; PMCID: 4338439. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

28. Weinberg OK, Seetharam M, Ren L, **Alizadeh A**, Arber DA. Mixed phenotype acute leukemia: A study of 61 cases using World Health Organization and European Group for the Immunological Classification of Leukaemias criteria. Am J Clin Pathol. 2014;142(6):803-8. doi:10.1309/AJCPPVUPOTUVOIB5. PubMedID: 25389334. Participated in acquisition of data, analysis and interpretation of data, and critical revision of the manuscript.

29. Gentles AJ, Bratman SV, Lee LJ, Harris JP, Feng W, Nair RV, Shultz DB, Nair VS, Hoang CD, West RB, Plevritis SK, **Alizadeh* AA**, Diehn* M. Integrating Tumor and Stromal Gene Expression Signatures With Clinical Indices for Survival Stratification of Early-Stage Non-Small Cell Lung Cancer. J Natl Cancer Inst. 2015;107(10). doi:10.1093/jnci/djv211. PubMedID: 26286589; PMCID: 6090873. (*Contributed Equally / Corresponding Author) Participated as co-senior author in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

30. Gentles AJ, Newman AM, Liu CL, Bratman SV, Feng W, Kim D, Nair VS, Xu Y, Khuong A, Hoang CD, Diehn M, West RB, Plevritis SK, **Alizadeh AA**. The prognostic landscape of genes and infiltrating immune cells across human cancers. Nat Med. 2015;21(8):938-45. doi:10.1038/nm.3909. PubMedID: 26193342; PMCID: 4852857. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

31. Green MR, Kihira S, Liu CL, Nair RV, Salari R, Gentles AJ, Irish J, Stehr H, Vicente-Duenas C, Romero-Camarero I, Sanchez-Garcia I, Plevritis SK, Arber DA, Batzoglou S, Levy R, **Alizadeh AA**. Mutations in early follicular lymphoma progenitors are associated with suppressed antigen presentation. *Proc Natl Acad Sci U S A*. 2015;112(10):E1116-25. doi:10.1073/pnas.1501199112. PubMedID: 25713363; PMCID: 4364211. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

32. Karmakar S, Harcourt EM, Hewings DS, Scherer F, Lovejoy AF, Kurtz DM, Ehrenschwender T, Barandun LJ, Roost C, **Alizadeh AA**, Kool ET. Organocatalytic removal of formaldehyde adducts from RNA and DNA bases. *Nat Chem*. 2015;7(9):752-8. doi:10.1038/nchem.2307. PubMedID: 26291948; PMCID: 4545578. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

33. Kurtz DM, Green MR, Bratman SV, Scherer F, Liu CL, Kunder CA, Takahashi K, Glover C, Keane C, Kihira S, Visser B, Callahan J, Kong KA, Faham M, Corbelli KS, Miklos D, Advani RH, Levy R, Hicks RJ, Hertzberg M, Ohgami RS, Gandhi MK, Diehn M, **Alizadeh AA**. Noninvasive monitoring of diffuse large B-cell lymphoma by immunoglobulin high-throughput sequencing. *Blood*. 2015;125(24):3679-87. doi:10.1182/blood-2015-03-635169. PubMedID: 25887775; PMCID: 4463733

34. Newman AM, Liu CL, Green MR, Gentles AJ, Feng W, Xu Y, Hoang CD, Diehn M, **Alizadeh AA**. Robust enumeration of cell subsets from tissue expression profiles. *Nat Methods*. 2015;12(5):453-7. doi:10.1038/nmeth.3337. PubMedID: 25822800; PMCID: 4739640. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

35. Whiting CC, Siebert J, Newman AM, Du HW, **Alizadeh AA**, Goronzy J, Weyand CM, Krishnan E, Fathman CG, Maecker HT. Large-Scale and Comprehensive Immune Profiling and Functional Analysis of Normal Human Aging. *PLoS One*. 2015;10(7):e0133627. doi:10.1371/journal.pone.0133627. PubMedID: 26197454; PMCID: 4509650. Participated in analysis and interpretation of data, drafting and critical revision of the manuscript.

2016 – 2020 (n=35)

1. Chabon JJ, Simmons AD, Lovejoy AF, Esfahani MS, Newman AM, Haringsma HJ, Kurtz DM, Stehr H, Scherer F, Karlovich CA, Harding TC, Durkin KA, Otterson GA, Purcell WT, Camidge DR, Goldman JW, Sequist LV, Piotrowska Z, Wakelee HA, Neal JW, **Alizadeh* AA**, Diehn* M. Circulating tumour DNA profiling reveals heterogeneity of EGFR inhibitor resistance mechanisms in lung cancer patients. *Nat Commun*. 2016;7:11815. doi:10.1038/ncomms11815. PubMedID: 27283993; PMCID: 4906406. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

2. Newman AM, Lovejoy AF, Klass DM, Kurtz DM, Chabon JJ, Scherer F, Stehr H, Liu CL, Bratman SV, Say C, Zhou L, Carter JN, West RB, Sledge GW, Shrager JB, Loo BW, Jr., Neal JW, Wakelee HA, Diehn M, **Alizadeh AA**. Integrated digital error suppression for improved detection of circulating tumor DNA. *Nat Biotechnol*. 2016;34(5):547-55. doi:10.1038/nbt.3520. PubMedID: 27018799; PMCID: 4907374

3. Scherer F, Kurtz DM, Newman AM, Stehr H, Craig AF, Esfahani MS, Lovejoy AF, Chabon JJ, Klass DM, Liu CL, Zhou L, Glover C, Visser BC, Poultsides GA, Advani RH, Maeda LS, Gupta NK, Levy R, Ohgami RS, Kunder CA, Diehn M, **Alizadeh AA**. Distinct biological subtypes and patterns of genome evolution in lymphoma revealed by circulating tumor DNA. *Sci Transl Med*. 2016;8(364):364ra155. doi:10.1126/scitranslmed.aai8545. PubMedID: 27831904; PMCID: 5490494

4. Chaudhuri AA, Chabon JJ, Lovejoy AF, Newman AM, Stehr H, Azad TD, Khodadoust MS, Esfahani MS, Liu CL, Zhou L, Scherer F, Kurtz DM, Say C, Carter JN, Merriott DJ, Dudley JC, Binkley MS, Modlin L, Padda SK, Gensheimer MF, West RB, Shrager JB, Neal JW, Wakelee HA, Loo BW, Jr., **Alizadeh* AA**, Diehn* M. Early Detection of Molecular Residual Disease in Localized Lung Cancer by Circulating Tumor DNA Profiling. *Cancer Discov*. 2017;7(12):1394-403. doi:10.1158/2159-8290.CD-17-0716. PubMedID: 28899864; PMCID: 5895851. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

5. Garcia-Ramirez I, Tadros S, Gonzalez-Herrero I, Martin-Lorenzo A, Rodriguez-Hernandez G, Moore D, Ruiz-Roca L, Blanco O, Alonso-Lopez D, Rivas JL, Hartert K, Duval R, Klinkebiel D, Bast M, Vose J, Lunning M, Fu K, Greiner T, Rodrigues-Lima F, Jimenez R, Criado FJG, Cenador MBG, Brindle P, Vicente-Duenas C, **Alizadeh* A**, Sanchez-Garcia* I, Green* MR. Crebbp loss cooperates with Bcl2 overexpression to promote lymphoma in mice. *Blood*. 2017;129(19):2645-56. doi:10.1182/blood-2016-08-733469. PubMedID: 28288979; PMCID: 5428458. (*Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

6. Jeong Y, Hoang NT, Lovejoy A, Stehr H, Newman AM, Gentles AJ, Kong W, Truong D, Martin S, Chaudhuri A, Heiser D, Zhou L, Say C, Carter JN, Hiniker SM, Loo BW, Jr., West RB, Beachy P, **Alizadeh AA**, Diehn M. Role of KEAP1/NRF2 and TP53 Mutations in Lung Squamous Cell Carcinoma Development and Radiation Resistance. *Cancer Discov*. 2017;7(1):86-101. doi:10.1158/2159-8290.CD-16-0127. PubMedID: 27663899; PMCID: 5222718. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

7. Khodadoust MS, Olsson N, Wagar LE, Haabeth OA, Chen B, Swaminathan K, Rawson K, Liu CL, Steiner D, Lund P, Rao S, Zhang L, Marceau C, Stehr H, Newman AM, Czerwinski DK, Carlton VE, Moorhead M, Faham M, Kohrt HE, Carette J, Green MR, Davis MM, Levy R, Elias JE, **Alizadeh AA**. Antigen presentation profiling reveals recognition of lymphoma immunoglobulin neoantigens. *Nature*. 2017;543(7647):723-7. doi:10.1038/nature21433. PubMedID: 28329770; PMCID: 5808925. Participated in analysis and interpretation of data, drafting and revision of the manuscript.

8. Kunder CA, Roncador G, Advani RH, Gualco G, Bacchi CE, Sabile JM, Lossos IS, Nie K, Tibshirani RJ, Green MR, **Alizadeh AA**, Natkunam Y. KLHL6 Is Preferentially Expressed in Germinal Center-Derived B-Cell Lymphomas. *Am J Clin Pathol*. 2017;148(6):465-76. doi:10.1093/ajcp/aqx099. PubMedID: 29140403; PMCID: 6279122. Participated in analysis and interpretation of data, drafting and revision of the manuscript.

9. Myklebust JH, Brody J, Kohrt HE, Kolstad A, Czerwinski DK, Walchli S, Green MR, Troen G, Liestol K, Beiske K, Houot R, Delabie J, **Alizadeh AA**, Irish JM, Levy R. Distinct patterns of B-cell receptor signaling in non-Hodgkin lymphomas identified by single-cell profiling. *Blood*. 2017;129(6):759-70. doi:10.1182/blood-2016-05-718494. PubMedID: 28011673; PMCID: 5301824

10. Scherer F, Kurtz DM, Diehn M, **Alizadeh AA**. High-throughput sequencing for noninvasive disease detection in hematologic malignancies. *Blood*. 2017;130(4):440-52. doi:10.1182/blood-2017-03-735639. PubMedID: 28600337; PMCID: 5881609

11. Chen B, Khodadoust MS, Liu CL, Newman AM, **Alizadeh AA**. Profiling Tumor Infiltrating Immune Cells with CIBERSORT. *Methods Mol Biol*. 2018;1711:243-59. doi:10.1007/978-1-4939-7493-1_12. PubMedID: 29344893; PMCID: 5895181

12. Erdrich J, Schaberg KB, Khodadoust MS, Zhou L, Shelton AA, Visser BC, Ford JM, **Alizadeh AA**, Quake SR, Kunz PL, Beausang JF. Surgical and molecular characterization of primary and metastatic disease in a neuroendocrine tumor arising in a tailgut cyst. *Cold Spring Harb Mol Case Stud*. 2018;4(5). doi:10.1101/mcs.a003004. PubMedID: 30087100; PMCID: 6169824. Participated in interpretation of data, drafting and critical revision of the manuscript.

13. Kurtz DM, Scherer F, Jin MC, Soo J, Craig AFM, Esfahani MS, Chabon JJ, Stehr H, Liu CL, Tibshirani R, Maeda LS, Gupta NK, Khodadoust MS, Advani RH, Levy R, Newman AM, Duhrsen U, Huttmann A, Meignan M, Casasnovas RO, Westin JR, Roschewski M, Wilson WH, Gaidano G, Rossi D, Diehn M, **Alizadeh AA**. Circulating Tumor DNA Measurements As Early Outcome Predictors in Diffuse Large B-Cell Lymphoma. *J Clin Oncol*. 2018;36(28):2845-53. doi:10.1200/JCO.2018.78.5246. PubMedID: 30125215; PMCID: 6161832

14. Przybyl J, Chabon JJ, Spans L, Ganjoo KN, Vennam S, Newman AM, Forgo E, Varma S, Zhu S, Debiec-Rychter M, **Alizadeh AA**, Diehn M, van de Rijn M. Combination Approach for Detecting Different Types of Alterations in Circulating Tumor DNA in Leiomyosarcoma. *Clin Cancer Res*. 2018;24(11):2688-99. doi:10.1158/1078-0432.CCR-17-3704. PubMedID: 29463554; PMCID: 5984700. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

15. Reid S, Newman AM, Diehn M, **Alizadeh AA**, Tibshirani R. Genomic Feature Selection by Coverage Design Optimization. *J Appl Stat*. 2018;45(14):2658-76. doi:10.1080/02664763.2018.1432577. PubMedID: 30294060; PMCID: 6173524. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

16. Chen B, Khodadoust MS, Olsson N, Wagar LE, Fast E, Liu CL, Muftuoglu Y, Sworder BJ, Diehn M, Levy R, Davis MM, Elias JE, Altman RB, **Alizadeh AA**. Predicting HLA class II antigen presentation through integrated deep learning. *Nat Biotechnol*. 2019;37(11):1332-43. doi:10.1038/s41587-019-0280-2. PubMedID: 31611695; PMCID: 7075463

17. Dudley JC, Schroers-Martin J, Lazzareschi DV, Shi WY, Chen SB, Esfahani MS, Trivedi D, Chabon JJ, Chaudhuri AA, Stehr H, Liu CL, Lim H, Costa HA, Nabet BY, Sin MLY, Liao JC, **Alizadeh* AA**, Diehn* M. Detection and Surveillance of Bladder Cancer Using Urine Tumor DNA. *Cancer Discov*.

2019;9(4):500-9. doi:10.1158/2159-8290.CD-18-0825. PubMedID: 30578357; PMCID: 6467650. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

18. Esfahani MS, Lee LJ, Jeon YJ, Flynn RA, Stehr H, Hui AB, Ishisoko N, Kildebeck E, Newman AM, Bratman SV, Porteus MH, Chang HY, **Alizadeh AA**, Diehn M. Functional significance of U2AF1 S34F mutations in lung adenocarcinomas. *Nat Commun*. 2019;10(1):5712. doi:10.1038/s41467-019-13392-y. PubMedID: 31836708; PMCID: 6911043

19. Jain N, Hartert K, Tadros S, Fiskus W, Havranek O, Ma MCJ, Bouska A, Heavican T, Kumar D, Deng Q, Moore D, Pak C, Liu CL, Gentles AJ, Hartmann E, Kridel R, Smedby KE, Juliusson G, Rosenquist R, Gascoyne RD, Rosenwald A, Giancotti F, Neelapu SS, Westin J, Vose JM, Lunning MA, Greiner T, Rodig S, Iqbal J, **Alizadeh AA**, Davis RE, Bhalla K, Green MR. Targetable genetic alterations of TCF4 (E2-2) drive immunoglobulin expression in diffuse large B cell lymphoma. *Sci Transl Med*. 2019;11(497). doi:10.1126/scitranslmed.aav5599. PubMedID: 31217338; PMCID: 6724184. Participated in analysis and interpretation of data, and revision of the manuscript.

20. Khodadoust MS, Olsson N, Chen B, Sworder B, Shree T, Liu CL, Zhang L, Czerwinski DK, Davis MM, Levy R, Elias JE, **Alizadeh AA**. B-cell lymphomas present immunoglobulin neoantigens. *Blood*. 2019;133(8):878-81. doi:10.1182/blood-2018-06-845156. PubMedID: 30545830; PMCID: 6384186

21. Kurtz DM, Esfahani MS, Scherer F, Soo J, Jin MC, Liu CL, Newman AM, Duhrsen U, Huttmann A, Casasnovas O, Westin JR, Ritgen M, Bottcher S, Langerak AW, Roschewski M, Wilson WH, Gaidano G, Rossi D, Bahlo J, Hallek M, Tibshirani R, Diehn M, **Alizadeh AA**. Dynamic Risk Profiling Using Serial Tumor Biomarkers for Personalized Outcome Prediction. *Cell*. 2019;178(3):699-713 e19. doi:10.1016/j.cell.2019.06.011. PubMedID: 31280963; PMCID: 7380118. (Cover Issue)

22. Newman AM, Steen CB, Liu CL, Gentles AJ, Chaudhuri AA, Scherer F, Khodadoust MS, Esfahani MS, Luca BA, Steiner D, Diehn M, **Alizadeh AA**. Determining cell type abundance and expression from bulk tissues with digital cytometry. *Nat Biotechnol*. 2019;37(7):773-82. doi:10.1038/s41587-019-0114-2. PubMedID: 31061481; PMCID: 6610714

23. Accomando WP, Rao AR, Hogan DJ, Newman AM, Nakao A, **Alizadeh AA**, Diehn M, Diago OR, Gammon D, Haghighi A, Gruber HE, Jolly DJ, Ostertag D. Molecular and Immunologic Signatures are Related to Clinical Benefit from Treatment with Vocimagene Amiretrorepvec (Toca 511) and 5-Fluorocytosine (Toca FC) in Patients with Glioma. *Clin Cancer Res*. 2020;26(23):6176-86. doi:10.1158/1078-0432.CCR-20-0536. PubMedID: 32816892. Participated in analysis and interpretation of data, and critical revision of the manuscript.

24. Alig S, Jurinovic V, Shahrokh Esfahani M, Haebe S, Passerini V, Hellmuth JC, Gaitzsch E, Keay W, Tahiri N, Zoellner A, Rosenwald A, Klapper W, Stein H, Feller A, Ott G, Staiger AM, Horn H, Hansmann ML, Pott C, Unterhalt M, Schmidt C, Dreyling M, **Alizadeh AA**, Hiddemann W, Hoster E, Weigert O. Evaluating upfront high-dose consolidation after R-CHOP for follicular lymphoma by clinical and genetic risk models. *Blood Adv*. 2020;4(18):4451-62.

doi:10.1182/bloodadvances.2020002546. PubMedID: 32941649; PMCID: 7509878. Participated in analysis and interpretation of data, drafting and revision of the manuscript.

25. Avanzini S, Kurtz DM, Chabon JJ, Moding EJ, Hori SS, Gambhir SS, **Alizadeh AA**, Diehn M, Reiter JG. A mathematical model of ctDNA shedding predicts tumor detection size. *Sci Adv*. 2020;6(50):2020.02.12.946228. Epub 2020/12/15. doi:10.1126/sciadv.abc4308. PubMedID: 33310847; PMCID: PMC7732186

26. Azad TD, Chaudhuri AA, Fang P, Qiao Y, Esfahani MS, Chabon JJ, Hamilton EG, Yang YD, Lovejoy A, Newman AM, Kurtz DM, Jin M, Schroers-Martin J, Stehr H, Liu CL, Hui AB, Patel V, Maru D, Lin SH, **Alizadeh AA***, Diehn* M. Circulating Tumor DNA Analysis for Detection of Minimal Residual Disease After Chemoradiotherapy for Localized Esophageal Cancer. *Gastroenterology*. 2020;158(3):494-505 e6. doi:10.1053/j.gastro.2019.10.039. PubMedID: 31711920; PMCID: 7010551. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

27. Binkley MS, Jeon YJ, Nesselbush M, Moding EJ, Nabet BY, Almanza D, Kunder C, Stehr H, Yoo CH, Rhee S, Xiang M, Chabon JJ, Hamilton E, Kurtz DM, Gojenola L, Owen SG, Ko RB, Shin JH, Maxim PG, Lui NS, Backhus LM, Berry MF, Shrager JB, Ramchandran KJ, Padda SK, Das M, Neal JW, Wakelee HA, **Alizadeh AA**, Loo BW, Jr., Diehn M. KEAP1/NFE2L2 Mutations Predict Lung Cancer Radiation Resistance That Can Be Targeted by Glutaminase Inhibition. *Cancer Discov*. 2020;10(12):1826-41. doi:10.1158/2159-8290.CD-20-0282. PubMedID: 33071215; PMCID: 7710558. Participated in analysis and interpretation of data, and revision of the manuscript.

28. Chabon JJ, Hamilton EG, Kurtz DM, Esfahani MS, Moding EJ, Stehr H, Schroers-Martin J, Nabet BY, Chen B, Chaudhuri AA, Liu CL, Hui AB, Jin MC, Azad TD, Almanza D, Jeon YJ, Nesselbush MC, Co Ting Keh L, Bonilla RF, Yoo CH, Ko RB, Chen EL, Merriott DJ, Massion PP, Mansfield AS, Jen J, Ren HZ, Lin SH, Costantino CL, Burr R, Tibshirani R, Gambhir SS, Berry GJ, Jensen KC, West RB, Neal JW, Wakelee HA, Loo BW, Jr., Kunder CA, Leung AN, Lui NS, Berry MF, Shrager JB, Nair VS, Haber DA, Sequist LV, **Alizadeh* AA**, Diehn* M. Integrating genomic features for non-invasive early lung cancer detection. *Nature*. 2020;580(7802):245-51. doi:10.1038/s41586-020-2140-0. PubMedID: 32269342; PMCID: 8230734. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

29. Frank MJ, Khodadoust MS, Czerwinski DK, Haabeth OAW, Chu MP, Miklos DB, Advani RH, **Alizadeh AA**, Gupta NK, Maeda LS, Reddy SA, Laport GG, Meyer EH, Negrin RS, Rezvani AR, Weng WK, Sheehan K, Faham M, Okada A, Moore AH, Phillips DL, Wapnir IL, Brody JD, Levy R. Autologous tumor cell vaccine induces antitumor T cell immune responses in patients with mantle cell lymphoma: A phase I/II trial. *J Exp Med*. 2020;217(9). doi:10.1084/jem.20191712. PubMedID: 32558897; PMCID: 7478738. Participated in analysis and interpretation of data, drafting and revision of the manuscript.

30. Hellmann MD, Nabet BY, Rizvi H, Chaudhuri AA, Wells DK, Dunphy MPS, Chabon JJ, Liu CL, Hui AB, Arbour KC, Luo J, Preeshagul IR, Moding EJ, Almanza D, Bonilla RF, Sauter JL, Choi H, Tenet M, Abu-Akeel M, Plodkowski AJ, Perez Johnston R, Yoo CH, Ko RB, Stehr H, Gojenola L, Wakelee HA, Padda SK, Neal JW, Chaft JE, Kris MG, Rudin CM, Merghoub T, Li BT, **Alizadeh* AA**, Diehn* M. Circulating Tumor DNA Analysis to Assess Risk of Progression after Long-term Response to PD-(L)1 Blockade in NSCLC. *Clin Cancer Res*. 2020;26(12):2849-58. doi:10.1158/1078-0432.CCR-19-3418. PubMedID: 32046999; PMCID: 7299781. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

31. Moding EJ, Liu Y, Nabet BY, Chabon JJ, Chaudhuri AA, Hui AB, Bonilla RF, Ko RB, Yoo CH, Gojenola L, Jones CD, He J, Qiao Y, Xu T, Heymach JV, Tsao A, Liao Z, Gomez DR, Das M, Padda SK, Ramchandran KJ, Neal JW, Wakelee HA, Loo BW, Jr., Lin SH, **Alizadeh* AA**, Diehn* M. Circulating Tumor DNA Dynamics Predict Benefit from Consolidation Immunotherapy in Locally Advanced Non-Small Cell Lung Cancer. *Nat Cancer*. 2020;1(2):176-83. doi:10.1038/s43018-019-0011-0. PubMedID: 34505064; PMCID: 8425388. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

32. Nabet BY, Esfahani MS, Moding EJ, Hamilton EG, Chabon JJ, Rizvi H, Steen CB, Chaudhuri AA, Liu CL, Hui AB, Almanza D, Stehr H, Gojenola L, Bonilla RF, Jin MC, Jeon YJ, Tseng D, Liu C, Merghoub T, Neal JW, Wakelee HA, Padda SK, Ramchandran KJ, Das M, Plodkowski AJ, Yoo C, Chen EL, Ko RB, Newman AM, Hellmann MD, **Alizadeh AA**, Diehn M. Noninvasive Early Identification of Therapeutic Benefit from Immune Checkpoint Inhibition. *Cell*. 2020;183(2):363-76 e13. doi:10.1016/j.cell.2020.09.001. PubMedID: 33007267; PMCID: 7572899. Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

33. Phillips R, Shi WY, Deek M, Radwan N, Lim SJ, Antonarakis ES, Rowe SP, Ross AE, Gorin MA, Deville C, Greco SC, Wang H, Denmeade SR, Paller CJ, Dipasquale S, DeWeese TL, Song DY, Wang H, Carducci MA, Pienta KJ, Pomper MG, Dicker AP, Eisenberger MA, **Alizadeh AA**, Diehn M, Tran PT. Outcomes of Observation vs Stereotactic Ablative Radiation for Oligometastatic Prostate Cancer: The ORIOLE Phase 2 Randomized Clinical Trial. *JAMA Oncol*. 2020;6(5):650-9. doi:10.1001/jamaoncol.2020.0147. PubMedID: 32215577; PMCID: 7225913. Participated in analysis and interpretation of data, and revision of the manuscript.

34. Steen CB, Liu CL, **Alizadeh* AA**, Newman* AM. Profiling Cell Type Abundance and Expression in Bulk Tissues with CIBERSORTx. *Methods Mol Biol*. 2020;2117:135-57. doi:10.1007/978-1-0716-0301-7_7. PubMedID: 31960376; PMCID: 7695353. (*Corresponding Author/Contributed Equally) Participated in conception and design, analysis and interpretation of data, drafting and critical revision of the manuscript.

35. Wisdom AJ, Mowery YM, Hong CS, Himes JE, Nabet BY, Qin X, Zhang D, Chen L, Fradin H, Patel R, Bassil AM, Muise ES, King DA, Xu ES, Carpenter DJ, Kent CL, Smythe KS, Williams NT, Luo L, Ma Y, **Alizadeh AA**, Owzar K, Diehn M, Bradley T, Kirsch DG. Single cell analysis reveals distinct

immune landscapes in transplant and primary sarcomas that determine response or resistance to immunotherapy. _Nat Commun_. 2020;11(1):6410. doi:10.1038/s41467-020-19917-0. PubMedID: 33335088; PMCID: 7746723. Participated in analysis and interpretation of data, and revision of the manuscript.

2021 – present (n=37)

1. Alig S, Macaulay CW, Kurtz DM, Duhrsen U, Huttmann A, Schmitz C, Jin MC, Sworder BJ, Garofalo A, Shahrokh Esfahani M, Nabet BY, Soo J, Scherer F, Craig AFM, Casasnovas O, Westin JR, Gaidano G, Rossi D, Roschewski M, Wilson WH, Meignan M, Diehn M, **Alizadeh AA**. Short Diagnosis-to-Treatment Interval Is Associated With Higher Circulating Tumor DNA Levels in Diffuse Large B-Cell Lymphoma. _J Clin Oncol_. 2021;39(23):2605-16. doi:10.1200/JCO.20.02573. PubMedID: 33909455; PMCID: 8331064
2. Kurtz DM, Soo J, Co Ting Keh L, Alig S, Chabon JJ, Sworder BJ, Schultz A, Jin MC, Scherer F, Garofalo A, Macaulay CW, Hamilton EG, Chen B, Olsen M, Schroers-Martin JG, Craig AFM, Moding EJ, Esfahani MS, Liu CL, Duhrsen U, Huttmann A, Casasnovas RO, Westin JR, Roschewski M, Wilson WH, Gaidano G, Rossi D, Diehn M, **Alizadeh AA**. Enhanced detection of minimal residual disease by targeted sequencing of phased variants in circulating tumor DNA. _Nat Biotechnol_. 2021. doi:10.1038/s41587-021-00981-w. PubMedID: 34294911
3. Luca BA, Steen CB, Matusiak M, Azizi A, Varma S, Zhu C, Przybyl J, Espín-Pérez A, Diehn M, **Alizadeh AA**, van de Rijn M, Gentles AJ, Newman AM. Atlas of clinically distinct cell states and ecosystems across human solid tumors. _Cell_. 2021;184(21):5482-96 e28. Epub 2021/10/02. doi:10.1016/j.cell.2021.09.014. PubMedID: 34597583; PMCID: PMC8526411
4. Shah AT, Azad TD, Breese MR, Chabon JJ, Hamilton EG, Straessler K, Kurtz DM, Leung SG, Spillinger A, Liu HY, Behroozfard IH, Wittber FM, Hazard FK, Cho SJ, Daldrup-Link HE, Vo KT, Rangaswami A, Pribnow A, Spunt SL, Lacayo NJ, Diehn M, **Alizadeh AA**, Sweet-Cordero EA. A Comprehensive Circulating Tumor DNA Assay for Detection of Translocation and Copy-Number Changes in Pediatric Sarcomas. _Mol Cancer Ther_. 2021. doi:10.1158/1535-7163.MCT-20-0987. PubMedID: 34353895
5. Steen CB, Luca BA, Esfahani MS, Azizi A, Sworder BJ, Nabet BY, Kurtz DM, Liu CL, Khameneh F, Advani RH, Natkunam Y, Myklebust JH, Diehn M, Gentles AJ, Newman AM, **Alizadeh AA**. The landscape of tumor cell states and ecosystems in diffuse large B cell lymphoma. _Cancer Cell_. 2021. doi:https://doi.org/10.1016/j.ccell.2021.08.011
6. Brem EA, Li H, Beaven AW, Caimi PF, Cerchietti L, **Alizadeh AA**, Olin R, Henry NL, Dillon H, Little RF, Laubach C, LeBlanc M, Friedberg JW, Smith SM. SWOG 1918: A phase II/III randomized study of R-miniCHOP with or without oral azacitidine (CC-486) in participants age 75 years or older with newly diagnosed aggressive non-Hodgkin lymphomas - Aiming to improve therapy, outcomes, and validate a prospective frailty tool. _J Geriatr Oncol_. 2022;13(2):258-64. Epub 2021/10/24. doi:10.1016/j.jgo.2021.10.003. PubMedID: 34686472
7. Esfahani MS, Hamilton EG, Mehrmohamadi M, Nabet BY, Alig SK, King DA, Steen CB, Macaulay CW, Schultz A, Nesselbush MC, Soo J, Schroers-Martin JG, Chen B, Binkley MS, Stehr H, Chabon JJ, Sworder BJ, Hui AB, Frank MJ, Moding EJ, Liu CL, Newman AM, Isbell JM, Rudin CM, Li BT, Kurtz

DM, Diehn M, **Alizadeh AA**. Inferring gene expression from cell-free DNA fragmentation profiles. _Nat Biotechnol_. 2022;40(4):585-97. Epub 2022/04/02. doi:10.1038/s41587-022-01222-4. PubMedID: 35361996

8. Shree T, Shankar V, Lohmeyer JJK, Czerwinski DK, Schroers-Martin JG, Rodriguez GM, Beygi S, Kanegai AM, Corbelli KS, Gabriel E, Kurtz DM, Khodadoust MS, Gupta NK, Maeda LS, Advani RH, **Alizadeh AA**, Levy R. CD20-Targeted Therapy Ablates De Novo Antibody Response to Vaccination but Spares Preestablished Immunity. _Blood Cancer Discov_. 2022;3(2):95-102. Epub 2022/01/12. doi:10.1158/2643-3230.bcd-21-0222. PubMedID: 35015688.
9. de Leval L, **Alizadeh AA**, Bergsagel PL, Campo E, Davies A, Dogan A, Fitzgibbon J, Horwitz SM, Melnick AM, Morice WG, Morin RD, Nadel B, Pileri SA, Rosenquist R, Rossi D, Salaverria I, Steidl C, Treon SP, Zelenetz AD, Advani RH, Allen CE, Ansell SM, Chan WC, Cook JR, Cook LB, d'Amore F, Dirnhofer S, Dreyling M, Dunleavy K, Feldman AL, Fend F, Gaulard P, Ghia P, Gribben JG, Hermine O, Hodson DJ, Hsi ED, Inghirami G, Jaffe ES, Karube K, Kataoka K, Klapper W, Kim WS, King RL, Ko YH, LaCasce AS, Lenz G, Martin-Subero JI, Piris MA, Pittaluga S, Pasqualucci L, Quintanilla-Martinez L, Rodig SJ, Rosenwald A, Salles GA, San-Miguel J, Savage KJ, Sehn LH, Semenzato G, Staudt LM, Swerdlow SH, Tam CS, Trotman J, Vose JM, Weigert O, Wilson WH, Winter JN, Wu CJ, Zinzani PL, Zucca E, Bagg A, Scott DW. Genomic profiling for clinical decision making in lymphoid neoplasms. _Blood_. 2022;140(21):2193-227. doi: 10.1182/blood.2022015854. PubMed PMID: 36001803; PubMed Central PMCID: PMC9837456.
10. Nair VS, Hui AB, Chabon JJ, Esfahani MS, Stehr H, Nabet BY, Zhou L, Chaudhuri AA, Benson J, Ayers K, Bedi H, Ramsey M, Van Wert R, Antic S, Lui N, Backhus L, Berry M, Sung AW, Massion PP, Shrager JB, **Alizadeh AA***, Diehn M*. Genomic Profiling of Bronchoalveolar Lavage Fluid in Lung Cancer. _Cancer Res_. 2022;82(16):2838-47. doi: 10.1158/0008-5472.Can-22-0554. PubMed PMID: 35748739; PubMed Central PMCID: PMC9379362.
11. Yang LM, Costales C, Ramanathan M, Bulterys PL, Murugesan K, Schroers-Martin J, **Alizadeh AA**, Boyd SD, Brown JM, Nadeau KC, Nadimpalli SS, Wang AX, Busque S, Pinsky BA, Banaei N. Cellular and humoral immune response to SARS-CoV-2 vaccination and booster dose in immunosuppressed patients: An observational cohort study. _J Clin Virol_. 2022;153:105217. Epub 20220611. doi: 10.1016/j.jcv.2022.105217. PubMed PMID: 35714462; PubMed Central PMCID: PMC9188451.
12. Yaung SJ, Woestmann C, Ju C, Ma XM, Gattam S, Zhou Y, Xi L, Pal S, Balasubramanyam A, Tikoo N, Heussel CP, Thomas M, Kriegsmann M, Meister M, Schneider MA, Herth FJ, Wehnl B, Diehn M, **Alizadeh AA**, Palma JF, Muley T. Early Assessment of Chemotherapy Response in Advanced Non-Small Cell Lung Cancer with Circulating Tumor DNA. _Cancers (Basel)_. 2022;14(10). Epub 20220518. doi: 10.3390/cancers14102479. PubMed PMID: 35626082; PubMed Central PMCID: PMC9139958.
13. Cherng HJ, Alig SK, Oki Y, Nastoupil LJ, Fayad L, Neelapu SS, Turturro F, Hagemeister F, Craig AFM, Macaulay CW, Rodriguez MA, Lee HJ, McDonnell TJ, Flowers CR, Vega F, Green MR, Feng L, Kurtz DM, **Alizadeh AA**, Davis RE, Westin JR. A phase 1/2 study of lenalidomide and obinutuzumab with CHOP for newly diagnosed DLBCL. _Blood Adv_. 2023;7(7):1137-45. doi: 10.1182/bloodadvances.2022008174. PubMed PMID: 36375046; PubMed Central PMCID: PMC10111343.

14. Johansson P, Alig S, Richter J, Hanoun C, Rekowski J, Dürig J, Ylstra B, de Jong D, Klapper W, **Alizadeh AA**, Dührsen U, Hüttmann A. Outcome prediction by interim positron emission tomography and IgM monoclonal gammopathy in diffuse large B-cell lymphoma. *Ann Hematol*. 2023;102(12):3445-55. Epub 20230811. doi: 10.1007/s00277-023-05393-1. PubMed PMID: 37566280; PubMed Central PMCID: PMC10640472.
15. Lynch RC, Poh C, Ujjani CS, Warren EH, Smith SD, Shadman M, Morris K, Lee S, Rasmussen H, Ottemiller S, Shelby M, Keo S, Verni K, Kurtz DM, **Alizadeh AA**, Chabon JJ, Hogan GJ, Schulz A, Gooley T, Voutsinas JM, Gopal AK. Polatuzumab vedotin with infusional chemotherapy for untreated aggressive B-cell non-Hodgkin lymphomas. *Blood Adv*. 2023;7(11):2449-58. doi: 10.1182/bloodadvances.2022009145. PubMed PMID: 36521030; PubMed Central PMCID: PMC10241852.
16. Lynch RC, Ujjani CS, Poh C, Warren EH, Smith SD, Shadman M, Till B, Raghunathan VM, Alig S, **Alizadeh AA**, Gulhane A, Chen DL, Tseng Y, Coye H, Shelby M, Ottemiller S, Keo S, Verni K, Du H, Vandermeer J, Gaston A, Rasmussen H, Martin P, Marzbani E, Voutsinas J, Gopal AK. Concurrent pembrolizumab with AVD for untreated classic Hodgkin lymphoma. *Blood*. 2023;141(21):2576-86. doi: 10.1182/blood.2022019254. PubMed PMID: 36913694; PubMed Central PMCID: PMC10273164.
17. Mutter JA, Alig SK, Esfahani MS, Lauer EM, Mitschke J, Kurtz DM, Kühn J, Bleul S, Olsen M, Liu CL, Jin MC, Macaulay CW, Neidert N, Volk T, Eisenblaetter M, Rauer S, Heiland DH, Finke J, Duyster J, Wehrle J, Prinz M, Illerhaus G, Reinacher PC, Schorb E, Diehn M, **Alizadeh AA***, Scherer F*. Circulating Tumor DNA Profiling for Detection, Risk Stratification, and Classification of Brain Lymphomas. *J Clin Oncol*. 2023;41(9):1684-94. Epub 20221221. doi: 10.1200/jco.22.00826. PubMed PMID: 36542815; PubMed Central PMCID: PMC10419411.
18. Obeid JP, Hiniker SM, Schroers-Martin J, Guo HH, No HJ, Moding EJ, Advani RH, **Alizadeh AA**, Hoppe RT, Binkley MS. Investigating and modeling positron emission tomography factors associated with large cell transformation from low-grade lymphomas. *EJHaem*. 2023;4(1):90-9. Epub 20221125. doi: 10.1002/jha2.615. PubMed PMID: 36819184; PubMed Central PMCID: PMC9928791.
19. Schroers-Martin JG, Soo J, Brisou G, Scherer F, Kurtz DM, Sworder BJ, Khodadoust MS, Jin MC, Bru A, Liu CL, Stehr H, Vineis P, Natkunam Y, Teras LR, Song JY, Nadel B, Diehn M, Roulland S, **Alizadeh AA**. Tracing Founder Mutations in Circulating and Tissue-Resident Follicular Lymphoma Precursors. *Cancer Discov*. 2023;13(6):1310-23. doi: 10.1158/2159-8290.Cd-23-0111. PubMed PMID: 36939219; PubMed Central PMCID: PMC10239329.
20. Spasevska I, Sharma A, Steen CB, Josefsson SE, Blaker YN, Kolstad A, Rustad EH, Meyer S, Isaksen K, Chellappa S, Kushekhar K, Beiske K, Førsund MS, Spetalen S, Holte H, Østenstad B, Brodtkorb M, Kimby E, Olweus J, Taskén K, Newman AM, Lorenz S, Smeland EB, **Alizadeh AA**, Huse K, Myklebust JH. Diversity of intratumoral regulatory T cells in B-cell non-Hodgkin lymphoma. *Blood Adv*. 2023;7(23):7216-30. doi: 10.1182/bloodadvances.2023010158. PubMed PMID: 37695745; PubMed Central PMCID: PMC10698546.
21. Sworder BJ, Kurtz DM, Alig SK, Frank MJ, Shukla N, Garofalo A, Macaulay CW, Shahrokh Esfahani M, Olsen MN, Hamilton J, Hosoya H, Hamilton M, Spiegel JY, Baird JH, Sugio T, Carleton M, Craig AFM, Younes SF, Sahaf B, Sheybani ND, Schroers-Martin JG, Liu CL, Oak JS, Jin MC, Beygi S,

Hüttmann A, Hanoun C, Dührsen U, Westin JR, Khodadoust MS, Natkunam Y, Majzner RG, Mackall CL, Diehn M, Miklos DB, **Alizadeh AA**. Determinants of resistance to engineered T cell therapies targeting CD19 in large B cell lymphomas. _Cancer Cell_. 2023;41(1):210-25.e5. Epub 20221229. doi: 10.1016/j.ccell.2022.12.005. PubMed PMID: 36584673; PubMed Central PMCID: PMC10010070.

22. Alig SK, Shahrokh Esfahani M, Garofalo A, Li MY, Rossi C, Flerlage T, Flerlage JE, Adams R, Binkley MS, Shukla N, Jin MC, Olsen M, Telenius A, Mutter JA, Schroers-Martin JG, Sworder BJ, Rai S, King DA, Schultz A, Bogeholz J, Su S, Kathuria KR, Liu CL, Kang X, Strohband MJ, Langfitt D, Pobre-Piza KF, Surman S, Tian F, Spina V, Tousseyn T, Buedts L, Hoppe R, Natkunam Y, Fornecker LM, Castellino SM, Advani R, Rossi D, Lynch R, Ghesquieres H, Casasnovas O, Kurtz DM, Marks LJ, Link MP, Andre M, Vandenberghe P, Steidl C, Diehn M, **Alizadeh AA**. Distinct Hodgkin lymphoma subtypes defined by noninvasive genomic profiling. _Nature_. 2024;625(7996):778-87. Epub 20231211. doi: 10.1038/s41586-023-06903-x. PubMed PMID: 38081297.
23. Hamilton MP, Craig E, Gentille Sanchez C, Mina A, Tamaresis J, Kirmani N, Ehlinger Z, Syal S, Good Z, Sworder B, Schroers-Martin J, Lu Y, Muffly L, Negrin RS, Arai S, Lowsky R, Meyer E, Rezvani AR, Shizuru JA, Weng WK, Shiraz P, Sidana S, Bharadwaj S, Smith M, Dahiya S, Sahaf B, Kurtz DM, Mackall CL, Tibshirani R, **Alizadeh AA**, Frank MJ, Miklos DB. CAR19 monitoring by peripheral blood immunophenotyping reveals histology-specific expansion and toxicity. _Blood Adv_. 2024. Epub 20240318. doi: 10.1182/bloodadvances.2024012637. PubMed PMID: 38498731.
24. Kastenschmidt JM, Schroers-Martin JG, Sworder BJ, Sureshchandra S, Khodadoust MS, Liu CL, Olsen M, Kurtz DM, Diehn M, Wagar LE, **Alizadeh AA**. A human lymphoma organoid model for evaluating and targeting the follicular lymphoma tumor immune microenvironment. _Cell Stem Cell_. 2024;31(3):410-20.e4. Epub 20240222. doi: 10.1016/j.stem.2024.01.012. PubMed PMID: 38402619; PubMed Central PMCID: PMC10960522.
25. Lauer EM, Riegler E, Mutter JA, Alig SK, Bleul S, Kuehn J, Ranganathan L, Klingler C, Demerath T, Würtemberger U, Rau A, Weiß J, Eisenblaetter M, Bamberg F, Prinz M, Finke J, Duyster J, Illerhaus G, Diehn M, **Alizadeh AA**, Schorb E, Reinacher PC, Scherer F. Improved early outcome prediction by MRI-based 3D tumor volume assessment in patients with CNS lymphomas. _Neuro Oncol_. 2024;26(2):374-86. doi: 10.1093/neuonc/noad177. PubMed PMID: 37713267; PubMed Central PMCID: PMC10836777.
26. Shree T, Haebe S, Czerwinski DK, Eckhert E, Day G, Sathe A, Grimes S, Frank MJ, Maeda LS, **Alizadeh AA**, Advani R, Hoppe RT, Long SR, Martin B, Ozawa MG, Khodadoust MS, Ji HP, Levy R. A clinical trial of therapeutic vaccination in lymphoma with serial tumor sampling and single-cell analysis. _Blood Adv_. 2024;8(1):130-42. doi: 10.1182/bloodadvances.2023011589. PubMed PMID: 37939259; PubMed Central PMCID: PMC10787245.
27. Shukla ND, Schroers-Martin JG, Sworder BJ, Kathuria KR, Alig SK, Frank MJ, Miklos DB, Coutre S, Diehn M, Khodadoust MS, Roschewski M, Kurtz DM, **Alizadeh AA**. Specificity of immunoglobulin high-throughput sequencing minimal residual disease monitoring in non-Hodgkin lymphomas. _Blood Adv_. 2024;8(3):780-4. doi: 10.1182/bloodadvances.2023011997. PubMed PMID: 38147627; PubMed Central PMCID: PMC10847740.

28. Hamilton MP, Sugio T, Noordenbos T, Shi S, Bulterys PL, Liu CL, Kang X, Olsen MN, Good Z, Dahiya S, Frank MJ, Sahaf B, Mackall CL, Gratzinger D, Diehn M, **Alizadeh AA***, Miklos DB*. Risk of Second Tumors and T-Cell Lymphoma after CAR T-Cell Therapy. _N Engl J Med_. 2024;390(22):2047-60. doi: 10.1056/NEJMoa2401361. PubMed PMID: 38865660; PubMed Central PMCID: PMC11338600.
29. Azad TD, Nanjo S, Jin MC, Chabon JJ, Kurtz DM, Chaudhuri AA, Connolly ID, Hui AB, Liu CL, Merriott D, Ko R, Yoo C, Carter J, Chen E, Bonilla R, Hata A, Katakami N, Irie K, Yano S, Okimoto R, Bivona TG, Newman AM, Iv M, Nagpal S, Gephart MH, **Alizadeh AA***, Diehn M*. Quantification of cerebrospinal fluid tumor DNA in lung cancer patients with suspected leptomeningeal carcinomatosis. _NPJ Precis Oncol_. 2024;8(1):121. Epub 20240528. doi: 10.1038/s41698-024-00582-1. PubMed PMID: 38806586; PubMed Central PMCID: PMC11133465.
30. Domizi P, Sarno J, Jager A, Merchant M, Pacheco KZB, Yamada-Hunter SA, Rotiroti MC, Liu Y, Baskar R, Reynolds WD, Sworder BJ, Sahaf B, Bendall SC, Mullighan CG, **Alizadeh AA**, Leahy AB, Myers RM, Yates B, Wang HW, Shah NN, Majzner RG, Mackall CL, Grupp SA, Barrett DM, Sotillo E, Davis KL. IKAROS levels are associated with antigen escape in CD19- and CD22-targeted therapies for B-cell malignancies. _Nature Communications_. 2025;16(1):3800. Epub 20250423. doi: 10.1038/s41467-025-58868-2. PubMed PMID: 40268897; PubMed Central PMCID: PMC12019336.
31. Jun S, Shukla NA, Durm G, Hui AB, Cao S, Ganti AK, Jabbour SK, Kunder C, **Alizadeh AA**, Hanna NH, Diehn M. Analysis of Circulating Tumor DNA Predicts Outcomes of Short-Course Consolidation Immunotherapy in Unresectable Stage III NSCLC. _J Thorac Oncol_. 2024;19(10):1427-37. Epub 20240705. doi: 10.1016/j.jtho.2024.06.024. PubMed PMID: 38971369; PubMed Central PMCID: PMC11666285.
32. Moding EJ, Shahrokh Esfahani M, Jin C, Hui AB, Nabet BY, Liu Y, Chabon JJ, Binkley MS, Kurtz DM, Hamilton EG, Chaudhuri AA, Liu CL, Li Z, Bonilla RF, Jiang AL, Lau BC, Lopez P, He J, Qiao Y, Xu T, Yao L, Gandhi S, Liao Z, Das M, Ramchandran KJ, Padda SK, Neal JW, Wakelee HA, Gensheimer MF, Loo BW, Jr., Li R, Lin SH, **Alizadeh AA***, Diehn M*. Integrating ctDNA Analysis and Radiomics for Dynamic Risk Assessment in Localized Lung Cancer. _Cancer Discovery_. 2025:OF1-OF21. Epub 20250429. doi: 10.1158/2159-8290.CD-24-1704. PubMed PMID: 40299851.
33. Murciano-Goroff YR, Hui AB, Araujo Filho JA, Hamilton EG, Chabon JJ, Moding EJ, Bonilla RF, Lebow ES, Gomez D, Rimner A, Ginsberg MS, Offin M, Kundra R, Allaj V, Norton L, Reis-Filho JS, Razavi P, Drilon A, Jones DR, Isbell JM, Lai WV, Rudin CM, **Alizadeh AA**, Li BT, Diehn M. Early Circulating Tumor DNA Shedding Kinetics for Prediction of Platinum Sensitivity in Patients With Small Cell Lung Cancer. _JCO Precis Oncol_. 2024;8(8):e2400216. doi: 10.1200/PO.24.00216. PubMed PMID: 39231375; PubMed Central PMCID: PMC11376985.
34. Nesselbush MC, Luca BA, Jeon YJ, Jabara I, Meador CB, Garofalo A, Binkley MS, Hui AB, van 't Erve I, Xu N, Shi WY, Liu KJ, Sugio T, Kastelowitz N, Hamilton EG, Liu CL, Olsen M, Bonilla RF, Wang YP, Jiang A, Lau B, Eichholz J, Banwait M, Schroers-Martin J, Boegeholz J, King DA, Luikart H, Esfahani MS, Mehrmohamadi M, Stehr H, Raclin T, Tibshirani R, Khush K, Srinivas S, Yu H, Rogers AJ, Nair VS, Isbell JM, Li BT, Piotrowska Z, Sequist LV, Hata AN, Neal JW, Wakelee HA, Gentles AJ, **Alizadeh AA***, Diehn M*. An ultrasensitive method for detection of cell-free RNA.

Nature. 2025;641(8063):759-68. Epub 20250416. doi: 10.1038/s41586-025-08834-1. PubMed PMID: 40240612.

35. Tumuluru S, Godfrey JK, Cooper A, Yu J, Chen X, MacNabb BW, Venkataraman G, Zha Y, Pelzer B, Song J, Duns G, Sworder BJ, Raj S, Bolen C, Penuel E, Postovalova E, Kotlov N, Bagaev A, Fowler N, Shouval R, Smith SM, **Alizadeh AA**, Steidl C, Kline J. Integrative genomic analysis of DLBCL identifies immune environments associated with bispecific antibody response. _Blood_. 2025;145(21):2460-72. doi: 10.1182/blood.2024025355. PubMed PMID: 39869833; PubMed Central PMCID: PMC12163739.
36. Weinschenk S, Philipp U, Kuehn JC, Mueller K, Fauser J, Boeckle D, Gebhard I, Hinz M, Neidert N, Bleul S, Lauer EM, Mutter JA, Alig SK, Kurtz DM, Finke J, Marks R, Diehn M, **Alizadeh AA**, Reinacher PC, Wehrle J, Keller U, Wolf D, Kocher F, Chapuy B, Beck J, Prinz M, von Baumgarten L, Schorb E, Duyster J, Scherer F. Guiding clinical management of patients with CNS lymphomas by minimal-invasive detection of ctDNA in cerebrospinal fluid. _Leukemia_. 2025;39(5):1265-8. Epub 20250409. doi: 10.1038/s41375-025-02583-w. PubMed PMID: 40204895; PubMed Central PMCID: PMC12055572.
37. Wolfsberg E, Paul JS, Tycko J, Chen B, Bassik MC, Bintu L, **Alizadeh AA**, Gao XJ. Machine-guided dual-objective protein engineering for deimmunization and therapeutic functions. _Cell Syst_. 2025:101299. Epub 20250523. doi: 10.1016/j.cels.2025.101299. PubMed PMID: 40466641.

Book Chapters (n=8)

1. **Alizadeh A**, Eisen M, Davis RE, Ma C, Sabet H, Tran T, Powell JI, Yang L, Marti GE, Moore DT, Hudson Jr JR, Chan WC, Greiner T, Weisenburger D, Armitage JO, Lossos I, Levy R, Botstein D, Brown PO, Staudt LM. The lymphochip: A specialized cDNA microarray for the genomic-scale analysis of gene expression in normal and malignant lymphocytes. _Cold Spring Harbor Symposia on Quantitative Biology_.1999;64:71-8. doi:10.1101/sqb.1999.64.71; PMCID: 11232339

2. Bennett H, Derisi J, Iyer V, Diehn M, **Alizadeh A**, Lieb J. _Cold Spring Harbor Laboratory Microarray Course Manual_, 2001.

3. **Alizadeh AA**. Genome-scale characterization of normal and pathological gene expression programs in immune cells [Ph.D.]. Ann Arbor: Stanford University; 2003.

4. Chen B, Khodadoust MS, Liu CL, Newman AM, **Alizadeh AA**. Profiling Tumor Infiltrating Immune Cells with CIBERSORT. _Methods Mol Biol_.2018;1711:243-59. doi:10.1007/978-1-4939-7493-1_12. PubMedID: 29344893; PMCID: 5895181

5. Steen CB, Liu CL, **Alizadeh AA**, Newman AM. Profiling Cell Type Abundance and Expression in Bulk Tissues with CIBERSORTx. _Methods Mol Biol_.2020;2117:135-57. doi:10.1007/978-1-0716-0301-7_7. PubMedID: 31960376; PMCID: 7695353

6. **Alizadeh AA**, Khush KK, Blumenfeld YJ. Circulating Nucleic Acids as Liquid Biopsies and Noninvasive Disease Biomarkers. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL,

editors. Book: *Harrison's Principles of Internal Medicine 21e*. New York, NY: McGraw-Hill Education; 2022.

7. Steen CB, Luca BA, **Alizadeh AA**, Gentles AJ, Newman AM. Profiling Cellular Ecosystems at Single-Cell Resolution and at Scale with EcoTyper. In: Fridley B, Wang X, editors. Statistical Genomics. New York, NY: Springer US; 2023. p. 43-71. PMID: 36929073 DOI: 10.1007/978-1-0716-2986-4_4.

8. **Alizadeh AA**, Khush KK, Blumenfeld YJ. Circulating Nucleic Acids as Liquid Biopsies and Noninvasive Disease Biomarkers. In: Longo, D, Fauci A, Kasper D, Stephen H, Jameson JL, Loscalzo J, Holland S, Langford C, editors. Book: *Harrison's Principles of Internal Medicine 22*. Chapter 503. New York, NY: McGraw-Hill Education; 2025.

Reviews (n=21)

1. **Alizadeh A**, Eisen M, Botstein D, Brown PO, Staudt LM. Probing lymphocyte biology by genomic-scale gene expression analysis. *J Clin Immunol*. 1998;18(6):373-9. doi:10.1023/a:1023293621057. PubMedID: 9857281

2. **Alizadeh AA**, Staudt LM. Genomic-scale gene expression profiling of normal and malignant immune cells. *Curr Opin Immunol*. 2000;12(2):219-25. doi:10.1016/s0952-7915(99)00078-3. PubMedID: 10712950

3. Diehn M, **Alizadeh AA**, Brown PO. Examining the living genome in health and disease with DNA microarrays. *JAMA*. 2000;283(17):2298-9. PubMedID: 10807394

4. **Alizadeh AA**, Ross DT, Perou CM, van de Rijn M. Towards a novel classification of human malignancies based on gene expression patterns. *J Pathol*. 2001;195(1):41-52. doi:10.1002/path.889. PubMedID: 11568890

5. **Alizadeh AA**, Advani RH. Evaluation and management of angioimmunoblastic T-cell lymphoma: a review of current approaches and future strategies. *Clin Adv Hematol Oncol*. 2008;6(12):899-909. PubMedID: 19209140

6. **Alizadeh AA**, Lossos IS. Double trouble in follicular lymphoma: A rare and unusual synergy of oncogenes in the germinal center. *Leuk Lymphoma*. 2008;49(3):377-80. doi:10.1080/10428190801947542. PubMedID: 18297511

7. **Alizadeh AA**, Majeti R. Surprise! HSC are aberrant in chronic lymphocytic leukemia. *Cancer Cell*. 2011;20(2):135-6. doi:10.1016/j.ccr.2011.08.001. PubMedID: 21840478

8. Gentles AJ, **Alizadeh AA**. A few good genes: simple, biologically motivated signatures for cancer prognosis. *Cell Cycle*. 2011;10(21):3615-6. doi:10.4161/cc.10.21.17835. PubMedID: 22037208; PMCID: 3266003

9. Green MR, **Alizadeh AA**. Common progenitor cells in mature B-cell malignancies: implications for therapy. *Curr Opin Hematol*. 2014;21(4):333-40. doi:10.1097/MOH.0000000000000049. PubMedID: 24811163

10. Green MR, Vicente-Duenas C, **Alizadeh AA**, Sanchez-Garcia I. Hit-and-run lymphomagenesis by the Bcl6 oncogene. *Cell Cycle*. 2014;13(12):1831-2. doi:10.4161/cc.29326. PubMedID: 24867153; PMCID: 4111743

11. Khodadoust MS, **Alizadeh AA**. Tumor antigen discovery through translation of the cancer genome. *Immunol Res*. 2014;58(2-3):292-9. doi:10.1007/s12026-014-8505-4. PubMedID: 24718952

12. **Alizadeh AA**, Aranda V, Bardelli A, Blanpain C, Bock C, Borowski C, Caldas C, Califano A, Doherty M, Elsner M, Esteller M, Fitzgerald R, Korbel JO, Lichter P, Mason CE, Navin N, Pe'er D, Polyak K, Roberts CW, Siu L, Snyder A, Stower H, Swanton C, Verhaak RG, Zenklusen JC, Zuber J, Zucman-Rossi J. Toward understanding and exploiting tumor heterogeneity. *Nat Med*. 2015;21(8):846-53. doi:10.1038/nm.3915. PubMedID: 26248267; PMCID: 4785013

13. Bratman SV, Newman AM, **Alizadeh AA**, Diehn M. Potential clinical utility of ultrasensitive circulating tumor DNA detection with CAPP-Seq. *Expert Rev Mol Diagn*. 2015;15(6):715-9. doi:10.1586/14737159.2015.1019476. PubMedID: 25773944; PMCID: 5052032

14. Chaudhuri AA, Binkley MS, Osmundson EC, **Alizadeh AA**, Diehn M. Predicting Radiotherapy Responses and Treatment Outcomes Through Analysis of Circulating Tumor DNA. *Semin Radiat Oncol*. 2015;25(4):305-12. doi:10.1016/j.semradonc.2015.05.001. PubMedID: 26384278; PMCID: 4575502

15. Newman AM, **Alizadeh AA**. High-throughput genomic profiling of tumor-infiltrating leukocytes. *Curr Opin Immunol*. 2016;41:77-84. doi:10.1016/j.coi.2016.06.006. PubMedID: 27372732; PMCID: 6041255

16. Scherer F, Kurtz DM, Diehn M, **Alizadeh AA**. High-throughput sequencing for noninvasive disease detection in hematologic malignancies. *Blood*. 2017;130(4):440-52. doi:10.1182/blood-2017-03-735639. PubMedID: 28600337; PMCID: 5881609

17. Moding EJ, Nabet BY, **Alizadeh AA**, Diehn M. Detecting Liquid Remnants of Solid Tumors: Circulating Tumor DNA Minimal Residual Disease. *Cancer Discov*. 2021;11(12):2968-86. Epub 2021/11/18. doi:10.1158/2159-8290.cd-21-0634. PubMedID: 34785539; PMCID: PMC8976700

18. Roschewski M, Rossi D, Kurtz DM, **Alizadeh AA**, Wilson WH. Circulating Tumor DNA in Lymphoma: Principles and Future Directions. *Blood Cancer Discov*. 2022;3(1):5-15. Epub 2022/01/12. doi:10.1158/2643-3230.bcd-21-0029. PubMedID: 35015693.

19. Schroers-Martin JG, Alig S, Garofalo A, Tessoulin B, Sugio T, **Alizadeh AA**. Molecular Monitoring of Lymphomas. *Annu Rev Pathol*. 2023 Jan 24;18:149-180. doi: 10.1146/annurev-pathol-050520-044652. Epub 2022 Sep 21. PMID: 36130071 DOI: 10.1146/annurev-pathol-050520-044652.

20. Swanson K, Wu E, Zhang A, **Alizadeh AA**, Zou J. From patterns to patients: Advances in clinical machine learning for cancer diagnosis, prognosis, and treatment. *Cell*. 2023 Apr 13;186(8):1772-1791. doi: 10.1016/j.cell.2023.01.035.

21. Schroers-Martin JG, **Alizadeh AA**. Cell-Free DNA in Hematologic Malignancies. *JCO Oncol Pract*. 2024;20(11):1491-9. Epub 20241112. doi: 10.1200/OP-24-00648. PubMed PMID: 39531844.

Letters, Comments & Editorials (n=9)

1. Sarwal M, Chang S, Barry C, Chen X, **Alizadeh A**, Salvatierra O, Brown P. Genomic analysis of renal allograft dysfunction using cDNA microarrays. *Transplant Proc*. 2001;33(1-2):297-8. doi:10.1016/s0041-1345(01)01917-0. PubMedID: 11266826

2. **Alizadeh AA**, Gentles AJ, Lossos IS, Levy R. Molecular outcome prediction in diffuse large-B-cell lymphoma. *N Engl J Med*. 2009;360(26):2794-5. doi:10.1056/NEJMc0902616. PubMedID: 19553658

3. Gentles AJ, Majeti R, **Alizadeh AA**. Leukemic Stem Cell Gene Expression Signature and Clinical Outcomes in Acute Myeloid Leukemia Reply. *Jama-Journal of the American Medical Association*. 2011;305(11):1094. doi:10.1001/jama.2011.300.

4. Pollyea DA, Raval A, Kusler B, Gotlib JR, **Alizadeh AA**, Mitchell BS. Impact of TET2 mutations on mRNA expression and clinical outcomes in MDS patients treated with DNA methyltransferase inhibitors. *Hematol Oncol*. 2011;29(3):157-60. doi:10.1002/hon.976. PubMedID: 21922510

5. Gentles AJ, **Alizadeh AA**. Utility in prognostic value added by molecular profiles for diffuse large B-cell lymphoma. *Blood*. 2013;121(15):3052-4. doi:10.1182/blood-2013-01-477521. PubMedID: 23580636

6. Newman AM, Gentles AJ, Liu CL, Diehn M, **Alizadeh AA**. Data normalization considerations for digital tumor dissection. *Genome Biol*. 2017;18(1):128. doi:10.1186/s13059-017-1257-4. PubMedID: 28679399; PMCID: 5498978

7. Kurtz DM, Scherer F, Jin MC, Soo J, Craig AFM, Esfahani MS, Chabon JJ, Stehr H, Liu CL, Tibshirani R, Maeda LS, Gupta NK, Khodadoust MS, Advani RH, Newman AM, Duhrsen U, Huttmann A, Meignan M, Casasnovas O, Westin JR, Roschewski M, Wilson WH, Gaidano G, Rossi D, Diehn M, **Alizadeh AA**. Reply to J. Wang et al. *J Clin Oncol*. 2019;37(9):755-7. doi:10.1200/JCO.18.01907. PubMedID: 30753108

8. Palmer AC, Kurtz DM, **Alizadeh AA**. Cell-of-Origin Subtypes and Therapeutic Benefit from Polatuzumab Vedotin. *N Engl J Med*. 2023 Aug 24;389(8):764-766. doi: 10.1056/NEJMc2306105. PMID: 37611128.

9. Goldstein JS, **Alizadeh AA**. ViPOR's Venom - Rationally Targeting DLBCL with Precision. *N Engl J Med*. 2024;390(23):2209-11. doi: 10.1056/NEJMe2405437. PubMed PMID: 38899699.

10. Hamilton MP, **Alizadeh AA**. Rarity & Risk of Secondary Hematologic Neoplasms after CAR T-cell Therapies. *Transplant Cell Ther*. 2024;30(10):936-8. doi: 10.1016/j.jtct.2024.09.002. PubMed PMID: 39326982.

11. Hamilton MP, Miklos DB, **Alizadeh AA**. Risk of Second Tumors and T-Cell Lymphoma after CAR T-Cell Therapy. Reply. *N Engl J Med*. 2024;391(9):870-1. doi: 10.1056/NEJMc2408733. PubMed PMID: 39231355.

12. Goldstein JS, Phillips NA, **Alizadeh AA**. Beyond Trial and Error: A Mathematical Model Wrangles DLBCL Heterogeneity Toward Optimizing Combination Therapy. *Blood Cancer Discovery*. 2025;6(3):153-6. doi: 10.1158/2643-3230.BCD-25-0071. PubMed PMID: 40232087; PubMed Central PMCID: PMC12050974.

Digital Publications & Web Resources

1. RARE-Seq https://rareseq.stanford.edu
2. Hogdkin Classification Portal https://hodgkin.stanford.edu
3. CIRI https://ciri.stanford.edu/
4. PhasED-Seq https://phasedseq.stanford.edu/
5. CIBERSORTx https://cibersortx.stanford.edu/
6. MARIA https://maria.stanford.edu/
7. CLiP https://clip.stanford.edu/
8. DIREct https://direct.stanford.edu/
9. EPIC-Seq https://epicseq.stanford.edu/
10. PRECOG https://precog.stanford.edu/
11. CIBERSORT https://cibersort.stanford.edu/
12. IDES https://cappseq.stanford.edu/ides/
13. FACTERA https://factera.stanford.edu/
14. TGS http://tgs.stanford.edu/
15. HEEBO/MEEBO http://alizadehlab.stanford.edu/heebo.html
16. SOURCE http://source.stanford.edu/
17. LLMPP http://genome-www.stanford.edu/lymphoma/
18. COSTIMULATION http://genome-www.stanford.edu/costimulation/
19. HOST-RESPONSE http://genome-www.stanford.edu/hostresponse/

Abstracts & Conference Proceedings

1998 – 2000 (n=9)

1. Brown PO, Botstein D, **Alizadeh A**, Derisi J, Diehn M, Eisen M, Iyer V, Perou C, Pollack J, Ross D, Spellman P, Staudt L. DNA microarrays as "microscopes" for watching a genome in action. *Molecular Biology of the Cell*. 1998;9:2a-a

2. **Alizadeh A**, Eisen MB, Davis RE, Powell JI, Yang L, Hart RR, Sabet H, Tran TH, Yu X, Ma C, Chan WC, Greiner TC, Weisenburger DD, Armitage JO, Lossos I, Levy R, Botstein D, Staudt LM, Brown PO. Analysis of gene expression in normal and malignant lymphocytes using the Lymphochip cDNA microarray. *Nature Genetics*. 1999;23(S3):30-1. doi:10.1038/14260

3. Chan WC, **Alizadeh A**, Eisen M, Davis RE, Ma C, Sabet H, Tran T, Powell JI, Yang L, Greiner TC, Weisenburger DD, Armitage JO, Marti GE, Moores T, Hudson J, Lossos I, Warnke R, Levy R, Botstein D, Brown PO, Staudt LM. Gene expression in large B-cell lymphoma using cDNA microarray technology. *Blood*. 1999;94(10):698a-a

4. Pollack JR, Perou CM, Sorlie T, **Alizadeh AA**, Rees C, Eise MB, Pergamenschikov A, Williams CF, van de Rijn M, Jeffrey SS, Johnsen H, Lonning PE, Geisler S, Aas T, Borresen-Dale A-L, Botstein D, Brown PO. Genome-wide analysis of DNA copy number variation in breast cancer using DNA microarrays. *Nature Genetics*. 1999;23(S3):69. doi:10.1038/14385

5. Yang L, Powell J, **Alizadeh A**, Davis RE, Ma C, Sabet H, Tran T, Staudt LM. Building lymphochip-computational algorithms for selecting clones highly expressed in B cell cDNA libraries. *Nature Genetics*. 1999;23(S3):83. doi:10.1038/14431

6. **Alizadeh A**, Eisen M, Davis R, Ma C, Sabet H, Tran T, Powell J, Yang L, Marti G, Chan W, Greiner T, Weisenburger D, Armitage J, Grever M, Byrd J, Wilson W, Lossos I, Levy R, Botstein D, Brown P, Staudt L. New cancer types defined by gene expression profiling. *Acta Haematol*. 2000;103(Supplement 1):90

7. Boldrick JC, Belcher CE, **Alizadeh AA**, Liu CL, Diehn M, Brown PO, Relman DA. Exploring gene expression signatures of host responses to infection. *Clinical Infectious Diseases*. 2000;31(1):218-

8. Chan WC, **Alizadeh A**, Eisen M, Davis RE, Ma C, Sabet H, Tran T, Powell JI, Yang L, Greiner TC, Weisenburger DD, Armitage JO, Marti GE, Moores T, Hudson J, Lossos I, Warnke R, Levy R, Botstein D, Brown PO, Staudt LM. Gene expression in large B-cell lymphoma: cDNA microarray analysis. *Laboratory Investigation*. 2000;80(3):144A

9. Verweij CL, van der Kraan CTMP, **Alizadeh AA**, Fero M, Huizinga TWJ, Pieterman E, Firestein GS, Breedveld FC, Staudt LM, Botstein D, Brown PO. Gene expression profiling of rheumatoid synovitis using cDNA microarrays. *Arthritis and Rheumatism*. 2000;43(9):S160-S

2001 – 2005 (n=14)

1. Clement K, Viguerie N, Diehn M, **Alizadeh A**, Barbe P, Thalamas C, Brown PO, Barsh GS, Langin D. Modulation of human skeletal muscle gene expression profile by thyroid hormone. *International Journal of Obesity*. 2001;25(Supplement 2):S136-S7

2. Lossos IS, **Alizadeh AA**, Diehn M, Warnke R, Brown PO, Botstein D, Levy R. Higher-grade transformed follicle center lymphomas (FCL): Gene expression profiling comparison to pre-transformed FCL and to de novo diffuse large B-cell lymphomas (DLBCL). *Blood*. 2001;98(11):722a-a

3. Natkunam Y, Warnke R, **Alizadeh A**, Tibshirani R, Horning S, van de Rijn M. BCL-6 protein expression predicts improved survival in patients with diffuse large B-cell lymphoma. _Laboratory Investigation_. 2001;81(1):1017

4. Shattil SJ, Bertoni A, Eto K, Murphy R, Pampori N, Shiraga M, Stuhlmann H, Tadokoro S, Kerrigan S, **Alizadeh A**, Diehn M, Brown PO, Leavitt AD. Genetic approaches using primary megakaryocytes to identify effectors of platelet integrin signaling. _Molecular Biology of the Cell_. 2001;12:270a-a

5. Verweij CL, Kraan TCTMV, van Galen F, **Alizadeh AA**, Fero M, Huizinga TWJ, Pieterman E, Breedveld FC, Staudt LM, Botstein D, Brown PO. Discovery of distinctive gene expression profiles in human arthritides by cDNA microarray analysis. _Arthritis and Rheumatism_. 2001;44(9):S398-S

6. Kerrigan SW, Murphy RP, **Alizadeh A**, Diehn M, Shattil SJ, Leavitt AD. Caspase-12 expression is markedly reduced in NF-E2(-/-)megakaryocytes and caspase-12(-/-) platelets exhibit a defect in integrin alpha IIb beta 3 inside-out signaling. _Blood_. 2002;100(11):13a-a

7. Kraan TCTV, van Gaalen FA, **Alizadeh AA**, Fero M, Huizinga TWJ, Pieterman E, Breedveld FC, Botstein D, Brown PO, Verweij CL. Distinctive gene expression profiles in synovial tissue from rheumatoid arthritis patients by cDNA microarray analysis. _Arthritis and Rheumatism_. 2002;46(9):S266-S7

8. Lossos IS, **Alizadeh AA**, Rajapaksa R, Tibshirani R, Levy R. GAL is a novel IL-4-inducible gene that strongly predicts survival in diffuse large B-cell lymphoma. _Blood_. 2002;100(11):90a-1a

9. van der Pouw Kraan T, van Gaalen FA, Kasperkovitz P, Verbeet N, **Alizadeh AA**, Fero M, Huizinga TWJ, Pieterman E, Breedveld FC, Staudt LM, Botstein D, Brown PO, Verweij CL. Discovery of distinctive gene expression profiles in human arthritides by cDNA micro-array analysis. _Arthritis Research_. 2002;4(Suppl 1):28. doi:10.1186/ar468. PMCID: PMC3273145

10. Verweij CL, Kraan TTMV, van Gaalen FA, Kasperkovitz PV, Smeets TJ, **Alizadeh AA**, Tak PP, Huizinga TWJ, Pieterman E, Breedveld FC, Botstein D, Brown PO. Rheumatoid arthritis is a heterogeneous disease: Discovery of distinctive gene expression profiles in rheumatoid synovia. _Arthritis and Rheumatism_. 2002;46(9):S266-S

11. Kasperkovitz Pia V, van der Pouw Kraan Tineke CTM, Verbeet Nicolette L, Huizinga Tom WJ, Pieterman E, **Alizadeh AA**, Verweij Cor L. Gene expression profiling of fibroblast-like synoviocytes from rheumatoid arthritis patients. _Analytical Cellular Pathology_. 2003;25(5-6):230

12. Lossos LS, Czerwinski D, Tibshirani R, Wechser M, **Alizadeh AA**, Botstein D, Levy R. Prediction of survival in diffuse large B-Cell lymphoma (DLBCL) based on the expression of six genes. _Blood_. 2003;102(11):391a-a

13. Kasperkovitz P, Verbeet NL, Smeets T, Tak PP, Huizinga T, Baltus B, Timmer T, Pieterman E, Fero M, Firestein GS, **Alizadeh AA**, van der Pouw Kraan TCTM, Verweij CL. Fibroblast-like synoviocytes derived from patients with rheumatoid arthritis show the imprint of synovial tissue heterogeneity: evidence for the existence of distinctive pathways relevant to disease. _Arthritis Research & Therapy_. 2004;6(1):S25-S. doi:10.1186/ar1119

14. Lossos IS, Lu XQ, Ding FY, Rosado M, **Alizadeh AA**, Nechushtan H. Distinct IL-4 intracellular signaling in germinal center B-cell like and activated B-cell like diffuse large B-cell lymphoma: Novel opportunities for therapeutic interventions. *Blood*. 2004;104(11):73a-4a. doi:10.1182/blood.V104.11.244.244

2006 – 2010 (n=25)

1. Advani R, Talreja N, Tibshirani R, Zhao S, **Alizadeh A**, Briones J, Bordes R, Cohen J, Horning S, Levy R, Lossos IS, Natkunam Y. LMO2 Protein Expression Predicts Survival in Patients with Diffuse Large B-Cell Lymphoma Treated with Immunochemotherapy (RCHOP): A Multicenter Validation Study. *Blood*. 2008;112(11):1291. doi:10.1182/blood.V112.11.3769.3769

2. Gentles A, **Alizadeh A**, Lee S, Shahbaba B, Shachaf C, Levy R, Koller D, Plevritis S, editors. A pluripotency signature predicts histological transformation and influences survival in follicular lymphoma patients. RECOMB Satellite Meeting on Systems Biology and Regulatory Genomics; 2008 Dec; Boston, MA.

3. Majeti R, Chao MP, **Alizadeh AA**, Pang WW, Weissman IL. CD47 Is An Independent Prognostic Factor and Therapeutic Antibody Target on Human Acute Myeloid Leukemia Stem Cells. *Blood*. 2008;112(11):284. doi:10.1182/blood.V112.11.766.766

4. **Alizadeh AA**, Gentles AJ, Alencar AJ, Kohrt HE, Houot R, Talreja N, Shyam R, Natkunam Y, Gascoyne RD, Briones J, Advani R, Lossos IS, Levy R. Prediction of Survival in Diffuse Large B-Cell Lymphoma Based On the Expression of Two Genes: Integration of Tumor and Microenvironment Contributions. *Blood*. 2009;114(22):258. doi:https://doi.org/10.1182/blood.V114.22.622.622

5. **Alizadeh AA**, Gentles AJ, Plevritis SK, Levy R. Gene Expression Signature of Host Immune Response Is Predictive of Follicular Lymphoma Patient Survival in Independent Cohorts, and Correlates with Transformation to Diffuse Large B-Cell Lymphoma. *Blood*. 2009;114(22):1153. doi:https://doi.org/10.1182/blood.V114.22.2951.2951

6. **Alizadeh AA**, McClellan JS, Gotlib JR, Coutre S, Majeti R, Kohrt HE, Medeiros BC. Early Mortality in Acute Promyelocytic Leukemia May Be Higher Than Previously Reported. *Blood*. 2009;114(22):420-1. doi:https://doi.org/10.1182/blood.V114.22.1015.1015

7. Chao MP, **Alizadeh A**, Tang CZ, Jan M, Levy R, Majeti R, Weissman IL. Cd47 Is an Adverse Prognostic Factor in Non-Hodgkin Lymphoma and a Therapeutic Antibody Target That Synergizes with Rituximab. *Experimental Hematology*. 2009;37(9):S8-S9

8. Chao MP, **Alizadeh AA**, Tang CZ, Myklebust JH, Varghese B, Jan M, Levy R, Weissman IL, Majeti R. Therapeutic Antibody Targeting of CD47 Synergizes with Rituximab to Completely Eradicate Human B-Cell Lymphoma Xenografts. *Blood*. 2009;114(22):1063-4. doi:10.1182/blood.V114.22.2716.2716

9. Gentles A, **Alizadeh A**, Lee SI, Shahbaba B, Shachaf C, Levy R, Koller D, Plevritis S. A stem cell-like signature predicts histological transformation and influences survival in follicular lymphoma patients. *Cancer Research*. 2009;69(Supplement 9):3286

10. Houot R, Goldstein MJ, Kohrt HE, Myklebust JH, **Alizadeh AA**, Lin JT, Irish JM, Torchia JA, Kolstad A, Chen LP, Levy R. Therapeutic Potential of Anti-CD137 Antibody in Lymphoma. *Blood*. 2009;114(22):301-2. doi:https://doi.org/10.1182/blood.V114.22.722.722

11. Kohrt HE, Patel S, Ho M, Owen T, Majeti R, Gotlib JR, Coutre S, Medeiros BC, **Alizadeh AA**. Is Time of the Essence in Adult Acute Myeloid Leukemia (AML)? Time to Blast Clearance and Time to Induction Therapy Fail to Predict Overall Survival (OS). *Blood*. 2009;114(22):646-7. doi:https://doi.org/10.1182/blood.V114.22.1617.1617

12. Logan AC, Su R, George TI, Kohrt HE, Medeiros BC, **Alizadeh AA**. High Risk of Early Mortality in Adult Patients with Acquired Hemophagocytic Lymphohistiocytosis. *Blood*. 2009;114(22):554. doi:https://doi.org/10.1182/blood.V114.22.1359.1359

13. Majeti R, Chao MP, **Alizadeh AA**, Pang WW, Jaiswal S, Gibbs KD, Weissman IL. CD47 is an adverse prognostic factor and therapeutic antibody target on human AML stem cells. *Molecular Cancer Therapeutics*. 2009;8(Supplement 12):CN07-3. doi:10.1158/1535-7163.targ-09-cn07-03

14. Myklebust JH, Irish JM, Houot R, Brody J, Czerwinski DK, **Alizadeh AA**, Kolstad A, Levy R. A Subpopulation of Follicular Lymphoma Tumor Infiltrating T Cells Shows Suppressed Common Gamma Chain Cytokine Signaling. *Blood*. 2009;114(22):316. doi:https://doi.org/10.1182/blood.V114.22.759.759

15. AJ G, AA A, editors. Core stem-cell programs predict transformation and patient survival in follicular lymphoma. UCI Systems Biology of Stem Cells; 2010 May; Irvine, California.

16. **Alizadeh AA**, Anderson M, Kohrt HE, Shyam RM, Bangs CD, Cherry AM, Advani R, Natkunam Y, Levy R. Clinical and Pathological Features of Non-Hodgkin Lymphomas Harboring Concurrent t(14;18) and 8q24 Anomalies. *Blood*. 2010;116(21):1291-2. doi:https://doi.org/10.1182/blood.V116.21.3134.3134

17. Chao MP, **Alizadeh AA**, Tang CZ, Myklebust JH, Varghese B, Jan M, Cha AC, Tan BT, Park CY, Levy R, Weissman IL, Majeti R. Abstract 2440: CD47 is a prognostic factor and an antibody target that synergizes with rituximab to eradicate non-Hodgkin lymphoma. *Cancer Research*. 2010;70(Supplement 8):2440. doi:10.1158/1538-7445.am10-2440

18. Gentles AJ, **Alizadeh AA**, Alencar AJ, Kohrt HE, Houot R, Goldstein MJ, Natkunam Y, Advani RH, Gascoyne RD, Briones J, Plevritis SK, Lossos IS, Levy R. Abstract PR5: Prediction of survival in diffuse large B-cell lymphoma based on the expression of two genes integrating tumor and microenvironment. *Clinical Cancer Research*. 2010;16(Supplement 14):PR5. doi:10.1158/1078-0432.tcmusa10-pr5

19. Kohrt HE, Li L, **Alizadeh AA**, Goldstein MJ, Strober S, Sarwal M, Lowsky R. Noninvasive Prediction of Graft-Verus-Host Disease Following Allogeneic Hematopoietic Cell Transplantation by Gene Expression Profiling. *Blood*. 2010;116(21):393-4. doi:10.1182/blood.V116.21.896.896

20. Layn K, **Alizadeh AA**, Kattah N, Levy S, Levy R. Self-Antigen Recognition by the B Cell Receptors of Follicular Lymphoma. *Blood*. 2010;116(21):1678-9

21. Li L, Kohrt H, Heish S, **Alizadeh A**, Laport G, Shizuru J, Negrin R, Strober S, Lowsky R, Sarwal M. Noninvasive Prediction of Graft-Versus-Host Disease Following Allogeneic Hematopoietic Cell Transplantation by Gene Expression Profiling.: Abstract# 1566 Poster Board#-Session: P35-IV. *American Journal of Transplantation*. 2010;10:483

22. Medeiros BC, Dunn TJ, Kohrt HE, Coutre S, Gotlib J, Liedtke M, Berube C, **Alizadeh AA**. The Impact of Distance to Treatment Center on the Outcome of AML. *Blood*. 2010;116(21):4742. doi:10.1182/blood.V116.21.4742.4742

23. Myklebust JH, Irish JM, Brody J, **Alizadeh AA**, Czerwinski D, Houot R, Kohrt HE, Kolstad A, Levy R. NF-κB Signaling In Response to CpG Stratifies Mantle Cell Lymphoma Patient Outcome. *Blood*. 2010;116(21):144. doi:10.1182/blood.V116.21.144.144

24. Pollyea DA, Raval A, Kusler B, Gotlib JR, **Alizadeh AA**, Mitchell BS. A Novel Missense Mutation In An MDS Patient and Effects on TET2 mRNA Expression and Clinical Outcomes. *Blood*. 2010;116(21):788. doi:https://doi.org/10.1182/blood.V116.21.1889.1889

25. Sachen KL, **Alizadeh AA**, Kattah N, Levy S, Levy R. Self-Antigen Recognition by the B Cell Receptors of Follicular Lymphoma. *Blood*. 2010;116(21):4124. doi:10.1182/blood.V116.21.4124.4124

2011 – 2015 (n=36)

1. Anderson M, Freud A, Zhao S, **Alizadeh A**, Kohrt H, Warnke R, Levy R, Natkunam Y. Expression of CD137 in select hematopoietic tumors: implications for anti-CD137 immunomodulatory therapy. *Lab Investig*. 2011;91:285A

2. Brody JD, Czerwinski DK, Carlton V, Moorhead M, Zheng J, Klinger M, Faham M, Advani R, Kohrt HE, **Alizadeh AA**, Negrin RS, Weng W-K, Sheehan K, Levy R. Immunotransplant for Mantle Cell Lymphoma: Phase I/II Study Preliminary Results. *Blood*. 2011;118(21):3068. doi:10.1182/blood.V118.21.3068.3068

3. Hosein PJ, Warsch S, **Alizadeh AA**, Lossos IS. Efficacy and safety of bendamustine (BDM) in patients (pts) with mantle cell lymphoma (MCL). *Journal of Clinical Oncology*. 2011;29(15_suppl):e18562-e. doi:10.1200/jco.2011.29.15_suppl.e18562

4. Jiang XY, Romero-Camarero I, Lu XQ, Vicente-Duenas C, Gonzalez-Herrero I, Flores T, Garcia JL, McNamara G, Kunder C, Natkunam Y, Segura V, Fontan-Gabas L, Martinez-Climent JA, **Alizadeh AA**, Cobaleda C, Sanchez-Garcia I, Lossos IS. HGAL-a Germinal Center Specific Protein, Enhances B-Cell Receptor Signaling by Activation of Syk, Leading to Follicular Lymphoproliferation. *Blood*. 2011;118(21):269. doi:https://doi.org/10.1182/blood.V118.21.584.584

5. Kohrt HE, Li L, **Alizadeh AA**, Heish S, Goldstein MJ, Strober S, Sarwal M, Lowsky R. Noninvasive Prediction of Graft-Verus-Host Disease Following Allogeneic Hematopoietic Cell Transplantation by Gene Expression Profiling. *Biology of Blood and Marrow Transplantation*. 2011;17(2):S336-S. doi:10.1016/j.bbmt.2010.12.547

6. Warsch S, Hosein P, Maeda LS, **Alizadeh AA**, Lossos IS. A Multicenter Study Evaluating the Efficacy and Safety of Bendamustine in the Treatment of Mantle Cell Lymphoma. *Blood*. 2011;118(21):4940. doi:10.1182/blood.V118.21.4940.4940

7. Bratman SV, Eclov NC, Modlin LA, Neal J, Loo BW, Wu G, Richardson K, Newman AM, **Alizadeh A**, Diehn M. Cell-free DNA as a Biomarker of Residual Disease Following Radiation Therapy for Non-small Cell Lung Cancer. *International Journal of Radiation Oncology Biology Physics*. 2012;84(3):S713-S. doi:10.1016/j.ijrobp.2012.07.1908

8. Coutinho R, Newman AM, Rossignoli G, Day W, Miraki-Moud F, Chaplin T, Marzec J, Petty RD, Iqbal S, Matthews J, **Alizadeh AA**, Gribben JG. The Diffuse Large B-Cell Lymphoma Infiltrating Macrophage Transcriptome Signature Is Enriched for Both M1 and M2 Genes and Provides an Excellent Platform for Functional Validation of Macrophage Biology in DLBCL. *Blood*. 2012;120(21):790. doi:10.1182/blood.V120.21.790.790

9. Green MR, Gentles AJ, Nair RV, Irish JM, Levy R, **Alizadeh AA**. Hierarchy in Somatic Mutations Arising During Genomic Evolution and Progression of Follicular Lymphoma. *Blood*. 2012;120(21):148. doi:10.1182/blood.V120.21.148.148

10. Kohrt HE, Tian L, Li L, **Alizadeh AA**, Hsieh S, Strober S, Sarwal M, Lowsky R. Identification of Candidate Transcriptional Biomarkers Associated with Chronic Graft-Versus-Host Disease Following Allogeneic Hematopoietic Cell Transplantation. *Blood*. 2012;120(21):4190. doi:10.1182/blood.V120.21.4190.4190

11. Liu CL, Dai B, Newman AM, Majeti R, **Alizadeh AA**. Genome-Wide Characterization of Human Hematopoietic Progenitor Cell Heterogeneity by Expression Profiling of Single Cells: A Pilot Study. *Blood*. 2012;120(21):1231. doi:10.1182/blood.V120.21.1231.1231

12. Newman A, Gentles A, Plevritis S, **Alizadeh A**, editors. Genomic analysis of human tumors links signatures of distinct infiltrating immune cells to survival. RECOMB Conference on Regulatory and Systems Genomics; 2012 Nov; San Francisco, CA.

13. Newman AM, Gentles AJ, Plevritis SK, **Alizadeh AA**. Systematic Deconvolution of Hematolymphoid Tumor Transcriptomes Reveals Infiltrating Immune Cell Signatures Related to Survival. *Blood*. 2012;120(21):2390. doi:10.1182/blood.V120.21.2390.2390

14. Pachynski RK, Zabel B, Tejeda N, Monnier J, Holzer AK, Gentles A, Kohrt HE, Hadeiba H, **Alizadeh AA**, Butcher E. The chemoattractant chemerin as a natural tumor suppressive cytokine. *Journal of Clinical Oncology*. 2012;30(15):e21071. doi:10.1200/jco.2012.30.15_suppl.e21071

15. Torchia JA, Ng PP, Chen H, Kohrt HE, Marabelle A, **Alizadeh AA**, Levy R. Targeting B-Cell Lymphoma with Idiotype-Specific Peptibodies: Toward a Personalized and Tumor-Specific Therapy. *Blood*. 2012;120(21):3713. doi:10.1182/blood.V120.21.3713.3713

16. Bratman SV, Newman AM, To J, Wynne JF, Neal JW, Wakelee H, Shrager J, Loo BW, **Alizadeh AA**, Diehn M. Noninvasive and Ultrasensitive Quantitation of Circulating Tumor DNA by Hybrid

Capture and Deep Sequencing. _International Journal of Radiation Oncology Biology Physics_. 2013;87(2):S92-S. doi:10.1016/j.ijrobp.2013.06.237

17. Coutinho R, Newman A, Rossignoli G, Day W, Chaplin T, Marzek J, Clear A, Miraki-moud F, Petty R, Matthews J. A Diffuse Large B-cell Lymphoma Associated Macrophage Transcriptome Analysis Reveals A Unique M1-m2 Polarization Profile That Challenges Current Concepts On The Lymphoma Microenvironment. _Hematological Oncology_. 2013;31:149

18. Green M, Gentles A, Nair R, Irish J, Kihira S, Liu C, Kela I, Hoppmans E, Myklebust J, Ji H. Oral Presentations. _Hematological Oncology_. 2013;31(S1):96-150. doi:10.1002/hon.2057

19. Kunder CA, Zhao S, Martinez EG, Roncador G, **Alizadeh AA**, Lossos IS, Natkunam Y. Characterization of the Novel Germinal Center Marker KLHL6 in Human Lymphomas. _Laboratory Investigation_. 2013;93:338A-9A

20. Myklebust JH, Brody J, **Alizadeh AA**, Czerwinski DK, Kolstad A, Green MR, Houot R, Delabie J, Kohrt HE, Irish JM, Levy R. Potentiated B-Cell Antigen Receptor Signaling In Mantle Cell Lymphoma Is Associated With Overexpression Of Surface CD79B and IgM. _Blood_. 2013;122(21):1768. doi:10.1182/blood.V122.21.1768.1768

21. Pachynski R, Zabel B, Monnier J, Gentles A, Swanson C, Kohrt H, Hadeiba H, **Alizadeh A**, Butcher E. Abstract A74: The chemoattractant chemerin suppresses melanoma by recruiting natural killer cell antitumor defenses. _Cancer Research_. 2013;73(1 Supplement):A74. doi:10.1158/1538-7445.tumimm2012-a74

22. Bratman SV, Newman AM, To J, Wynne JF, Neal JW, Wakelee HA, Shrager JB, Loo BW, Diehn M, **Alizadeh AA**. Noninvasive and ultrasensitive quantitation of circulating tumor DNA by hybrid capture and deep sequencing. _Journal of Clinical Oncology_. 2014;32(15):11016. doi:10.1200/jco.2014.32.15_suppl.11016

23. Diehn M, Bratman SV, Newman AM, Neal JW, Wakelee HA, Merritt RE, Shrager JB, Loo BW, **Alizadeh A**. Ultrasensitive Detection of Circulating Tumor DNA in Non-Small Cell Lung Cancer by Deep Sequencing. _International Journal of Radiation Oncology Biology Physics_. 2014;90(5):S75-S. doi:10.1016/j.ijrobp.2014.08.315

24. Kjeldsen M, Kohrt H, Levy R, Sadaram M, Czerwinski D, Jensen K, **Alizadeh A**, editors. Multiparametric flow cytometric analysis of immune cells in mantle cell lymphoma patients undergoing CpG-/activated whole cell vaccination followed by autologous immunotransplant. ASH Lymphoma Biology Conference; 2014.

25. Kurtz DM, Green MR, Bratman SV, Liu CL, Glover C, Keane C, Kong K, Faham M, Miklos DB, Advani RH, Levy R, Hertzberg MS, Gandhi MK, Diehn M, **Alizadeh AA**. Noninvasive monitoring of cellular versus acellular tumor DNA from immunoglobulin genes for DLBCL. _Journal of Clinical Oncology_. 2014;32(15):8504. doi:10.1200/jco.2014.32.15_suppl.8504

26. Modlin LA, Bratman SV, Newman AM, Eclov NCW, Neal JW, Wakelee HA, Shrager JB, Loo BW, **Alizadeh AA**, Diehn M. Circulating Tumor DNA Concentrations Reflect Metabolic Tumor Volume

in NSCLC. International Journal of Radiation Oncology Biology Physics. 2014;90(1):S812-S. doi:10.1016/j.ijrobp.2014.05.2342

27. Osmundson E, Newman AM, Bratman SV, Klass DM, Zhou L, Pai J, Longacre TA, **Alizadeh AA**, Koong AC, Diehn M. Circulating Tumor DNA as a Biomarker for Pancreatic Adenocarcinoma. International Journal of Radiation Oncology Biology Physics. 2014;90(1):S816-S7. doi:10.1016/j.ijrobp.2014.05.2354

28. Gentles AJ, Newman AM, Liu CL, Bratman SV, Feng W, Kim D, Nair VS, Xu Y, Khuong A, Hoang CD, Diehn M, West RB, Plevritis SK, **Alizadeh AA**. The prognostic landscape of genes and infiltrating immune cells across human cancers. Nat Med. 2015;21(8):938-45. Epub 2015/07/21. doi:10.1038/nm.3909. PMCID: PMC4852857

29. Klass D, Newman A, Lovejoy AF, Zhou L, Stehr H, Xu T, He J, Komaki RU, Liao Z, Maru D, **Alizadeh A**, Lin SH, Diehn M. Analysis of Circulating Tumor DNA in Esophageal Carcinoma Patients Treated With Chemoradiation Therapy. International Journal of Radiation Oncology Biology Physics. 2015;93(3):S104-S5. doi:10.1016/j.ijrobp.2015.07.251

30. Kurtz DM, Scherer F, Green MR, Khodadoust MS, Klass DM, Zhou L, Krishnan R, Glover C, Liu CL, Kong KA, Faham M, Levy R, Diehn M, **Alizadeh AA**. Distinct early response dynamics of circulating tumor DNA and circulating tumor cells during therapy of B-cell NHL. Journal of Clinical Oncology. 2015;33(15):8570. doi:10.1200/jco.2015.33.15_suppl.8570

31. Kurtz DM, Scherer F, Newman AM, Lovejoy AF, Klass DM, Chabon JJ, Gambhir S, Diehn M, **Alizadeh AA**. Dynamic Noninvasive Genomic Monitoring for Outcome Prediction in Diffuse Large B-Cell Lymphoma. Blood. 2015;126(23):130. doi:10.1182/blood.V126.23.130.130

32. Newman A, Vinayak S, Liu C, Green M, Gentles A, Feng W, Xu Y, Hoang C, Plevritis S, Diehn M, **Alizadeh A**, editors. In silico dissection of bulk tumors reveals immune subsets that predict cancer clinical outcomes. AACR Special Conference on Translation of the Cancer Genome; 2015; San Francisco, CA.

33. Scherer F, Kurtz DM, Green MR, Newman AM, Klass DM, Zhou L, Krishnan R, Liu CL, Glover C, Ohgami RS, Hicks RJ, Keane C, Kong KA, Faham M, Hertzberg MS, Gandhi MK, Advani RH, Levy R, Diehn M, **Alizadeh AA**. Pre-treatment circulating tumor DNA as a biomarker for disease burden in diffuse large B cell lymphoma (DLBCL). Journal of Clinical Oncology. 2015;33(15):8539. doi:10.1200/jco.2015.33.15_suppl.8539

34. Scherer F, Kurtz DM, Newman AM, Stehr H, Liu CL, Zhou L, Craig AFM, Chabon JJ, Lovejoy AF, Klass DM, Glover C, Ohgami RS, Kunder CA, Visser BC, Poultsides G, Levy R, Diehn M, **Alizadeh AA**. Noninvasive Genotyping and Assessment of Treatment Response in Diffuse Large B Cell Lymphoma. Blood. 2015;126(23):114. doi:10.1182/blood.V126.23.114.114

35. Suarez C, Stehr H, Fung E, Kunder C, Ewalt M, Lal A, **Alizadeh A**, Diehn M, Schrijver I, Zehnder J. The VarScan2's SNVs-Near-Indel Filter: Is It Necessary? Journal of Molecular Diagnostics. 2015;17(6):801

36. Vinayak S, Newman A, Adams S, Afghahi A, Jensen KC, Badve SS, Ford JM, **Alizadeh AA**, Telli ML. Deconvoluting immune cell populations using 'in silico flow cytometry' with CIBERSORT: Association with neoadjuvant therapy response and genomic instability in TNBC. *Cancer Research*. 2015;75(Supplement 9):P5-04-3-P5--3. doi:10.1158/1538-7445.Sabcs14-P5-04-03

2016 – 2020 (n=85)

1. Chabon JJ, Simmons A, Newman AM, Lovejoy AF, Esfahani MS, Haringsma H, Kurtz DM, Stehr H, Scherer F, Durkin KA, Otterson GA, Purcell WT, Camidge DR, Goldman JW, Sequist LV, Piotrowska Z, Wakelee HA, Neal JW, **Alizadeh AA**, Diehn M. Inter- and intra-patient heterogeneity of resistance mechanisms to the mutant EGFR selective inhibitor rociletinib. *Journal of Clinical Oncology*. 2016;34(15):9000. doi:10.1200/JCO.2016.34.15_suppl.9000

2. Chaudhuri AA, Lovejoy AF, Chabon JJ, Newman A, Stehr H, Say C, Aggarwal S, Carter JN, West RB, Neal JW, Wakelee HA, Loo BW, **Alizadeh A**, Diehn M. CAPP-Seq Circulating Tumor DNA Analysis for Early Detection of Tumor Progression After Definitive Radiation Therapy for Lung Cancer. *International Journal of Radiation Oncology Biology Physics*. 2016;96(2):S41-S2. doi:10.1016/j.ijrobp.2016.06.112

3. Esfahani MS, Newman AM, Scherer F, Tibshirani R, Diehn M, **Alizadeh AA**, editors. Noninvasive Cancer Classification Using Diverse Genomic Features in Circulating Tumor DNA. Proceedings of the 7th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics; 2016: ACM.

4. Flynt L, Quon A, **Alizadeh A**, Kurtz D. Tumor Lesion Glycolysis as an Indicator of Prognosis in the pre-treatment Phase of Patients with DLBCL. *Journal of Nuclear Medicine*. 2016;57(supplement 2):1620

5. Hartert K, Tadros S, Bouska A, Moore D, Pak C, Heavican T, Liu CL, Gentles AJ, Hartmann EM, Kridel R, Smedby KE, Juliusson G, Rosenquist R, Gascoyne RD, Rosenwald A, Bast M, Vose JM, Lunning M, Greiner TC, Rodig SJ, Iqbal J, Levy R, **Alizadeh AA**, Green MR. DNA Copy Number Gains of TCF4 (E2-2) Are Associated with Poor Outcome in Diffuse Large B-Cell Lymphoma. *Blood*. 2016;128(22):2686. doi:10.1182/blood.V128.22.2686.2686

6. Jan M, Scherer F, Kurtz DM, Newman AM, Stehr H, Liu CL, Zhou L, Glover C, Advani RH, Maeda LS, Gupta NK, Levy R, Kunder CA, Sanchez-Garcia I, Diehn M, **Alizadeh AA**. Absence of Evidence Implicating Hematopoietic Stem Cells As Common Progenitors for DLBCL Mutations. *Blood*. 2016;128(22):4107. doi:10.1182/blood.V128.22.4107.4107

7. Khodadoust M, Olsson N, Wagar L, Chen BB, Rawson K, Liu CL, Steiner D, Rao S, Zhang LC, Stehr H, Newman AM, Czerwinski DK, Carlton V, Moorhead M, Faham M, Kohrt H, Green MR, Davis MM, Levy R, Elias J, **Alizadeh AA**. Antigen Presentation Profiling Reveals T-Cell Recognition of Lymphoma Immunoglobulin Neoantigens. *Blood*. 2016;128(22):915. doi:10.1182/blood.V128.22.915.915

8. Khodadoust M, Rook AH, Porcu P, Foss FM, Moskowitz AJ, Shustov AR, Shanbhag S, Sokol L, Shine R, Fling SP, Li SF, Rabhar Z, Kim J, Yang Y, Yearley J, Chartash EK, Townson SM,

Subrahmanyam PB, Maecker H, **Alizadeh AA**, Dai J, Horwitz SM, Sharon E, Kohrt H, Cheever MA, Kim Y. Pembrolizumab for Treatment of Relapsed/Refractory Mycosis Fungoides and Sezary Syndrome: Clinical Efficacy in a Citn Multicenter Phase 2 Study. *Blood*. 2016;128(22):181. doi:10.1182/blood.V128.22.181.181

9. Kurtz DM, Scherer F, Newman AM, Craig A, Jin M, Stehr H, Chabon JJ, Esfahani M, Liu CL, Zhou L, Glover C, Visser BC, Poultsides G, Advani RH, Maeda LS, Gupta NK, Levy R, Ohgami RS, Davis RE, Kunder CA, Westin JR, Diehn M, **Alizadeh AA**. Noninvasive Detection of BCL2, BCL6, and MYC Translocations in Diffuse Large B-Cell Lymphoma. *Blood*. 2016;128(22):2930. doi:10.1182/blood.V128.22.2930.2930

10. Kurtz DM, Scherer F, Newman AM, Craig AFM, Khodadoust MS, Lovejoy AF, Klass DM, Chabon JJ, Glover C, Zhou L, Liu CL, Gupta NK, Maeda LS, Advani RH, Levy R, Diehn M, **Alizadeh AA**. Prediction of therapeutic outcomes in DLBCL from circulating tumor DNA dynamics. *Journal of Clinical Oncology*. 2016;34(15):7511. doi:10.1200/JCO.2016.34.15_suppl.7511

11. Newman A, Gentles A, Liu C, Green M, Feng W, Bratman S, Kim D, Xu Y, Khuong A, Hoang C, Nair V, West R, Plevritis S, Diehn M, **Alizadeh A**, editors. Robust discrimination of cell types from tissue expression profiles. Intelligent Systems for Molecular Biology; 2016; Orlando, FL.

12. Newman AM, Lovejoy AF, Klass DM, Kurtz DM, Chabon JJ, Scherer F, Stehr H, Liu CL, Bratman SV, Say C, Zhou L, Carter JN, West RB, Sledge GW, Shrager JB, Loo BW, Neal JW, Wakelee HA, **Alizadeh AA**, Diehn M. Integrated digital error suppression for noninvasive detection of circulating tumor DNA in NSCLC. *Journal of Clinical Oncology*. 2016;34(15):e20500. doi:10.1200/JCO.2016.34.15_suppl.e20500

13. Przybyl J, Chabon JJ, Spans L, Ganjoo K, Vennam S, Newman AM, Forgo E, Wozniak A, Sciot R, Debiec-Rychter M, **Alizadeh A**, Diehn M, van de Rijn M. Monitoring response to treatment in leiomyosarcoma patients using circulating tumor DNA. *Connective Tissue Oncology Society*. 2016:286

14. Scherer F, Kurtz DM, Newman AM, Craig A, Stehr H, Zhou L, Glover C, Kohrt H, Levy R, Diehn M, **Alizadeh AA**. Noninvasive Detection of Ibrutinib Resistance in Non-Hodgkin Lymphoma Using Cell-Free DNA. *Blood*. 2016;128(22):1752. doi:10.1182/blood.V128.22.1752.1752

15. Scherer F, Kurtz DM, Newman AM, Esfahani MS, Craig A, Stehr H, Lovejoy AF, Chabon JJ, Liu CL, Zhou L, Glover C, Visser BC, Poultsides G, Advani RH, Maeda LS, Gupta NK, Levy R, Ohgami RS, Davis ER, Gaidano G, Kunder CA, Rossi D, Westin JR, Diehn M, **Alizadeh AA**. Development and Validation of Biopsy-Free Genotyping for Molecular Subtyping of Diffuse Large B-Cell Lymphoma. *Blood*. 2016;128(22):1089. doi:10.1182/blood.V128.22.1089.1089

16. Scherer F, Kurtz DM, Newman AM, Stehr H, Craig AFM, Esfahani MS, Lovejoy AF, Chabon JJ, Klass DM, Liu CL, Zhou L, Glover C, Advani RH, Maeda LS, Gupta NK, Levy R, Ohgami RS, Kunder C, Diehn M, **Alizadeh AA**. Noninvasive molecular subtyping and risk stratification of DLBCL. *Journal of Clinical Oncology*. 2016;34(15):7554. doi:10.1200/JCO.2016.34.15_suppl.7554

17. Azad TD, Chaudhuri A, Newman AM, Stehr H, Schroers-Martin J, Chabon JJ, Fang P, Qiao YW, Liao ZX, Komaki R, **Alizadeh AA**, Lin SH, Diehn M. Circulating tumor DNA analysis for outcome prediction in localized esophageal cancer. _Journal of Clinical Oncology_. 2017;35(15_suppl):4055. doi:10.1200/JCO.2017.35.15_suppl.4055

18. Azad TD, Chaudhuri AA, Newman A, Stehr H, Schroers-Martin J, Chabon JJ, Fang P, Qiao Y, Liao Z, Komaki RU, **Alizadeh AA**, Lin SH, Diehn M. Pretreatment Circulating Tumor DNA for Risk Stratification of Locally Advanced Esophageal Cancer Treated With Chemoradiation and Surgery. _International Journal of Radiation Oncology Biology Physics_. 2017;99(2):S90-S1. doi:10.1016/j.ijrobp.2017.06.218

19. Chabon J, Chaudhuri A, Azad T, Kurtz D, Stehr H, Liu CL, Martin JS, Merriott D, Carter J, Ayers K, Mansfield A, Jen J, Ren H, West R, Nair V, Shrager J, Neal J, Wakelee H, Loo B, **Alizadeh A**, Diehn M. MA 13.01 Clinical and Pathological Variables Influencing Noninvasive Detection of Early Stage Lung Cancer Using Circulating Tumor DNA. _Journal of Thoracic Oncology_. 2017;12(11):S1851. doi:10.1016/j.jtho.2017.09.560

20. Chaudhuri A, Chabon JJ, Lovejoy AF, Newman AM, Stehr H, Azad TD, Carter JN, Merriott DJ, Liu CL, Kurtz DM, Dudley JC, Padda SK, Shrager JB, Neal JW, Wakelee HA, Loo BW, **Alizadeh AA**, Diehn M. Analysis of circulating tumor DNA in localized lung cancer for detection of molecular residual disease and personalization of adjuvant strategies. _Journal of Clinical Oncology_. 2017;35(15_suppl):8519. doi:10.1200/JCO.2017.35.15_suppl.8519

21. Chaudhuri A, Lovejoy A, Chabon J, Newman A, Stehr H, Say C, Carter J, Zhou L, West R, Shrager J, Neal J, Wakelee H, Loo B, **Alizadeh A**, Diehn M. MA17.07 Circulating Tumor DNA Detects Minimal Residual Disease and Predicts Outcome in Localized Lung Cancer. _Journal of Thoracic Oncology_. 2017;12(1):S445. doi:10.1016/j.jtho.2016.11.520

22. Chaudhuri AA, Chabon JJ, Lovejoy AF, Newman A, Stehr H, Azad TD, Carter JN, Merriott DJ, Liu CL, Kurtz DM, Gensheimer MF, Shrager JB, Wakelee HA, Neal JW, Loo BW, **Alizadeh AA**, Diehn M. Comparison of Circulating Tumor DNA Analysis and Surveillance Imaging After Treatment for Localized Lung Cancer. _International Journal of Radiation Oncology Biology Physics_. 2017;99(2):S114-S. doi:10.1016/j.ijrobp.2017.06.269

23. Chaudhuri AA, Chabon JJ, Lovejoy AF, Newman AM, Stehr H, Azad TD, Zhou L, Liu CL, Scherer F, Kurtz DM, Esfahani MS, Say C, Carter JN, Merriott D, Dudley J, Binkley MS, Modlin L, Padda SK, Gensheimer M, West RB, Shrager JB, Neal JW, Wakelee HA, Billy, Loo W, **Alizadeh AA**, Diehn M. (S012) Circulating Tumor DNA Detects Residual Disease and Anticipates Tumor Progression Earlier Than CT Imaging. _International Journal of Radiation Oncology*Biology*Physics_. 2017;98(2):E4. doi:10.1016/j.ijrobp.2017.02.048

24. Chaudhuri AA, Lovejoy AF, Chabon JJ, Newman A, Stehr H, Merriott DJ, Carter JN, Azad TD, Padda S, Gensheimer MF, Wakelee HA, Neal JW, Loo BW, **Alizadeh AA**, Diehn M. Circulating Tumor DNA Analysis during Radiation Therapy for Localized Lung Cancer Predicts Treatment

Outcome. _International Journal of Radiation Oncology Biology Physics_. 2017;99(2):S1-S2. doi:10.1016/j.ijrobp.2017.06.021

25. Chen BB, Khodadoust M, Olsson N, Fast E, Wagar LE, Liu CL, Davis M, Levy R, Elias JE, Altman RB, **Alizadeh AA**. Maria: Accurate Prediction of MHC-II Peptide Presentation with Deep-Learning and Lymphoma Patient MHC-II Ligandome. _Blood_. 2017;130(Supplement 1):1486. doi:10.1182/blood.V130.Suppl_1.1486.1486

26. Diehn M, **Alizadeh AA**, Adams HP, Lee JJ, Klassen S, Palma JF, Hinzman B, Lovejoy AF, Newman AM, Yao LJ, Yaung S, Balasubramanyam A, Rohr UP, Rosenthal A, Kube R, Steinmuller T, Marusch F, Mantke R, Heise M, Pross M. Early prediction of clinical outcomes in resected stage II and III colorectal cancer (CRC) through deep sequencing of circulating tumor DNA (ctDNA). _Journal of Clinical Oncology_. 2017;35(15_suppl):3591. doi:10.1200/JCO.2017.35.15_suppl.3591

27. Elias J, Olsson N, Khodadoust M, Wagar L, Swaminathan K, Green MR, Davis MM, Levy R, **Alizadeh AA**. On the hunt for cancer neoantigens: is mass spectrometry the solution? _Molecular & Cellular Proteomics_. 2017;16(8):S65

28. Frank M, Khodadoust M, Chu M, Kohrt H, Advani R, **Alizadeh A**, Reddy S, Maeda L, Gupta N, Laport G, Meyer E, Miklos D, Negrin R, Rezvani A, Weng W, Sheehan K, Czerwinski D, Faham M, Okada A, Moore H, Phillips D, Wapnir I, Brody J, Levy R. Phase I/Ii Clinical Trial of an Activated Whole Tumor Cell Vaccine Followed by Transfer of Immune T Cells in Patients with Mantle Cell Lymphoma. _Hematological Oncology_. 2017;35(S2):207-8. doi:10.1002/hon.2438_72

29. Jin M, Kurtz DM, Esfahani MS, Soo J, Craig A, Scherer F, Stehr H, Schroers-Martin JG, Bangs CD, Cherry A, Natkunam Y, Roschewski M, Wilson WH, Duehrsen U, Huttmann A, Rossi D, Gaidano G, Westin JR, Advani RH, Diehn M, **Alizadeh AA**. Clinical Impact of Somatic Copy Number Alterations in Circulating Tumor DNA from Diverse Lymphoma Subtypes. _Blood_. 2017;130(Supplement 1):2747. doi:10.1182/blood.V130.Suppl_1.2747.2747

30. Jin MC, Kurtz DM, Esfahani MS, Scherer F, Craig AFM, Soo J, Khodadoust MS, Saganty RS, Chabon JJ, Schroers-Martin J, Stehr H, Advani RH, Rossi D, Gaidano G, Westin JR, Diehn M, **Alizadeh AA**. Noninvasive detection of clinically relevant copy number alterations in diffuse large B-cell lymphoma. _Journal of Clinical Oncology_. 2017;35(15_suppl):7507. doi:10.1200/JCO.2017.35.15_suppl.7507

31. Kurtz DM, Jin M, Soo J, Scherer F, Craig A, Chabon JJ, Schroers-Martin JG, Liu CL, Stehr H, Schmitz C, Duehrsen U, Huttmann A, Cottereau AS, Meignan M, Casasnovas O, Westin JR, Gaidano G, Rossi D, Roschewski M, Wilson WH, Diehn M, **Alizadeh AA**. Circulating Tumor DNA Is a Reliable Measure of Tumor Burden at Diagnosis of Diffuse Large B Cell Lymphoma: An International Reproducibility Study. _Blood_. 2017;130(Supplement 1):310. doi:10.1182/blood.V130.Suppl_1.310.310

32. Kurtz DM, Scherer F, Jin M, Soo J, Craig A, Esfahani MS, Chabon JJ, Stehr H, Liu CL, Tibshirani R, Maeda LS, Gupta NK, Khodadoust M, Advani RH, Levy R, Newman A, Westin JR, Gaidano G, Rossi D, Diehn M, **Alizadeh AA**. Development of a Dynamic Model for Personalized Risk

Assessment in Large B-Cell Lymphoma. *Blood*. 2017;130(Suppl_1):826. doi:10.1182/blood.V130.Suppl_1.826.826

33. Merriott DJ, Chaudhuri AA, Jin M, Chabon JJ, Newman A, Stehr H, Say C, Carter JN, Walters S, Becker HCR, Das M, Padda S, Loo BW, Wakelee HA, Neal JW, **Alizadeh AA**, Diehn M. Circulating Tumor DNA Quantitation for Early Response Assessment of Immune Checkpoint Inhibitors for Lung Cancer. *International Journal of Radiation Oncology Biology Physics*. 2017;99(2):S20-S1. doi:10.1016/j.ijrobp.2017.06.061

34. Olsson N, Khodadoust M, Wagar L, Swaminathan K, Haabeth OAW, Chen B, Rawson K, Liu CL, Steiner D, Lund PJ, Rao S, Zhang L, Marceau C, Stehr H, Newman AM, Czerwinski DK, Carlton V, Moorhead M, Faham M, Kohrt HE, Carette J, Green MR, Davis MM, Levy R, **Alizadeh AA**, Elias JE. Antigen presentation profiling reveals T-cell recognition of lymphoma immunoglobulin neoantigens. *The Journal of Immunology*. 2017;198(1 Supplement):196.9

35. Schroers-Martin JG, Kurtz DM, Soo J, Jin M, Scherer F, Craig A, Chabon JJ, Liu CL, Stehr H, Duehrsen U, Huttmann A, Cottereau AS, Meignan M, Casasnovas O, Westin JR, Gaidano G, Rossi D, Advani RH, Roschewski M, Wilson WH, Diehn M, **Alizadeh AA**. Determinants of Circulating Tumor DNA Levels across Lymphoma Histologic Subtypes. *Blood*. 2017;130(Supplement 1):4018. doi:10.1182/blood.V130.Suppl_1.4018.4018

36. Schroers-Martin JG, Scherer F, Soo J, Kurtz DM, Liu CL, Stehr H, Bru A, Natkunam Y, Diehn M, Nadel B, Roulland S, **Alizadeh AA**. Hierarchy in Somatic Mutations Detected in Circulating and Tissue-Resident Follicular Lymphoma Precursors before Clinical Diagnosis. *Blood*. 2017;130(Supplement 1):308. doi:10.1182/blood.V130.Suppl_1.308.308

37. Soo J, Kurtz DM, Jin M, Scherer F, Schroers-Martin JG, Esfahani MS, Craig A, Stehr H, Neelapu SS, Nastoupil L, Roschewski M, Wilson WH, Diehn M, **Alizadeh AA**. Comparison of Circulating Tumor DNA Recovery from Plasma and Serum. *Blood*. 2017;130(Supplement 1):2756. doi:10.1182/blood.V130.Suppl_1.2756.2756

38. Soo J, Kurtz DM, Scherer F, Craig AFM, Jin MC, Westin JR, Rossi D, Gaidano G, Advani RH, Diehn M, **Alizadeh AA**. Elucidation of distinct mutational patterns between diffuse large B cell lymphoma subtypes utilizing circulating tumor DNA. *Journal of Clinical Oncology*. 2017;35(15_suppl):7538. doi:10.1200/JCO.2017.35.15_suppl.7538

39. Soo J, Scherer F, Kurtz DM, Schroers-Martin JG, Jin M, Craig A, Stehr H, Liu CL, Green MR, Weigert O, Diehn M, **Alizadeh AA**. Reproducibility of m7-FLIPI Risk Scores in Follicular Lymphoma Using Tumor Biopsies and Blood Specimens. *Blood*. 2017;130(Supplement 1):1466. doi:10.1182/blood.V130.Suppl_1.1466.1466

40. Chaudhuri AA, Nabet BY, Merriott DJ, Jin M, Chen EL, Chabon JJ, Newman AM, Stehr H, Say C, Carter JN, Walters S, Becker HC, Das M, Padda SK, Loo BW, Wakelee HA, Neal JW, **Alizadeh AA**, Diehn M. Circulating Tumor DNA Quantitation for Early Response Assessment of Immune Checkpoint Inhibitors for Metastatic Non-Small Cell Lung Cancer. *International Journal of Radiation Oncology Biology Physics*. 2018;101(2):E1-E2. doi:10.1016/j.ijrobp.2018.02.041

41. Chen EL, Chaudhuri AA, Nabet BY, Chabon JJ, Merriott DJ, Loo BW, **Alizadeh AA**, Diehn M. Analysis of Circulating Tumor DNA Kinetics during Stereotactic Ablative Radiation Therapy for Non-Small Cell Lung Cancer. *International Journal of Radiation Oncology Biology Physics*. 2018;102(3):E676-E. doi:10.1016/j.ijrobp.2018.07.1826

42. Dudley J, Schroers-Martin J, Lazzareschi D, Shi W, Chen S, Liao J, **Alizadeh A**, Diehn M. Analysis of Urinary Cell-free DNA for Early Detection and Surveillance of Bladder Cancer. *Journal of Molecular Diagnostics*. 2018;20(6):968-

43. Jin MC, Schroers-Martin JG, Kurtz DM, Buedts L, Esfahani MS, Macaulay C, Sworder B, Soo J, Glover C, Roschewski M, Wilson WH, Duhrsen U, Huttmann A, Rossi D, Gaidano G, Westin JR, Maeda LS, Advani RH, Vandenberghe P, Diehn M, **Alizadeh AA**. Noninvasive Genotyping and Monitoring of Classical Hodgkin Lymphoma. *Blood*. 2018;132:2838. doi:10.1182/blood-2018-99-119140

44. Mehrmohamadi M, Esfahani MS, Soo J, Scherer F, Schroers-Martin JG, Chen BB, Kurtz DM, Hamilton E, Liu CL, Diehn M, **Alizadeh AA**. Distinct Chromatin Accessibility Profiles of Lymphoma Subtypes Revealed By Targeted Cell Free DNA Profiling. *Blood*. 2018;132:672. doi:10.1182/blood-2018-99-119361

45. Nair VS, Li ABH, Stehr H, Chabon J, Chaudhuri A, Zhou L, Naemi H, Ayers K, Ramsey M, Bedi HS, Van Wert R, Sung AW, Lui N, Backhus L, Berry M, Shrager JB, **Alizadeh A**, Diehn M. Genomic Profiling of Bronchoalveolar Lavage Fluid in Patients with Non-Small Cell Lung Cancer. *American Journal of Respiratory and Critical Care Medicine*. 2018;197:A4686

46. Przybyl J, Chabon JJ, Spans L, Ganjoo K, Vennam S, Newman AM, Forgo E, Varma S, Zhu S, Debiec-Rychter M, **Alizadeh A**, Diehn M, van de Rijn M. Circulating tumor DNA levels correlate with response to treatment in LMS patients. *Clinical Cancer Research*. 2018;24(2):38-9. doi:10.1158/1557-3265.sarcomas17-a05

47. Scherer F, Kurtz DM, Newman AM, Stehr H, Craig AFM, Esfahani MS, Lovejoy AF, Chabon JJ, Klass DM, Green MR, Liu CL, Zhou L, Glover C, Visser BC, Poultsides GA, Advani RH, Maeda LS, Gupta NK, Davis RE, Levy R, Ohgami RS, Kunder CA, Rossi D, Westin J, Diehn M, **Alizadeh AA**. Circulating tumor DNA (ctDNA) in B-cell lymphoma. *British Journal of Haematology*. 2018;182:16-7

48. Schroers-Martin JG, Garofalo A, Soo J, Jin MC, Kurtz DM, Buedts L, Duhrsen U, Huttmann A, Cottereau AS, Meignan M, Casasnovas O, Westin JR, Gaidano G, Rossi D, Roschewski M, Wilson WH, Advani RH, Vandenberghe P, Diehn M, Khush K, **Alizadeh AA**. Lymphoma Virome Dynamics Revealed By Cell-Free DNA Sequencing. *Blood*. 2018;132:2861. doi:10.1182/blood-2018-99-119905

49. Shah AT, Azad TD, Chabon JJ, Breese M, Tanasa B, Spillinger A, Leung SG, Diehn M, **Alizadeh AA**, Sweet-Cordero EA. Quantitating circulating tumor DNA in translocation-positive sarcoma patients using CAPP-Seq. *Cancer Research*. 2018;78(19):B49. doi:10.1158/1538-7445.Pedca17-B49

50. Soo J, Schroers-Martin J, Garofalo A, Kurtz DM, D'Emilio N, Grimm DR, Luikart H, Diehn M, Sunwoo JB, Khush KK, **Alizadeh AA**. Post-transplant head and neck cancers: A prospective analysis of clinical factors for risk stratification. *Journal of Clinical Oncology*. 2018;36(15):e18051. doi:10.1200/JCO.2018.36.15_suppl.e18051

51. Soo J, Schroers-Martin J, Garofalo A, Kurtz DM, D'Emilio N, Grimm DR, Luikart H, Van De Rijn M, Diehn M, Khush KK, **Alizadeh AA**. Early detection of post-transplant lymphoproliferative disorder using circulating tumor DNA. *Journal of Clinical Oncology*. 2018;36(15):7572. doi:10.1200/JCO.2018.36.15_suppl.7572

52. Alig S, Macaulay C, Kurtz DM, Duhrsen U, Huttmann A, Jin MC, Sworder B, Garofalo A, Esfahani MS, Soo J, Scherer F, Craig A, Casasnovas O, Westin JR, Gaidano G, Rossi D, Diehn M, **Alizadeh AA**. Short Diagnosis-to-Treatment Interval Is Associated with Higher Levels of Circulating Tumor DNA in Aggressive B-Cell Non-Hodgkin Lymphoma. *Blood*. 2019;134(Supplement 1):491. doi:10.1182/blood-2019-129283

53. Esfahani MS, Alig S, Kurtz DM, Soo J, Jin MC, Macaulay C, Craig AFM, Garofalo A, Steen CB, Scherer F, Sworder B, Diehn M, **Alizadeh AA**. Towards Non-Invasive Classification of DLBCL Genetic Subtypes By Ctdna Profiling. *Blood*. 2019;134(Supplement 1):551. doi:10.1182/blood-2019-132069

54. Garofalo A, Schroers-Martin JG, Soo J, Kurtz DM, Sworder B, Liu CL, Pinsky BA, Luikart H, Advani RH, Natkunam Y, Khush K, Diehn M, **Alizadeh AA**. Deep Sequencing of Viral Cell-Free DNA for Noninvasive Detection of Immunosuppression-Related Lymphoid Malignancies. *Blood*. 2019;134(Supplement 1):885. doi:10.1182/blood-2019-131602

55. Kathuria KR, Chen BB, Khodadoust MS, Olsson N, Davis MM, Elias JE, Levy R, Altman RB, **Alizadeh AA**. Maria-I: A Deep-Learning Approach for Accurate Prediction of MHC Class I Tumor Neoantigen Presentation. *Blood*. 2019;134(Supplement_1):84. doi:10.1182/blood-2019-129334

56. King D, Olsen M, Fisher G, Diehn M, **Alizadeh A**. Development of a circulating tumor DNA assay in pancreas cancer. *Cancer Research*. 2019;79(Supplement 24):C29. doi:10.1158/1538-7445.panca19-c29

57. Kurtz DM, Soo J, Alig S, Keh LCT, Macaulay C, Jin MC, Scherer F, Hamilton EG, Liu CL, Chen BB, Craig AFM, Diehn M, **Alizadeh AA**. Phased Variant Enrichment for Enhanced Minimal Residual Disease Detection from Cell-Free DNA. *Blood*. 2019;134(Supplement 1):552. doi:10.1182/blood-2019-131267

58. Macaulay C, Alig S, Kurtz DM, Jin MC, Opat S, Soo J, Sworder B, Hertzberg MS, Gandhi MK, Diehn M, **Alizadeh AA**. Interim Circulating Tumor DNA As a Prognostic Biomarker in the Setting of Interim PET-Based Adaptive Therapy for DLBCL. *Blood*. 2019;134(Supplement_1):1600. doi:10.1182/blood-2019-131278

59. Moding EJ, Liu YF, Nabet B, Chabon JJ, Chaudhuri A, Hui AB, He JZ, Qiao YW, Heymach J, Tsao AS, Liao ZXX, Gomez DR, Ramchandran K, Neal JW, Wakelee HA, Loo BW, Lin SH, **Alizadeh AA**, Diehn M. ctDNA analysis for personalization of consolidation immunotherapy in localized non-

small cell lung cancer. _Journal of Clinical Oncology_. 2019;37(15):2547. doi:10.1200/JCO.2019.37.15_suppl.2547

60. Moding EJ, Nabet BY, Liu Y, Chabon JJ, Chaudhuri AA, Hui AB, Binkley MS, He J, Qiao Y, Xu T, Yao L, Gandhi S, Liao Z, Das M, Ramchandran KJ, Padda S, Neal W, Wakelee HA, Gensheimer MF, Loo BW, Lin SH, **Alizadeh AA**, Diehn M. Circulating Tumor DNA Changes During Chemoradiation for Lung Cancer Predict Patient Outcomes. _International Journal of Radiation Oncology Biology Physics_. 2019;105(1):S113-S. doi:10.1016/j.ijrobp.2019.06.610

61. Nair V, Hui ABY, Chabon J, Esfahani M, Stehr H, Nabet B, Benson J, Chaudhuri A, Zhou L, Ayers K, Bedi H, Ramsey M, Van Wert R, Sung A, Lui N, Backhus L, Berry M, Massion P, Shrager J, **Alizadeh A**, Diehn M. Broad Genomic Profiling of Bronchoalveolar Lavage Fluid in Lung Cancer. _Journal of Thoracic Oncology_. 2019;14(10):S747-S8. doi:10.1016/j.jtho.2019.08.1600

62. Soo J, Schroers-Martin J, Garofalo A, Kurtz D, D'Emilio N, Luikart H, **Alizadeh A**, Khush K. Early Detection of Post-Transplant Lymphoproliferative Disorder Using Circulating Tumor DNA. _Journal of Heart and Lung Transplantation_. 2019;38(4):S12-S3. doi:10.1016/j.healun.2019.01.014

63. Steen CB, Luca BA, Esfahani MS, Nabet BY, Sworder B, Farshidfar F, Shamardani K, Kurtz DM, Liu CL, Advani RH, Natkunam Y, Myklebust JH, Diehn M, Gentles A, Newman AM, **Alizadeh AA**. An Atlas of Clinically-Distinct Tumor Cellular Ecosystems in Diffuse Large B Cell Lymphoma. _Blood_. 2019;134(Supplement 1):655. doi:10.1182/blood-2019-129461

64. Sworder B, Kurtz DM, Macaulay C, Frank MJ, Alig S, Garofalo A, Sahaf B, Esfahani MS, Spiegel JY, Oak J, Beygi S, Jin MC, Chabon JJ, Khodadoust MS, Majzner RG, Mackall CL, Diehn M, Miklos DB, **Alizadeh AA**. Circulating DNA for Molecular Response Prediction, Characterization of Resistance Mechanisms and Quantification of CAR T-Cells during Axicabtagene Ciloleucel Therapy. _Blood_. 2019;134(Supplement 1):550. doi:10.1182/blood-2019-129015

65. Telli ML, Vinayak S, Khododoust MS, Gruber JJ, Ford JM, Sanchez P, Banayan N, Azimi S, Tumeh PC, Newman AM, **Alizadeh AA**. Spatial mapping of the immune microenvironment in primary triple-negative breast cancer (TNBC) and association with neoadjuvant therapy response. _Cancer Research_. 2019;79(4):PD5-12. doi:10.1158/1538-7445.Sabcs18-Pd5-12

66. Wagar LE, Sworder B, Khodadoust MS, Davis MM, **Alizadeh AA**. Follicular Lymphoma Organoids for Investigating the Tumor Microenvironment. _Blood_. 2019;134(Supplement 1):2799. doi:10.1182/blood-2019-131192

67. **Alizadeh AA**. Newest Discoveries Using Next Generation Sequencing Approaches for Minimal Residual Disease. _Blood_. 2020;136(Supplement 1):SCI2-SCI. doi:10.1182/blood-2020-133040

68. Avanzini S, Kurtz DM, Chabon JJ, Hori SS, **Alizadeh AA**, Diehn M, Reiter JG. ctDNA shedding dynamics dictate early lung cancer detection potential. _Clinical Cancer Research_. 2020;26(11):25. doi:10.1158/1557-3265.LiqBiop20-PR01

69. Azad T, Nanjo S, Chabon J, Jin M, Connolly I, Ko R, Yoo C, Iv M, Nagpal S, Gephart M, **Alizadeh A**, Diehn M. Next Generation Sequencing of Cerebrospinal Fluid to Improve Diagnostic Sensitivity,

Detect Spatial Heterogeneity, and Predict Outcomes for Advanced Lung Cancer Patients with Leptomeningeal Carcinomatosis. *Journal of Neurosurgery*. 2020;132(4):110. doi:10.3171/2020.4.JNS.AANS2020abstracts

70. Binkley MS, Jeon Y-J, Nesselbush M, Moding EJ, Nabet B, Almanza DS, Yoo C, Kurtz DM, Owen SG, Backhus LM, Berry MF, Shrager JB, Ramchandran K, Padda SK, Das M, Neal JW, Wakelee HA, **Alizadeh AA**, Loo BW, Diehn M. KEAP1/NFE2L2 mutations to predict local recurrence after radiotherapy but not surgery in localized non-small cell lung cancer. *Journal of Clinical Oncology*. 2020;38(15_suppl):9012. doi:10.1200/JCO.2020.38.15_suppl.9012

71. Esfahani MS, Mehrmohamadi M, Steen CB, Hamilton EG, King DA, Soo J, Macaulay C, Jin M, Kurtz DM, Nabet B, Moding E, Chabon J, Newman A, Diehn M, **Alizadeh AA**. Chromatin accessibility patterns in cell-free DNA reveal tumor heterogeneity. *Cancer Research*. 2020;80(16):3388. doi:10.1158/1538-7445.Am2020-3388

72. Greenwell IB, Switchenko JM, Maddocks KJ, Kahl BS, Craig AFM, **Alizadeh AA**, Allen PB, Marbury AL, Escobar A, Valla K, Williams M, Parikh P, Roberts D, Neely JJ, Palmer A, Blum KA, Cohen JB. Bendamustine, Obinutuzumab and Venetoclax As Induction Therapy for Untreated Mantle Cell Lymphoma. *Blood*. 2020;136:33-4. doi:10.1182/blood-2020-141454

73. King D, **Alizadeh AA**, Fisher GA. Detection of circulating tumor DNA in pancreas cancer. *Journal of Clinical Oncology*. 2020;38(4):645. doi:10.1200/JCO.2020.38.4_suppl.645

74. Luca BA, Steen CB, Azizi A, Matusiak M, Przybyl J, Neishaboori N, Perez AE, Diehn M, **Alizadeh AA**, van de Rijn M, Gentles AJ, Newman AM. Atlas of clinically-distinct cell states and cellular ecosystems across human solid tumors. *Cancer Research*. 2020;80(16):3443. doi:10.1158/1538-7445.Am2020-3443

75. Majzner RG, Frank MJ, Mount C, Tousley A, Kurtz DM, Sworder B, Murphy KA, Manousopoulou A, Kohler K, Rotiroti MC, Spiegel JY, Natkunam Y, Younes SF, Sotillo E, Duong V, Macaulay C, Good Z, Xu P, Labanieh L, Wang LD, **Alizadeh AA**, Monje M, Miklos DB, Mackall CL. CD58 Aberrations Limit Durable Responses to CD19 CAR in Large B Cell Lymphoma Patients Treated with Axicabtagene Ciloleucel but Can be Overcome through Novel CAR Engineering. *Blood*. 2020;136:53-4. doi:10.1182/blood-2020-139605

76. Moding EJ, Esfahani MS, Nabet B, Liu YF, Chabon JJ, He JZ, Qiao YW, Xu T, Yao LY, Gandhi S, Liao ZXX, Das M, Ramchandran K, Padda SK, Neal JW, Wakelee HA, Loo BW, Lin SH, **Alizadeh AA**, Diehn M. A mid-chemoradiation dynamic risk model integrating tumor features and ctDNA analysis for lung cancer outcome prediction. *Journal of Clinical Oncology*. 2020;38(15):9046. doi:10.1200/JCO.2020.38.15_suppl.9046

77. Murciano-Goroff YR, Hui AB, Chabon JJ, Moding EJ, Lebow ES, Araujo JA, Isbell JM, Jones DR, Ginsberg MS, Myers ML, Offin M, Drilon AE, Hellmann MD, Lai WCV, Reis JS, Razavi P, Rudin CM, **Alizadeh AA**, Li BT, Diehn M. Early ctDNA response assessment for prediction of platinum sensitivity in small cell lung cancer. *Journal of Clinical Oncology*. 2020;38(15):9067. doi:10.1200/JCO.2020.38.15_suppl.9067

78. Nabet BY, Esfahani MS, Hamilton EG, Chabon JJ, Moding EJ, Rizvi H, Steen CB, Chaudhuri AA, Liu CL, Hui AB, Stehr H, Goljenola L, Jin MC, Jeon YJ, Tseng D, Merghoub T, Neal JW, Wakelee HA, Padda SK, Ramchandran KJ, Das M, Bonilla RF, Yoo C, Chen EL, Ko RB, Newman AM, Hellmann MD, **Alizadeh AA**, Diehn M. A noninvasive approach for early prediction of therapeutic benefit from immune checkpoint inhibition for lung cancer. Cancer Research. 2020;80(16):5666. doi:10.1158/1538-7445.Am2020-5666

79. Newman AM, Nakao A, Li K, Liu CL, Mathi K, Sigal N, Maecker H, Diehn M, **Alizadeh AA**. Analytical validation of digital cytometry (iSort) for leukocyte enumeration using stored blood. Journal of Clinical Oncology. 2020;38(15):3542. doi:10.1200/JCO.2020.38.15_suppl.3542

80. Newman AM, Nakao A, Li K, Wilson DC, Liu CL, Diehn M, **Alizadeh AA**. Analytical validation of iSort digital cytometry for leukocyte enumeration in clinical tumor specimens. Journal of Clinical Oncology. 2020;38(15):e15243. doi:10.1200/JCO.2020.38.15_suppl.e15243

81. Schroers-Martin JG, Soo J, Brisou G, Scherer F, Kurtz DM, Sworder B, Khodadoust MS, Jin MC, Bru A, Liu CL, Stehr H, Vineis P, Natkunam Y, Nadel B, Diehn M, Roulland S, **Alizadeh AA**. Recurrent Crebbp Mutations in Follicular Lymphoma Appear Localized to the Committed B-Cell Lineage. Blood. 2020;136:30-1. doi:10.1182/blood-2020-142761

82. Shukla ND, Craig AFM, Sworder B, Kurtz DM, Macaulay C, Garofalo A, Frank MJ, Alig S, Duran G, Kim YH, Zehnder J, Mackall CL, Miklos DB, Diehn M, Khodadoust MS, **Alizadeh AA**. Profiling T-Cell Receptor Diversity and Dynamics during Lymphoma Immunotherapy Using Cell-Free DNA (cfDNA). Blood. 2020;136:49-50. doi:10.1182/blood-2020-141655

83. Spasevska I, Josefsson S, Blaker YN, Steen CB, Sharma A, Kushekhar K, Meyer S, Kolstad A, Beiske K, Holte H, Ostenstad B, Kimby E, Olweus J, Tasken K, Lorenz S, Smeland EB, **Alizadeh AA**, Huse K, Myklebust JH. Heterogeneity of Regulatory T Cells in B-Cell Non-Hodgkin Lymphoma. Blood. 2020;136:27-8. doi:10.1182/blood-2020-142380

84. Steen CB, Luca B, Esfahani MS, Nabet BY, Sworder B, Farshidfar F, Kurtz D, Liu CL, Advani RH, Natkunam Y, Myklebust JH, Diehn M, Gentles A, **Alizadeh A**, Newman AM. Landscape of tumor cell states and cellular ecosystems in diffuse large B cell lymphoma. Cancer Research. 2020;80(Supplement 16):1557. doi:10.1158/1538-7445.am2020-1557

2021 – present (n=88)

1. Lynch RC, Alig S, Ujjani CS, Poh C, Warren EH, Smith SD, Shadman M, Shustov A, Till B, Raghunathan VM, Tseng Y, Coye H, Shelby M, Ottemiller S, Keo S, Verni K, Du H, Vandermeer J, Gaston A, Rasmussen H, Gulhane A, Chen DL, Martin P, Marzbani E, Voutsinas J, **Alizadeh AA**, Gopal AK. T057: Circulating tumor DNA in classical Hodgkin lymphoma patients treated with pembrolizumab and chemotherapy: dynamic response assessment and correlation with baseline total metabolic tumor volume. HemaSphere. 2022;6:26-7. doi: 10.1097/01.HS9.0000890796.34979.cc. PubMed PMID: 02014419-202210005-00057.

2. Roschewski M, Phelan JD, Pittaluga S, Melani C, Lakhotia R, Chabon JJ, Muppidi JR, Lurain KA, Simard J, Pradhan A, Hillsman A, Rilko M, Steinberg SM, Wright GW, Huang DW, Yang YD,

Lionakis MS, Bagaev A, Postovalova E, Meerson M, Kudryashova O, Kotlov N, Fowler NH, Kurtz DM, **Alizadeh AA**, Jaffe ES, Staudt LM, Wilson WH. Phase 2 Study of Acalabrutinib Window Prior to Frontline Therapy in Untreated Aggressive B-Cell Lymphoma: Preliminary Results and Correlatives of Response to Acalabrutinib. *Blood*. 2021;138:524. doi: 10.1182/blood-2021-145228. PubMed PMID: WOS:000736398802066.

3. Alig SK, Esfahani MS, Li MY, Adams RM, Garofalo A, Jin MC, Olsen M, Telenius A, Sworder B, Schroers-Martin J, King DA, Rossi C, Schultz A, Kathuria KR, Liu CL, Spina V, Buedts L, Flerlage JE, Castellino SM, Advani RH, Rossi D, Lynch RC, Casasnovas O, Kurtz DM, Marks LJ, Link MP, André M, Vandenberghe P, Steidl C, Diehn M, **Alizadeh AA**. Distinct Molecular Subtypes of Classic Hodgkin Lymphoma Identified By Comprehensive Noninvasive Profiling. *Blood*. 2022;140(Supplement 1):1295-6. doi: 10.1182/blood-2022-164744. PubMed PMID: WOS:000893223201127.
4. Boegeholz J, Alig SK, Sworder B, Schroers-Martin J, Macaulay C, Craig AFM, Duehrsen U, Hüttmann A, Westin J, Cherng H-JJ, Miklos DB, Frank MJ, Diehn M, Kurtz DM, **Alizadeh AA**. Clonal Hematopoiesis Driven By Recurrent Somatic Mutations but Not with Recurrent Copy Number Alterations Is Associated with Inferior Outcomes in DLBCL after Induction Chemotherapy, but Not CAR19 Therapy. *Blood*. 2022;140(Supplement 1):8609-10. doi: 10.1182/blood-2022-170087.
5. Cherng HJJ, Alig S, Oki Y, Nastoupil LJ, Fayad L, Neelapu SS, Turturro F, Hagemeister FB, Rodriguez MA, McDonnell T, Flowers C, Vega F, Green MR, **Alizadeh AA**, Davis RE, Westin J. Long-term outcomes and circulating tumor DNA analysis from a phase I/II study of lenalidomide and obinutuzumab with CHOP for newly diagnosed diffuse large B-cell lymphoma. *Journal of Clinical Oncology*. 2022;40(16):7553-. doi: 10.1200/JCO.2022.40.16_suppl.7553. PubMed PMID: WOS:000863680302015.
6. Garofalo A, Alig SK, Schroers-Martin J, Shyam RM, Olsen M, Kurtz DM, Rossi C, Schultz A, Kathuria KR, Liu CL, Spina V, Flerlage JE, Castellino SM, Advani RH, Rossi D, Lynch RC, Casasnovas O, Marks LJ, Link MP, Andre M, Vandenberghe P, Steidl C, Diehn M, **Alizadeh AA**. Viral cfDNA Profiling Reveals Distinct EBV Subtypes and Stratifies Risk in Hodgkin Lymphomas. *Blood*. 2022;140(Supplement 1):1318-9. doi: 10.1182/blood-2022-159230. PubMed PMID: WOS:000893223201135.
7. Greenwell IB, Switchenko JM, Craig AFM, **Alizadeh AA**, Allen PB, Escobar A, Valla K, Abousaud A, Parikh P, Roberts D, Neely JJ, Palmer A, Blum KA, Cohen JB, Algave M. Bendamustine, Obinutuzumab and Venetoclax Results in High Complete Response Rates in Untreated Mantle Cell Lymphoma. *Blood*. 2022;140(Supplement 1):9373-4. doi: 10.1182/blood-2022-167947. PubMed PMID: WOS:000893230302164.
8. Hamilton MP, Liu-Fei FC, Alig SK, Tamaresis J, Esfahani MS, Good Z, Sworder B, Schroers-Martin J, Liu CL, Severinsen FT, Hanson PJ, Lu Y, Lowsky R, Negrin RS, Meyer EH, Smith M, Bharadwaj S, Shizuru JA, Sidana S, Shiraz P, Rezvani AR, Johnston LJ, Weng WK, Arai S, Muffly L, Dahiya S, Diehn M, Kurtz DM, Sahaf B, Mackall CL, Frank MJ, Miklos DB, **Alizadeh AA**. Higher Rates of Severe Infection and Persistent Cytopenias in Long-Term CAR19 Responders Than after Autologous HCT: A Single Institution Study of 139 Subjects. *Blood*. 2022;140(Supplement 1):7545-7. doi: 10.1182/blood-2022-165600. PubMed PMID: WOS:000893230300247.

9. Jun S, Shukla N, Durm GA, Hui AB, Cao S, Kunder C, **Alizadeh AA**, Hanna NH, Diehn M. Analysis of circulating tumor DNA in the phase 2 BTCRC LUN 16-081 trial of consolidation nivolumab with or without ipilimumab after chemoradiation in stage III non–small cell lung cancer. American Society of Clinical Oncology; 2022.
10. Kurtz DM, Ahmed S, Tong CK, Mei M, Ding C, Flinn IW, Riedell PA, Hogan GJ, Schultz A, Chabon JJ, Heslop HE, Myo A, **Alizadeh AA**, Horak ID. Ultrasensitive Circulating Tumor DNA (ctDNA) Dynamics after Autologous CD30.CAR-T Cell Therapy for Relapsed or Refractory (r/r) Classical Hodgkin Lymphoma (CHARIOT Trial). *Blood*. 2022;140(Supplement 1):2378-80. doi: 10.1182/blood-2022-162150. PubMed PMID: WOS:000893223202159.
11. Kurtz DM, Hogan GJ, Schultz A, Kopeckova K, Kuffer C, Blair D, Wagner S, Close S, Diehn M, Chabon JJ, **Alizadeh AA**, Westin J. Ultrasensitive MRD Profiling Predicts Outcomes in DLBCL after Frontline Therapy with Tafasitamab in Combination with Lenalidomide and R-CHOP. *Blood*. 2022;140(Supplement 1):3498-9. doi: 10.1182/blood-2022-168378. PubMed PMID: WOS:000893223203237.
12. Lynch RC, Alig SK, Ujjani CS, Poh C, Warren EH, Smith SD, Shadman M, Shustov A, Till BG, Raghunathan V, Tseng YD, Coye H, Shelby M, Ottemiller S, Keo S, Verni K, Du HY, Vandermeer J, Gaston A, Rasmussen HA, Gulhane A, Chen D, Dean EW, Martin PS, Marzbani EA, Voutsinas JM, **Alizadeh AA**, Gopal AK. Circulating Tumor DNA in Untreated Classical Hodgkin Lymphoma Patients Treated with Pembrolizumab and Chemotherapy: Dynamic Response Assessment and Correlation with Baseline Metabolic Tumor Volume. *Blood*. 2022;140(Supplement 1):6547-9. doi: 10.1182/blood-2022-160234. PubMed PMID: WOS:000893223206249.
13. Palomino Mosquera A, Hosoya H, Jin MC, Shahrokh Esfahani M, Schroers-Martin J, Sworder B, Liu CL, Spiteri E, Natkunam Y, Zehnder JL, Stehr H, Kurtz DM, **Alizadeh AA**. Accurate Detection of Clinically Actionable Copy Number Variants in Diverse Hematological Neoplasms By Routine Targeted Sequencing: A Comparative Performance Study. *Blood*. 2022;140(Supplement 1):10712-3. doi: 10.1182/blood-2022-167900.
14. Roschewski M, Kurtz DM, Westin J, Lynch RC, Macaulay C, Kuffer C, Hogan GJ, Close S, Chabon JJ, Rossi D, Diehn M, **Alizadeh AA**, Schultz A. MRD-Negativity As a Potential Surrogate Endpoint after Frontline DLBCL Therapy: Pooled Analysis of Trials & Implications for Clinical Trial Design. *Blood*. 2022;140(Supplement 1):785-6. doi: 10.1182/blood-2022-167936. PubMed PMID: WOS:000893223200322.
15. Schroers-Martin J, Garofalo A, Soo J, Boegeholz J, Alig SK, Sworder B, Liu CL, Luikart H, Gamino G, Morales D, Freystätter K, Hamilton J, Kurtz DM, Hollander S, Rosenthal D, Dhillon G, Raikhelkar J, Verleden S, Nijland M, Agbor-Enoh S, Andreas M, Kfoury A, Ross H, Zaffiri L, Natkunam Y, Diehn M, Khush K, **Alizadeh AA**. Tumor Microenvironment Determinants of Immunotherapy Response Identified By Integrated Host & Viral Analysis of Post-Transplant Lymphoproliferative Disorders. *Blood*. 2022;140(Supplement 1):172-4. doi: 10.1182/blood-2022-158647. PubMed PMID: WOS:000893223200073.
16. Shree T, Haebe S, Czerwinski DK, Eckhert E, Day G, Sathe A, Grimes SM, Frank MJ, Maeda LS, **Alizadeh AA**, Advani RH, Hoppe R, Long SR, Martin B, Ozawa MG, Khodadoust MS, Ji HP, Levy R. Activating Immune Effectors and Dampening Immune Suppressors Generates Successful

Therapeutic Cancer Vaccination in Patients with Lymphoma. _Blood_. 2022;140(Supplement 1):6450-1. doi: 10.1182/blood-2022-167469. PubMed PMID: WOS:000893223206208.

17. Shukla ND, Schroers-Martin J, Kathuria KR, Sworder B, Alig SK, Frank MJ, Miklos DB, Coutre S, Diehn M, Khodadoust MS, Roschewski M, Kurtz DM, **Alizadeh AA**. Specificity & Precision of Minimal Residual Disease Monitoring in DLBCL Using Ig-HTS. _Blood_. 2022;140(Supplement 1):6403-4. doi: 10.1182/blood-2022-165656. PubMed PMID: WOS:000893223206185.
18. Ahmed S, Mei M, Kurtz DM, Beitinjaneh A, Grover NS, Ramos CA, Chabon JJ, Schultz A, Ding C, Myo A, **Alizadeh AA**, Horak ID, Heslop HE. Combined autologous CD30.CAR-T cells and nivolumab in patients with relapsed or refractory classical Hodgkin Lymphoma after failure of frontline therapy (ACTION study). _Hematol Oncol_. 2023;41(S2):524-5. doi: 10.1002/hon.3164_388.
19. Alig SK, Esfahani MS, Garofalo A, Li MY, Rossi C, Flerlage T, Flerlage JE, Adams R, Binkley MS, Shukla N, Jin M, Olsen M, Telenius A, Mutter JA, Schroers-Martin J, Sworder BJ, Rai S, King D, Schultz A, Bogeholz JL, Su SQ, Kathuria KR, Liu CL, Kang XM, Langfitt DM, Pobre-Piza KF, Tian F, Strohband MJ, Spina V, Tousseyn T, Buedts L, Fornecker LM, Castellino SM, Advani RH, Rossi D, Lynch RC, Ghesquieres H, Casasnovas O, Kurtz DM, Marks LJ, Link MP, Andre M, Vandenberghe P, Steidl C, Diehn M, **Alizadeh AA**. Genomic, Transcriptional, and Immunological Validation of Distinct Molecular Subtypes of Classic Hodgkin Lymphoma through Tissue-Based and Noninvasive Methods. _Blood_. 2023;142(Supplement 1):177-. doi: 10.1182/blood-2023-186810. PubMed PMID: WOS:001159306700178.
20. Alig SK, Esfahani MS, Garofalo A, Li MY, Rossi C, Adams R, Binkley MS, Jin MC, Olsen M, Telenius A, Mutter J, Sworder BJ, Schroers-Martin J, King DA, Schultz A, Bögeholz J, Su S, Kathuria KR, Kang X, Liu CL, Spina V, Tousseyn T, Buedts L, Flerlage T, Flerlage JE, Castellino SM, Advani R, Rossi D, Lynch R, Ghesquières H, Casasnovas O, Kurtz DM, Marks LJ, Link MP, André M, Vandenberghe P, Steidl C, Diehn M, **Alizadeh AA**. Distinct Hodgkin Lymphoma Subtypes Identified by Noninvasive Genomic Profiling. _Hematol Oncol_. 2023;41(S2):96-8. doi: 10.1002/hon.3163_60.
21. Esfahani MS, Alig S, Hamilton E, Schroers-Martin J, Sworder B, Boegeholz J, Olsen M, Liu CL, Kurtz D, Diehn M, **Alizadeh A**. RePhyNER: Overcoming limitations of access to matched germline for serial liquid biopsy applications. _Cancer Res_. 2023;83(7):1045-. doi: 10.1158/1538-7445.Am2023-1045. PubMed PMID: WOS:001008193602022.
22. Goldstein J, Kim WS, Yoon SE, Kim SJ, Roschewski M, Westin J, Lynch RC, Alig SK, Close S, Chabon JJ, Rossi D, Wilson WH, Diehn M, **Alizadeh AA**, Kurtz DM. Optimizing Circulating Tumor DNA Limits of Detection for DLBCL during First Line Therapy. _Blood_. 2023;142(Supplement 1):187-. doi: 10.1182/blood-2023-187759. PubMed PMID: WOS:001159306700188.
23. Hamilton MP, Gentille C, Mina A, Good Z, Tamaresis J, Ehlinger Z, Syal S, Sworder B, Schroers-Martin J, Lu Y, Muffly L, Negrin RS, Arai S, Johnston L, Lowsky R, Meyer EH, Rezvani AR, Shizuru JA, Weng W-K, Shiraz P, Sidana S, Bharadwaj S, Smith M, Dahiya S, Sahaf B, Kurtz DM, Mackall C, **Alizadeh AA**, Frank MJ, Miklos DB. Immune Phenotypic Quantification of Axicabtagene Ciloleucel and Brexucabtagene Autoleucel Demonstrates Lymphoma Histology Specific Differences in CAR19 Expansion and Toxicity. _Transplantation and Cellular Therapy, Official Publication of the American Society for Transplantation and Cellular Therapy_. 2023;29(2):S12-S3. doi: 10.1016/S2666-6367(23)00083-0.

24. Hamilton MP, Sworder BJ, Alig SK, Good Z, Boegeholz J, Schroers-Martin J, Tamaresis J, Esfahani MS, Lu Y, Olsen M, Liu CL, Ehlinger Z, Desai M, Liu-Fei F, Muffly LS, Negrin RS, Arai S, Johnston L, Lowsky R, Meyer EH, Rezvani AR, Shizuru J, Weng WK, Shiraz P, Sidana S, Bharadwaj S, Smith M, Dahiya S, Sahaf B, Diehn M, Frank MJ, Mackall CL, Kurtz DM, Miklos DB, **Alizadeh AA**. CAR19 Therapy Drives Expansion of Clonal Hematopoiesis and Associated Cytopenias. *Blood*. 2023;142:360. doi: 10.1182/blood-2023-182522. PubMed PMID: WOS:001159306701117.

25. Isbell JM, Li BT, Razavi P, Reis-Filo J, Liu SY, Selenica P, Adusumilli P, Bott M, Jones DR, Rusch VW, Sihag S, Buonocore DJ, Jee J, Lebow E, Gomez D, Rimner A, Santini FC, Rudin CM, Eichholz JE, Martinez A, Alerte D, Hogan GJ, Schultz A, Schuyler RP, Roff A, Hite D, Chabon JJ, Kurtz DM, **Alizadeh AA**, Diehn M. Ultrasensitive ctDNA minimal residual disease monitoring in early NSCLC with PhasED-Seq. *Cancer Res*. 2023;83(7):3375-. doi: 10.1158/1538-7445.Am2023-3375. PubMed PMID: WOS:001008499100323.

26. Kurtz DM, Hogan G, Schultz A, Chabon JJ, **Alizadeh AA**, Havenith K, Samari S, Kopotsha T, Wang LQ, Qin YJ, Wang Y, Pantano S. Early and Sustained Circulating Tumor DNA Response Dynamics after Loncastuximab Tesirine for Relapsed/Refractory Diffuse Large B-Cell Lymphoma. *Blood*. 2023;142:3133. doi: 10.1182/blood-2023-179977. PubMed PMID: WOS:001159740302242.

27. Lynch RC, Alig SK, Ujjani CS, Poh C, Warren EH, Smith SD, Shadman M, Till BG, Raghunathan V, Tseng YD, Ottemiller S, Joy B, Fessel MM, Du H, Vandermeer J, Kelly A, Rasmussen H, Voutsinas JM, Wu Q, **Alizadeh AA**, Gopal AK. Durable Remissions in Advanced Stage and Molecularly High Risk Untreated Classic Hodgkin Lymphoma with Pembrolizumab plus AVD. *Blood*. 2023;142:4429. doi: 10.1182/blood-2023-179547. PubMed PMID: WOS:001159740307175.

28. Mutter JA, Esfahani MS, Schroers-Martin J, Alig SK, Hamilton MP, Sworder BJ, Tessoulin B, Boegeholz J, Flerlage T, Flerlage JE, Binkley MS, Sugio T, Rossi C, Olsen M, Liu CL, Le Gouill S, Kurtz DM, Diehn M, **Alizadeh AA**. Inferred Gene Expression By Cell-Free DNA Profiling Allows Noninvasive Lymphoma Classification. *Blood*. 2023;142:245. doi: 10.1182/blood-2023-186853. PubMed PMID: WOS:001159306701002.

29. Nagy A, Bátai B, Hogan G, Chabon JJ, Troke M, Riley L, Schultz A, Close S, Diehn M, Alpár D, Timár B, **Alizadeh AA**, Kurtz DM, Bödör C. Phased Variants Allow Robust Profiling of Circulating Tumor DNA in Untreated Follicular Lymphomas. *Blood*. 2023;142:1626. doi: 10.1182/blood-2023-189824. PubMed PMID: WOS:001159306706097.

30. Roschewski M, Kurtz DM, Westin J, Lynch RC, Alig SK, Macaulay C, Kuffer C, Hogan GJ, Schultz A, Close S, Chabon JJ, Rossi D, Opat S, Hicks R, Hertzberg MS, Diehn M, Wilson W, **Alizadeh AA**. Mrd-Negativity after Frontline Dlbcl Therapy: Pooled Analysis of 6 Clinical Trials. *Hematol Oncol*. 2023;41(S2):177-9. doi: 10.1002/hon.3163_112.

31. Roschewski M, Lindenberg L, Mena E, Lakhotia R, Melani C, Steinberg SM, Schultz A, Hogan G, Chabon JJ, Close S, Diehn M, Sworder BJ, Kurtz DM, **Alizadeh AA**, Wilson WH. End-of-Treatment Response Assessment after Frontline Therapy for Aggressive B-Cell Lymphoma: Landmark Comparison of a Singular PET/CT Scan Versus Ultrasensitive Circulating Tumor DNA. *Blood*. 2023;142:192. doi: 10.1182/blood-2023-180007. PubMed PMID: WOS:001159306700193.

32. Rossi C, Boegeholz JL, Alig SK, Garofolo A, Esfahani MS, Schroers-Martin J, Olsen M, Kang X, Kurtz DM, Sugio T, Hamilton MP, André M, Casasnovas O, Diehn M, Ghesquières H, **Alizadeh AA**.

Distinct molecular determinants of treatment-failure in elderly Hodgkin lymphoma identified by cell-free DNA profiling: A LYSA Study. *Hematol Oncol*. 2023;41(S2):321-2. doi: https://doi.org/10.1002/hon.3164_228.

33. Rossi C, Boegeholz J, Alig SK, Garofalo A, Esfahani MS, Schroers-Martin J, Olsen M, Kang XM, Kurtz DM, Sugio T, Hamilton MP, Andre M, Casasnovas RO, Fornecker LM, Diehn M, Ghesquieres H, **Alizadeh AA**. Distinct Circulating Genomic Features of Classical Hodgkin Lymphoma of Older Adults. *Blood*. 2023;142:4369. doi: 10.1182/blood-2023-178257. PubMed PMID: WOS:001159740307115.
34. Schroers-Martin J, Mutter JA, Esfahani MS, Scherer F, Soo J, Alig SK, Kurtz DM, Sugio T, Rossi C, Tessoulin B, Olsen M, Liu CL, Diehn M, **Alizadeh AA**. Longitudinal Noninvasive Surveillance & Fragmentomic Characterization of Follicular Lymphoma. *Blood*. 2023;142:528. doi: 10.1182/blood-2023-187116. PubMed PMID: WOS:001159306702041.
35. Schroers-Martin J, Kastenschmidt J, Sworder B, Diehn M, Wagar L, **Alizadeh A**. FOLLICULAR LYMPHOMA PATIENT-DERIVED ORGANOIDS FOR BISPECIFIC T-CELL ENGAGER IMMUNOTHERAPY. *Hematol Oncol*. 2023;41:230-.
36. Stepan L, Ansari S, Okal A, Dell'Aringa J, Thompson E, Crotta A, Chow VA, Abramson JS, Kamdar M, Chabon JJ, Hogan G, Kurtz DM, **Alizadeh AA**, Peiser L. Circulating Tumor DNA Dynamics as Early Outcome Predictors for Lisocabtagene Maraleucel as Second-Line Therapy for Large B-Cell Lymphoma from the Phase 3 TRANSFORM Study. *Blood*. 2023;142:225. doi: 10.1182/blood-2023-181007. PubMed PMID: WOS:001159306700226.
37. Su SQ, Subramanian A, Flerlage T, Flerlage JE, Alig SK, Moding EJ, Hoppe RT, Advani RH, Natkunam Y, **Alizadeh AA**, Binkley MS. Investigating the Cell States and Prognostic Impact of Tumor Microenvironment Ecosystems in Classic Hodgkin Lymphoma. *Blood*. 2023;142:3016. PubMed PMID: WOS:001159740302125.
38. Sugio T, Shukla N, Khodadoust MS, Nesselbush M, Kato K, Alig SK, Boegeholz J, Schroers-Martin J, Esfahani MS, Mutter JA, Garofalo A, Jun S, Hamilton MP, Rossi C, Olsen M, Liu CL, Akashi K, Diehn M, **Alizadeh AA**. An Integrated Multimodal Framework for Noninvasive TCL Disease Detection and Monitoring. *Blood*. 2023;142:1620. doi: 10.1182/blood-2023-180492. PubMed PMID: WOS:001159306706091.
39. Sworder BJ, Alig SK, Shukla N, Garofalo A, Macaulay CW, Esfahani MS, Olsen MN, Hamilton J, Hosoya H, Hamilton MP, Spiegel JY, Baird JH, Carleton M, Younes SF, Schroers-Martin JG, Liu CL, Natkunam Y, Majzner RG, Mackall CL, Miklos DB, Diehn M, Frank MJ, Kurtz DM, **Alizadeh AA**. Comparative Accuracy of Alternative Early Measures of Residual Disease after Car19 Therapy of Relapsed/Refractory Lbcl. *Hematol Oncol*. 2023;41(S2):214-6. doi: 10.1002/hon.3163_139.
40. Sworder BJ, Kurtz DM, Alig SK, Frank MJ, Shukla N, Garofalo A, Macaulay CW, Shahrokh Esfahani M, Olsen MN, Hamilton J, Hosoya H, Hamilton M, Spiegel JY, Baird JH, Sugio T, Carleton M, Craig AFM, Younes SF, Sahaf B, Sheybani ND, Schroers-Martin JG, Liu CL, Oak JS, Jin MC, Beygi S, Huttmann A, Hanoun C, Duhrsen U, Westin JR, Khodadoust MS, Natkunam Y, Majzner RG, Mackall CL, Diehn M, Miklos DB, **Alizadeh AA**. Determinants of resistance to engineered T cell therapies targeting CD19 in large B cell lymphomas. *Cancer Cell*. 2023;41(1):210-25 e5. Epub

20221229. doi: 10.1016/j.ccell.2022.12.005. PubMed PMID: 36584673; PubMed Central PMCID: PMC10010070.

41. Sworder BJ, Yoon SE, Kim SJ, Schultz A, Hogan G, Close S, Chabon JJ, Diehn M, Kurtz DM, **Alizadeh AA**, Kim WS. Prognostic Utility of Minimal Residual Disease (MRD) after Curative Intent Induction Therapy for DLBCL: A Prospective Real-World Ctdna Study. *Blood*. 2023;142:69. doi: 10.1182/blood-2023-187650. PubMed PMID: WOS:001159306700070.
42. Wang R, Hamilton EG, Hui A, Almanza D, Esfahani MS, Diehn M, **Alizadeh AA**. Improved cfDNA methylation profiling through correction of misrepaired jagged-ends. *Cancer Res*. 2023;83(7):1024-. doi: 10.1158/1538-7445.Am2023-1024. PubMed PMID: WOS:001008193602005.
43. Goldstein JS, Abbosh C, **Alizadeh AA**, Diehn M, Kurtz DM. Mathematical modeling of ctDNA dynamics to predict utility of ultrasensitive MRD assays in early stage non-small cell lung cancer (NSCLC). *Cancer Res*. 2024;84(6_Supplement):986-.
44. Hamilton MP, Sugio T, Noordenbos T, Shi S, Diehn M, Gratzinger D, Miklos DB, **Alizadeh AA**, Good Z. Absence of Evidence for Pervasive CAR19 Driven T-Cell Lymphomagenesis Revealed By Comprehensive Genomic Profiling of an Index Tumor. *Transplantation and Cellular Therapy, Official Publication of the American Society for Transplantation and Cellular Therapy*. 2024;30(2):S487-S8.
45. Hamilton MP, Sworder B, Alig S, Good Z, Boegeholz J, Schroers-Martin J, Tamaresis J, Esfahani M, Lu Y, Olsen M, Liu CL, Ehlinger Z, Desai M, Liu-Fei F, Muffly LS, Negrin RS, Arai S, Johnston L, Lowsky R, Meyer EH, Rezvani AR, Shizuru JA, Weng W-K, Shiraz P, Sidana S, Bharadwaj S, Smith M, Dahiya S, Sahaf B, Diehn M, Frank MJ, Mackall CL, Kurtz D, Miklos DB, **Alizadeh AA**. CAR19 Therapy Drives Expansion of Clonal Hematopoiesis and Associated Cytopenias. *Transplantation and Cellular Therapy*. 2024;30(2):S3-S4. doi: 10.1016/j.jtct.2023.12.023.
46. Nakao A, Newman AM, **Alizadeh AA**, Diehn M, Ghosh M, Aliminati M, Ghosh J, Stephenson K, Ashutosh A. Highly accurate profiling of leukocyte composition from bulk peripheral blood with targeted digital cytometry. *Cancer Res*. 2024;84(6_Supplement):4898-.
47. Shi WY, Liu KJ, Esfahani MS, Schroers-Martin JG, Nesselbush M, Chen SB, Alig SK, Mullane P, Mach KE, Trabanino L, Lee TJ, Yoo I, La V, Rodriguez G, Kornberg Z, Shkolyar E, Gill H, Thong A, Shah JB, Prado K, Skinner EC, **Alizadeh AA**, Liao JC, Diehn M. Mp71-19 Ultrasensitive Urinary Liquid Biopsy Analysis for Bcg Response Assessment in High-Risk Non-Muscle Invasive Bladder Cancer. *Journal of Urology*. 2024;211(5S):e1169. doi: 10.1097/01.JU.0001009548.76580.ba.19.
48. Ransohoff J, Carleton M, Birk A, Bean G, Telli M, **Alizadeh A**, Ford J, Duran G, Khodadoust M, Kurtz D. Abstract PO2-13-10: Predicting outcomes in locally advanced breast cancer through profiling post-neoadjuvant tissue-based minimal residual disease. *Cancer Res*. 2024;84(9_Supplement):PO2-13-0-PO2--0.
49. Nesselbush MC, Luca BA, Jeon Y-J, Jabara I, Meador CB, Binkley MS, Xu N, Hui AB, Garofalo A, Shi WY, Liu KJ, Sugio T, Kastelowitz N, Hamilton EG, Bonilla RF, Wang YP, Jiang A, Lau B, Eichholz J, Banwait M, Schroers-Martin J, Boegeholz J, King DA, Esfahani MS, Raclin T, Tibshirani R, Srinivas S, Nair VS, Isbell JM, Li BT, Piotrowska Z, Sequist LV, Hata AN, Neal JW, Wakelee HA, Gentles AJ, **Alizadeh AA**, Diehn M. Abstract 6560: Cell-free RNA analysis for non-invasive cancer detection and characterization. *Cancer Res*. 2024;84(6_Supplement):6560-. doi: 10.1158/1538-7445.Am2024-6560.

50. Wang R, Hamilton EG, Almanza D, Hui A, Diehn M, **Alizadeh AA**. Improved cfDNA methylation profiling through correction of misrepaired jagged-ends. *Cancer Res*. 2024;84(6_Supplement):960-.
51. Boegeholz J, Rossi C, Goldstein JS, Alig SK, Garofalo A, Esfahani MS, Schroers-Martin JG, Liu CL, Olsen M, Kang XM, Tian F, Kurtz D, Andre M, Fornecker LM, Casasnovas O, Diehn M, Ghesquieres H, **Alizadeh AA**. Ultrasensitive Circulating Tumor DNA MRD Status Predicts Treatment Failure & Complements PET/CT throughout Treatment for Early and Advanced Stage Classic Hodgkin Lymphoma. *Blood*. 2024;144:565-6. doi: 10.1182/blood-2024-201877. PubMed PMID: WOS:001414815800015.
52. Cabel L, Ah-Reum An J, Kurtz D, Ross D, Dikoglu E, Chen Y, Murphy K, Szuhany K, Stowell SL, Maloney D, Scher HI, Morrow M, Robson M, Chandarlapaty S, Chabon J, **Alizadeh AA**, Li BT, Plitas G, Diehn M, Razavi P. 293P Ultra-sensitive ctDNA detection and monitoring in early breast cancer using PhasED-Seq. *Annals of Oncology*. 2024;35:S338. doi: 10.1016/j.annonc.2024.08.234.
53. Domizi P, Sarno J, Jager A, Merchant M, Pacheco K, Yamada-Hunter S, Rotiroti MC, Liu YX, Baskar R, Reynolds W, Sworder B, Sahaf B, Bendall S, Mullighan C, **Alizadeh AA**, Leahy A, Myers R, Grupp S, Majzner R, Barrett D, Sotillo E, Davis K. IKAROS mediates antigen escape following CD19-or CD22-targeted immunotherapies in r/r B-ALL. *Cancer Research*. 2024;84(17):B052-B. doi: 10.1158/1538-7445.Pediatric24-B052. PubMed PMID: WOS:001312878000123.
54. Goldstein JS, Roschewski M, Kim W-S, Yoon SE, Kim SJ, Westin JR, Lynch RC, Alig SK, Close S, Chabon J, Rossi D, Wilson WH, Kurtz D, **Alizadeh AA**. Baseline Prognostic Factors Do Not Predict End of Treatment Ctdna MRD Status and Have Limited Impact on MRD Prognostic Performance in DLBCL. *Blood*. 2024;144(Supplement 1):651-. doi: 10.1182/blood-2024-211068.
55. Goldstein JS, Scherer F, Sworder BJ, Diehn M, Kurtz D, **Alizadeh AA**. Anatomic Genetic Heterogeneity Is Uncovered By Concurrent Cell-Free DNA and Tissue Profiling and Predicts Treatment Resistance in Diffuse Large B-Cell Lymphoma. *Blood*. 2024;144:4357-8. doi: 10.1182/blood-2024-209735. PubMed PMID: WOS:001412802400042.
56. Hamilton M, Phillips N, Lee D, Ehlinger Z, Kramer AM, Srinagesh H, Good Z, Kang XM, Olsen M, Liu CL, Tian F, Sworder BJ, Hosoya H, Schroers-Martin JG, Bharadwaj S, Arai S, Johnston L, Lowsky R, Meyer EH, Negrin RS, Rezvani AR, Shizuru J, Mikkilineni L, Shiraz P, Sidana S, Weng WK, Kennedy VE, Smith M, Muffly L, Kurtz D, Dahiya S, Frank MJ, Mackall CL, Sahaf B, Miklos DB, **Alizadeh AA**. Single Institution Analysis of Lymphoma Treatment Related Post-CAR Myeloid Neoplasms. *Blood*. 2024;144(Supplement 1):96-7. doi: 10.1182/blood-2024-205378. PubMed PMID: WOS:001410860600045.
57. Isbell JM, Goldstein JS, Hamilton EG, Liu SY, Eichholz J, Buonocore DJ, Rusch VW, Bott M, Molena D, Rocco G, Yang SR, Rudin CM, Jones DR, Roff A, Schultz A, Chabon JJ, Kurtz DM, **Alizadeh AA**, Li BT, Diehn M. Ultrasensitive circulating tumor DNA (ctDNA) minimal residual disease (MRD) detection in early stage non-small cell lung cancer (NSCLC). *Journal of Clinical Oncology*. 2024;42(16):8078-. doi: 10.1200/JCO.2024.42.16_suppl.8078. PubMed PMID: WOS:001275557401867.
58. Kambhampati S, Goldstein JS, Buller S, Roschewski M, **Alizadeh AA**, Thiruvengadam N. The Clinical Impact and Cost-Effectiveness of PET-Based and Ctdna-Based Evaluation at End-of-Therapy after Frontline Treatment of DLBCL. *Blood*. 2024;144:2276-7. doi: 10.1182/blood-2024-203873. PubMed PMID: WOS:001412639100005.

59. Lebaner D, Park N, Marar M, Frank MJ, Hiniker S, Hoppe RT, Schroers-Martin JG, Advani RH, **Alizadeh AA**, Bharadwaj S, Miklos DB, Dahiya S, Binkley MS. Investigating Treatment Kinetics and Local Response during and after Bridging Radiotherapy Prior to CAR-T Cell Therapy for Lymphomas. *Blood*. 2024;144:7130-1. doi: 10.1182/blood-2024-200930. PubMed PMID: WOS:001411014600004.
60. Kuehn JC, Md RS, Neidert NN, Mutter JA, Grabis E, Alig SK, Zhang JY, Klingler C, Bleul S, Hummel F, Ranganathan L, Lauer EM, Heiland DH, Prinz M, Müller KJ, von Baumgarten L, Duyster J, Schorb E, Diehn M, **Alizadeh AA**, Reinacher PC, Scherer F. Modulation of the Tumor Microenvironment By CCL19 in Primary CNS Lymphomas. *Blood*. 2024;144(Supplement 1):856-7. doi: 10.1182/blood-2024-199257. PubMed PMID: WOS:001412608600049.
61. Kuehn JC, Neidert NN, Zhang JY, Mutter JA, Alig SK, Klingler C, Hummel F, Bleul S, Ranganathan L, Beck J, Prinz M, Diehn M, **Alizadeh AA**, Duyster J, Sankowski R, Heiland DH, Scherer F. The Effect of Ibrutinib on the Myeloid Cell Compartment in Central Nervous System Lymphoma Slice Cultures. *Blood*. 2024;144:4374-5. doi: 10.1182/blood-2024-199125. PubMed PMID: WOS:001409330600009.
62. Lee D, Sworder BJ, Stepan L, Okal A, Huang CP, Kang XM, Hamilton J, Macaulay C, Olsen M, Liu CL, Diehn M, Peiser L, Kurtz D, **Alizadeh AA**. Dynamics of Circulating Tumor DNA As a Predictor of Outcomes with Lisocabtagene Maraleucel in Relapsed or Refractory Large B-Cell Lymphoma from the Transcend NHL-001 Study. *Blood*. 2024;144:3412-. doi: 10.1182/blood-2024-200924. PubMed PMID: WOS:001412633000026.
63. Lynch RC, Alig SK, Ujjani CS, Poh C, Warren EH, Smith SD, Shadman M, Till BG, Raghunathan V, Tseng YD, Ottemiller S, Joy B, Fessel MM, Du HY, Vandermeer J, Kelly A, Rasmussen H, Voutsinas JM, **Alizadeh AA**, Gopal AK. High Rates of Undetectable MRD By Phased-Seq on Interim and End of Treatment Timepoints in Untreated Advanced Stage Chl Treated with Pembrolizumab plus AVD. *Blood*. 2024;144:3051-2. doi: 10.1182/blood-2024-206512. PubMed PMID: WOS:001415684800047.
64. Nanjo S, Azad T, Jin M, Yano S, Hui A, Nagpal S, Gephart MH, **Alizadeh AA**, Diehn M. EP.04E.02 Quantification of Cerebrospinal Fluid Tumor DNA in Lung Cancer Patients with Suspected Leptomeningeal Carcinomatosis. *Journal of Thoracic Oncology*. 2024;19(10):S478. doi: 10.1016/j.jtho.2024.09.879.
65. Noordenbos T, Schroers-Martin JG, Hamilton MP, Jun S, Sugio T, Sworder BJ, Steen CB, Olsen M, Liu CL, Newman A, Howitt B, Natkunam Y, Miklos DB, Diehn M, Frank MJ, **Alizadeh AA**. Resolving the Microarchitecture of Classic and Transformed Follicular Lymphoma By Single Cell Alignment to Spatial Transcriptomes. *Blood*. 2024;144(Supplement 1):2993-4. doi: 10.1182/blood-2024-199300. PubMed PMID: WOS:001412630600038.
66. Rossi C, Boegeholz J, Goldstein JS, Shi SY, Su SQ, Tessoulin B, Alig SK, Garofalo A, Esfahani MS, Schroers-Martin JG, Liu CL, Olsen M, Kang XM, Tian F, Kurtz D, Sugio T, Noordenbos T, Andre M, Fornecker LM, Julia E, Traverse-Glehen A, Casasnovas O, Binkley MS, Diehn M, Ghesquieres H, **Alizadeh AA**. Distinct Molecular Aberrations of Classic Hodgkin Lymphoma in Older Adults Identified By Comprehensive Genomic Profiling. *Blood*. 2024;144:853-4. doi: 10.1182/blood-2024-201644. PubMed PMID: WOS:001412608600046.

67. Schroers-Martin JG, Garofalo A, Shi SY, Soo J, Luikart H, Sworder BJ, Boegeholz J, Kang XM, Olsen M, Liu CL, Tian F, Skoda A, Gamino G, Morales DJ, Freystaetter K, Agbor-Enoh S, Andreas M, Chambers D, Crespo-Leiro M, Dhillon G, Farr M, Hollander S, Kfoury A, Kransdorf E, Nijland M, Raikhelkar J, Rosenthal D, Ross H, Verleden S, Zaffiri L, Zuckermann A, Kurtz D, Natkunam Y, Diehn M, Khush K, **Alizadeh AA**. Non-Invasive Characterization and Early Detection of Post-Transplant Lymphoproliferative Disorders. *Blood*. 2024;144:648-9. doi: 10.1182/blood-2024-206532. PubMed PMID: WOS:001412638600048.
68. Shi SY, Lurain K, Schroers-Martin JG, Garofalo A, Mutter JA, Sugio T, Kang XM, Tian F, Liu CL, Olsen M, Wilson WH, Diehn M, Roschewski M, **Alizadeh AA**. Acquired Immunodeficiency Landscapes Via Integrated Noninvasive Viral & Immune Profiling in HIV-Associated Lymphoproliferative Disease. *Blood*. 2024;144:1157-8. doi: 10.1182/blood-2024-211308. PubMed PMID: WOS:001411758300001.
69. Stepan L, Ansari S, Okal A, Dell'Aringa J, Thompson EG, Crotta A, Chow VA, Abramson JS, Kamdar M, Solomon SR, Johnston PB, Glass B, Mutsaers P, Arnason JE, Mielke S, Shadman M, Hernandez-Ilizaliturri F, Izutsu K, Bachanova V, Ibrahimi S, Chabon J, Kurtz D, **Alizadeh AA**, Peiser L. Circulating Tumor DNA (ctDNA) As an Early Outcome Predictor in Patients (pts) with Second-Line (2L) Large B-Cell Lymphoma (LBCL) after Lisocabtagene Maraleucel (liso-cel) Versus Standard of Care (SOC) Treatment (tx) from the Phase 3, Randomized Transform Study. *Blood*. 2024;144(Supplement 1):72-. doi: 10.1182/blood-2024-199813.
70. Su SQ, Subramanian A, Flerlage T, Flerlage JE, Rossi C, Noordenbos T, Schroers-Martin JG, Moding EJ, Hoppe RT, Advani RH, Natkunam Y, **Alizadeh AA**, Binkley MS. Comprehensive Characterization of the Cell States and Ecosystems in Classic Hodgkin Lymphoma Using Single-Cell RNA-Seq, Digital Deconvolution, and Machine Learning. *Blood*. 2024;144:4369-70. doi: 10.1182/blood-2024-212013. PubMed PMID: WOS:001409330600004.
71. Sugio T, Esfahani MS, Jun S, Sworder BJ, Hamilton MP, Hosoya H, Olsen M, Kang XM, Liu CL, Tian F, Miklos DB, Kurtz D, Diehn M, **Alizadeh AA**. Direct Method for Estimating the Fraction of T and B/Plasma Cell-Derived DNA. *Blood*. 2024;144:2223-4. doi: 10.1182/blood-2024-193441. PubMed PMID: WOS:001412589800002.
72. Sugio T, Nesselbush M, Shukla N, Garofalo A, Mutter JA, Esfahani MS, Alig SK, Shi SY, Noordenbos T, Hamilton MP, Rossi C, Tian F, Liu CL, Olsen M, Kang XM, Russler-Germain DA, Horwitz S, Kato K, Ito A, Yamagishi M, Fukuda T, Akashi K, Uchimaru K, Khodadoust MS, Diehn M, Mehta-Shah N, **Alizadeh AA**. Integrating Genomic & Transcriptomic Features for Noninvasive Detection, Characterization, and Monitoring of T-Cell Lymphomas. *Blood*. 2024;144:454-5. doi: 10.1182/Blood-2024-206518. PubMed PMID: WOS:001415654100004.
73. **Alizadeh AA**. Mechanisms of Resistance to T-Cell Redirecting Therapies. *Hematological Oncology*. 2025;43(S3):e68_70093. doi: 10.1002/hon.70093_68.
74. Almanza D, Sugio T, Hamilton E, Kurtz D, Diehn M, Esfahani MS, **Alizadeh AA**. Abstract 4565: CANARy-TF: an improved copy number and tumor fraction estimator for liquid biopsy applications. *Cancer Research*. 2025;85(8_Supplement_1):4565-. doi: 10.1158/1538-7445.Am2025-4565.
75. Cabel L, Ah-Reum An J, Kurtz D, Ross D, Dikoglu E, Moiso E, Murphy K, Szuhany K, Stowell SL, Maloney D, Zamora-Chavez G, Schultz A, Scher HI, Chabon J, Robson ME, Morrow M, Li BT,

Alizadeh AA, Chandarlapaty S, Plitas G, Diehn M, Razavi P. Abstract P2-01-25: Circulating tumor DNA clearance by neoadjuvant chemotherapy or breast surgery detected using an ultrasensitive ctDNA MRD assay in early breast cancer. Clinical Cancer Research. 2025;31(12_Supplement):P2-01-25-P2-01-25. doi: 10.1158/1557-3265.Sabcs24-p2-01-25.

76. Chamuleau ME, Wang S, Nijland M, Strobbe L, Oosterveld M, Boersma R, Koene H, Klerk CP, de Jongh E, Koster A, Pruijt H, van der Poel M, van Werkhoven E, Dinmohamed A, van den Bosch T, Sworder BJ, Close S, Brown K, Meek S, **Alizadeh AA**, Kurtz DM, Kurtz DM. PROSPECTIVE VALIDATION OF END OF TREATMENT ctDNA-MRD BY PhasED-Seq IN DLBCL PATIENTS FROM A NATIONAL HOVON TRIAL. Hematological Oncology. 2025;43(S3):e41_70093. doi: 10.1002/hon.70093_41.

77. Hamilton MP, Phillips N, Noordenbos T, Lee C, Ehlinger Z, Kramer AM, Srinagesh HK, Good Z, Olsen M, Liu CL, Tian F, Sworder B, Hosoya H, Schroers-Martin J, Bharadwaj S, Arai S, Johnston L, Meyer EH, Negrin RS, Rezvani AR, Shizuru JA, Mikkilineni L, Shiraz P, Sidana S, Weng W-K, Kennedy VE, Smith M, Muffly LS, Kurtz D, Dahiya S, Frank MJ, Lowsky R, Mackall CL, Sahaf B, Miklos DB, **Alizadeh AA**. Determinants of Post-CAR Myeloid Neoplasms Evolving after Lymphoma Therapy. Transplantation and Cellular Therapy. 2025;31(2):S12-S3. doi: 10.1016/j.jtct.2025.01.023.

78. Hosoya H, Carleton M, Tanaka K, Hovanky V, Cancilla J, Patil S, Phillips N, Hamilton MP, Sworder B, Tian F, Duran GE, Liedtke M, Iberri DJ, Olsen M, Liu CL, Bharadwaj S, Weng W-K, Kennedy VE, Smith M, Dahiya S, Muffly LS, Frank MJ, Zhang TY, Khodadoust M, Sahaf B, Mikkilineni L, Miklos DB, **Alizadeh AA**, Sidana S, Kurtz D. Clonal Hematopoiesis Underlies Prolonged Cytopenias after Anti-BCMA CAR-T Therapy. Transplantation and Cellular Therapy. 2025;31(2):S37-S8. doi: 10.1016/j.jtct.2025.01.050.

79. Liu KJ, Shi WY, Nesselbush MC, Phillips N, Luca B, Bajpai R, Jabara I, Mach KE, Hoerner CR, Cheng J, Wang R, Esfahani M, Almanza D, Hamilton EG, Hui A, La V, Holton G, Rodriguez G, Lee TJ, Mullane P, Prado K, Fan AC, Skinner EC, **Alizadeh AA**, Liao JC, Diehn M. Abstract 3773: Urine cell-free RNA analysis for bladder cancer detection and monitoring. Cancer Research. 2025;85(8_Supplement_1):3773-. doi: 10.1158/1538-7445.Am2025-3773.

80. Mutter JA, Ashtari A, Phillips N, Tessoulin B, Boegeholz J, Rossi C, Le Gouill S, Diehn M, Esfahani MS, **Alizadeh AA**. Abstract 2384: Improved non-invasive gene expression inference using advanced machine learning. Cancer Research. 2025;85(8_Supplement_1):2384-. doi: 10.1158/1538-7445.Am2025-2384.

81. Nanjo S, Tej A, Jin M, Yano S, Hui A, Nagpal S, Gephart M, **Alizadeh AA**, Diehn M, editors. Optimization of leptomeningeal carcinomatosis treatment in lung cancer using cerebrospinal fluid tumor-derived DNA. Cancer Science; 2025: WILEY 111 RIVER ST, HOBOKEN 07030-5774, NJ USA.

82. Ransohoff J, Carleton MA, Barroso SM, Bean G, Maltos A, Ford J, Duran G, Khodadoust M, Telli ML, **Alizadeh AA**, Kurtz DM. Abstract P1-02-19: Spatially defining T-cell clonal evolution in post-neoadjuvant breast cancer and association with molecular residual disease. Clinical Cancer Research. 2025;31(12_Supplement):P1-02-19-P1-02-19. doi: 10.1158/1557-3265.Sabcs24-p1-02-19.

83. Ransohoff J, Carleton MA, Barroso SM, Bean G, Maltos A, Ford J, Duran G, Khodadoust M, Telli ML, **Alizadeh AA**, Kurtz DM. Abstract P4-03-17: Enhanced spatial detection of post-neoadjuvant

breast cancer minimal residual disease by tissue-based Cancer Personalized Profiling by Deep Sequencing. Clinical Cancer Research. 2025;31(12_Supplement):P4-03-17-P4-03-17. doi: 10.1158/1557-3265.Sabcs24-p4-03-17.

84. Ransohoff JD, Carleton MA, Barroso SM, Phillips N, Maltos A, Bean G, Goldstein J, Zhou C, Gunaratne R, Hosoya H, Duran G, Khodadoust M, Ford J, Tibshirani R, Telli ML, Kurtz D, **Alizadeh AA**. Abstract 6352: Defining spatial molecular residual disease by personalized tumor tissue profiling. Cancer Research. 2025;85(8_Supplement_1):6352-. doi: 10.1158/1538-7445.Am2025-6352.

85. Tessoulin B, Rossi C, Boegeholz J, Goldstein J, Callanan M, Alig S, Craig A, Schroers-Martin J, Sworder B, Cohen J, Greenwell IB, Liu CL, Olsen M, Diehn M, Le Gouill S, **Alizadeh AA**. Clinical Validity of Noninvasive Genotyping of Mcl at Diagnosis from Blood Plasma by Circulating Tumor DNA Profiling. Hematological Oncology. 2025;43(S3):e151_70093. doi: 10.1002/hon.70093_151.

86. Wang R, Almanza D, Olsen M, Kang X, King D, Diehn M, **Alizadeh AA**. Abstract 1950: Enhanced detection of pancreatic cancer through methylation-based liquid biopsy: insights into tumor heterogeneity, early alterations, and stromal contributions. Cancer Research. 2025; 85(8_Supplement_1): 1950-. doi: 10.1158/1538-7445.Am2025-1950.

87. Wang S, Nijland M, Strobbe L, Oosterveld M, Boersma R, Koene HR, Klerk C, de Jongh E, Koster A, Pruijt H, van der Poel M, van Werkhoven ED, Dinmohamed A, Close S, Brown K, Meek S, **Alizadeh AA**, Kurtz DM, Chamuleau M. Prospective validation of end of treatment ctDNA-MRD by PhasED-Seq in DLBCL patients from a national trial. Journal of Clinical Oncology. 2025;43(16_suppl):7000-. doi: 10.1200/JCO.2025.43.16_suppl.7000.

88. Wang Z, Hui AB, **Alizadeh AA**, Diehn M, Moding EJ. Abstract P017: Circulating tumor DNA kinetics identify prodynorphin signaling as a target to radiosensitize non-small cell lung cancer. Clinical Cancer Research. 2025;31(2_Supplement):P017-P. doi: 10.1158/1557-3265.Targetedtherap-p017.

Professional Memberships

2006 – Pres	Member, American Society of Hematology (ASH)
2009 – Pres	Member, American Society for Clinical Oncology (ASCO)
2010 – Pres	Member, American Association for Cancer Research (AACR)
2016 – Pres	American Society for Clinical Investigation (ASCI)
2024 – Pres	American Society for Transplantation and Cellular Therapy (ASTCT)

Editorial Review Service

2019 – Pres	Journal Editorial Board Service *Cell; Cancer Discovery; Blood Cancer Discovery; JCO Precision Oncology*
1998 – Pres	Ad Hoc Peer Review *Science; Cell, Nature; Journal of Clinical Oncology; Nature Genetics; Nature Medicine; Nature Biotechnology; Nature Methods; Nature Communications; Cancer Cell; New England Journal of Medicine; Journal of Clinical Investigation; Journal of Experimental Medicine; Blood; Blood Cancer Discovery; Science Translational Medicine; PNAS; Lancet Oncology; Journal of Visualized Experiments; Cancer; Leukemia; Leukemia Research; Leukemia & Lymphoma; Genome Biology; Nucleic Acids Research; Genes, Chromosomes*

& Cancer; Cancer Discovery; Cancer Research; Clinical Cancer Research; Bioinformatics; Journal of Clinical Oncology Bioinformatics; Journal of Clinical Oncology Precision Oncology; Precision Medicine in Hematology; Trends in Genetics; BMC Cancer; BMC Genomics; BMC Medical Genomics; FEBS Letters; Physiological Genomics; International Journal of Cancer; PLoS Biology; PLoS Genetics; PLoS Computational Biology; PLoS One; Haematologica;

Grant Review Service

2015	Grant Reviewer, NIH NCI Clinical Oncology Study Section [CONC]
2015	Grant Reviewer, NIH NCI Cancer Genetics Study Section [CG]
2015	Grant Reviewer, NIH NCI Special Study Section for RFA CA 15-010 "SBIR Phase IIB Bridge Awards to Accelerate the Development of Cancer Therapeutics, Imaging Technologies, Interventional Devices, Diagnostics and Prognostics Toward Commercialization (R44)"
2018 – 2024	Standing Member, NIH NCI Cancer Genetics Study Section [CG]
2018 – Pres	Scientific Review Committee, Gilead Sciences Research Scholars Program in Hematology/Oncology
2012 – Pres	Lymphoma Research Foundation, Panel of Scientific Advisors, Grant Review Committee
2017 – Pres	Margaret Early Trust Grant Review Committee
2017 – Pres	Stanford Cancer Institute, Developmental Cancer Research Award Grant Review Committee

National/International Service, Committees & Panels

2011 – 2014	ASCO Scientific Committee on Lymphoma, Myeloma, Plasma Cell Disorders
2014	ASCO Education Committee on Lymphoma, Myeloma, Plasma Cell Disorders
2014	Track Leader/Chair, ASCO Scientific Program Committee on Lymphoma, Myeloma, & Plasma Cell Disorders
2014 – 2017	American Society of Hematology, Committee on Epigenetics & Genomics
2015 – Pres	Scientific Advisory Board Member, Lymphoma Research Foundation
2013	Clinical Science Symposium Chair, ASCO Annual Meeting, June 1st, 2013

Institutional Service, Stanford Committees & Panels

2010 – Pres	Moderator/Panelist; Multidisciplinary Management of Cancers: A Case-Based Approach (Stanford/Silverado Conference)
2011 – 2012	Stanford Cancer Center EMR (Electronic Medical Record) Council
2011	Chair, Stanford Immunology Program Seminar Series
2012	Stanford Center for Cancer Systems Biology Annual Symposium
2010 – Pres	Stanford Cancer Biology Graduate Training Program
2010 – Pres	Stanford Immunology Graduate Training Program
2011 – Pres	Admissions Panel, Medical Scientist Training Program, Stanford University
2011 – Pres	Chair, Seminar Committee, Stanford Immunology Program
2012 – Pres	Admissions Panel, Medical School, Stanford University

2012 – Pres	Steering Committee Member & Mentor, Stanford Computational & Systems Immunology
2014 – Pres	Admissions Panel, Stem Cell Biology & Regenerative Medicine PhD Program
2015 – Pres	Molecular Tumor Board, Stanford Cancer Center
2018 – Pres	Executive Committee, Stanford Immunology Graduate Training Program
2020 – Pres	Informatics Advisory Board, Stanford Cancer Institute

Leadership Roles

2014	Lymphoma Research Foundation, Clinical Research Mentoring Program
2016	Chair, American Society of Hematology Meeting on Lymphoma Biology
2015 – 2016	Chair, American Society of Hematology Scientific Committee on Epigenetics & Genomics
2020 – Pres	Leader, Cancer Genomics Program, Stanford Cancer Institute

Teaching Experience

1992 – 1993	Teaching Assistant, Department of Biology, UCLA; Graduate Seminar Series Molecular Biology 276
1994	Teaching Assistant, Division of Cellular & Molecular Biology, UCLA; Molecular Biology 100A
1996	Teaching Assistant, Department of Neurobiology, Stanford University, Neurobiology 200
1999 – 2003	Instructor, Cold Spring Harbor Lab Course Series; Making & Using DNA Microarrays
2004	Instructor, CA Institute for Quantitative Biosciences; QB3 Microarray Course
2004 – 2006	Resident Educator, Department of Medicine, Stanford Medical Center
2007 – 2009	Lecturer, Hematology Didactic Series, Stanford Medical Center, Inpatient Hematology Service
2011	Lecturer, Translational Immunology (IMM 209)
2011 – Pres	Stanford University Undergraduate Research and Advising, SIMS Shadowing Program
2011 – 2015	James Torchia, PhD Thesis Committee (Immunology/MSTP)
2011 – Pres	Course Director, Immunology 311, Seminars in Immunology
2012 – 2017	Luke J Lee, Graduate Co-Mentor, PhD Program in Cancer Biology
2012	Instructor, Stanford University, Systems Immunology 206A
2012 – 2015	Ryan-Corces Zimmerman, Thesis Committee (Cancer Biology)
2013	Isabael Romero-Camarero, PhD Rotation
2013	Instructor, Stanford University, Systems Immunology 311
2014	Weizhuang Zhou, Qualifying Exams Committee (Bioengineering)
2014 – 2019	Tyler Prestwood, Thesis Committee (Stem Cell Biology/MSTP)

2014 – 2018	Jake Chabon, Graduate Co-Mentor (Stem Cell Biology)
2015 – 2016	Azar Fazel, PhD Rotation Student (Electrical Engineering)
2015 – 2017	Chris Dove, Qualifying Exams Committee (Cancer Biology)
2015 – 2017	David Kurtz, ARTS Graduate Mentor (Bioengineering)
2015 – 2019	Binbin Chen, MSTP Graduate Mentor (Bioengineering)
2016 – Pres	Andrea Garofalo, Thesis Committee (Cancer Biology, MSTP)
2016 – 2021	Joanne Soo, Medical Scholar Mentor (Duke/Stanford Medical School)
2017	Bryan Jiaming Xie, Qualifying Exams Committee (Immunology)
2017	Audrey Lee, PhD Rotation Student (Immunology)
2017	Naomi Pacalin, PhD Rotation Student (Bioengineering)
2017 – 2018	Chloe Steen, PhD Co-Mentor/International (Computational Biology)
2017 – 2020	Zaid Nabulsi, Honors/Masters Thesis Mentor (Computer Science)
2017 – 2020	Yagmur Muftuoglu, Medical Scholar Mentor (Stanford Medical School)
2017 – 2023	Emily Hamilton, Graduate Co-Mentor (Cancer Biology)
2017 – 2020	Chris Daryl Still, PhD Thesis Committee (Stem Cell Biology)
2017 – 2024	Jiaying Toh, Thesis Committee (Immunology)
2017 – 2020	Yagmur Muftuoglu, Medical Scholar Mentor (Stanford Medical School)
2018 – 2024	Monica Nesselbush, Thesis Committee (Cancer Biology)
2018 – 2024	Michael Jin, Medical Scholar Mentor (Stanford Medical School)
2019	Kiarash Shamardani, PhD Rotation Student (Cancer Biology)
2019 – Pres	Karan Kathuria, Medical Scholar Mentor (Stanford Medical School)
2019 – Pres	Diego Almanza, Thesis Committee (Cancer Biology)
2019 – 2021	Navika Shukla, Medical Scholar Mentor (Stanford Medical School)
2019 – Pres	Alex Craig, ASH Physician Scientist Trainee (UCSF Medical School)
2021 – Pres	Eric Wolfsberg, Thesis Committee (Chemical Engineering)
2023 – Pres	Shuyu Shi, Mentor/PhD Thesis Committee (Bioengineering)
2023 – Pres	Harrison Zhang, Thesis Committee (MSTP)
2023 – Pres	Nick Phillips, Thesis Committee (Cancer Biology)

Record of Funding, Grants, Awards, and Contracts

<u>Active Funding:</u>

07/01/22 – 06/30/26	Funder: Department of Defense (W81XWH-22-1-0336, SPO#237140) Title: An Integrative Radiogenomic Framework for Predicting Treatment Failure in Adolescents & Young Adults with Hodgkin Lymphoma Role: Initiating PI (Co-PIs Castellino/Cho)

07/13/21 – 06/30/26	Funder: University of California, San Francisco/National Institutes of Health (13394sc, SPO#195324) Title: MHC Variation in Host Response to SARS-CoV2 and COVID-19 Outcomes Role: Co- PI (Co-PI: Mellins/PI:Hollenbach)
03/01/23 – 02/28/26	Funder: Lymphoma Research Foundation Title: Spatiotemporal Determinants of FL Response & Resistance to Cellular Therapy (878391, SPO#278519) Role: PI
03/04/21 – 02/28/26	Funder: NIH/NCI (R01CA257655, SPO# 182562) Title: Circulating Genomic Determinants of Treatment Failure in Hodgkin Lymphoma Role: PI (Co-PI Diehn)
04/28/23 – 04/27/26	Funder: Oslo University /Norwegian Cancer Society (SPO# 293130) Title: Regulatory T cells: Predictive biomarkers and selective targeting to boost cancer immunotherapy Role: PI
11/01/23 – 10/31/25	Funder: Lungevity Foundation (SPO#303046) Title: Integration of liquid biopsy assays for early detection of lung cancer Role: Co-PI (Diehn)
07/01/20 – 06/30/26	Funder: NIH/NCI (R01CA244526, SPO#142791) Title: Analysis of urine tumor nucleic acids for detection and personalized surveillance for bladder cancer Role: Co-PI Alizadeh (MPI Diehn)
08/01/20 – 04/30/26	Funder: NIH/NCI (R01CA254179, SPO#172899) Title: Molecularly-based outcome and toxicity prediction after radiotherapy for lung cancer Role: Co-PI Alizadeh (MPI Diehn)
06/01/15 – 08/31/25	Funder: NIH (P01CA049605, SPO#6095) Title: Bone Marrow Grafting and Cellular Therapy for Leukemia & Lymphoma Role: Co-Investigator (PI Negrin)
07/01/24 – 06/30/26	Funder: Memorial Sloan Kettering Cancer Center (SPO# 339183) Title: Identifying genomic and immunologic predictors of response to pembrolizumab for treatment-naïve extranodal NK/T-cell lymphoma Role: PI
02/01/24 – 01/31/29	Funder: University of North Carolina at Chapel Hill/National Institutes of Health (SPO# 268410) Title: Modeling and analysis of curative combination therapy for Diffuse Large B-Cell Lymphoma Role: Co-Investigator (Palmer, A.)
01/01/25 – 12/31/25	Funder: Leukemia & Lymphoma Society (SPO#343918)

Title: The Leukemia & Lymphoma Society CDP Scholar Achievement Award
Role: PI

Pending Awards:

07/01/25 – 06/30/30 Funder: NIH (P01CA049605, SPO#6095)
Title: Bone Marrow Grafting and Cellular Therapy for Leukemia & Lymphoma
Role: Co-Investigator (PI Negrin)

01/01/25 – 12/31/27 Funder: Columbia University / Leukemia & Lymphoma Society
Title: Defining ctDNA monitoring and immune modulation in a novel, risk stratified clinical trial for PTLD
Role: Co-Investigator (PI Amengual)

07/01/25 – 06/30/30 Funder: National Institutes of Health (1R01CA303461-01 SPO 345541)
Title: Optimizing CD22 CAR T cell therapy for the treatment of lymphoma
Role: Co-Investigator (PI Frank)

07/01/25 – 06/30/30 Funder: University of California, Irvine / Leukemia & Lymphoma Society
Title: Personalized predictive modeling of therapeutic responses using patient-derived follicular lymphoma organoids
Role: Co-Investigator (PI Wagar)

04/01/26 – 03/31/31 Funder: National Institutes of Health (SPO 349835)
Title: Cellular and Cell-free Determinants of Response to CAR T-cell Reinfusion in Large B-Cell Lymphoma
Role: PI

04/01/26 – 03/31/31 Funder: National Institutes of Health (SPO 349881)
Title: Integrating Genomic & Epigenomic Features for Noninvasive Characterization of T-Cell Lymphomas
Role: MPI

04/01/26 – 03/31/31 Funder: National Institutes of Health (SPO 342835)
Title: A multimodal framework for early detection of immunosuppression driven tumors after transplantation
Role: MPI

Completed Awards:

1995 Funder: NIH, Intramural Research Fellowship for Medical Students
Title: Generation of Protective Immunity Against *H-Ras* Harboring Tumors Using a Chimeric Vaccine
Role: Research Fellow/Trainee; Mentor (Larry A. Kwak, MD/PhD; NIH/NCI)

1996 – 1997 Funder: HHMI-NIH, Cloister Research Scholarship

	Title: Design and Construction of the Lymphochip: Specialized cDNA Microarray for the Genomic-Scale Analysis of Gene Expression in Normal and Malignant Lymphocytes Role: Research Scholar/Trainee; Mentor (Louis M. Staudt, MD/PhD; NIH/NCI)
1997 – 1998	Funder: HHMI-NIH, NIH-Clinical Research Training Program Award Title: Analysis of Gene Expression in Normal and Malignant Lymphocytes Using the Lymphochip Role: Research Scholar/Trainee; Mentor (Louis M. Staudt, MD/PhD; NIH/NCI)
1998 – 2003	Funder: HHMI, Research Award for Outstanding Research (declined) Title: Analysis of Gene Expression in Normal and Malignant Lymphocytes Using the Lymphochip Role: Research Scholar/Trainee; Mentor (Louis M. Staudt, MD/PhD; NIH/NCI)
1998 – 2003	Funder: NIH, Medical Scientist Training Program (MSTP/Stanford) 5T32GM007365-27 Title: Genome-Scale Characterization of Normal and Pathological Expression Programs in Immune Cells Role: Graduate student/Trainee; Mentor (Patrick O. Brown, MD/PhD; Stanford Biochemistry)
2003 – 2004	Funder: UCSF/Sandler Foundation: UCSF Faculty Fellow / Sandler Fellowship Title: Using Heritable Variation in Gene Expression to Decipher the Genetics of Infection and Cancer Susceptibility Traits in the Laboratory Mouse Role: PI
2004 – 2009	Funder: NIH/NIAID, 5P01-AI63302-01 Title: Intracellular Pathogens and Innate Immunity Role: Project Leader; Co-Investigator
2008 – 2009	Funder: NIH/NHLBI, 5T32HL007970-07 Title: Ruth L. Kirschstein National Research Service Award Role: Post-Doctoral Fellow, Training Program in Investigative Hematology Mentors: (Ronald Levy, MD; Stanford Oncology & Irving Weissman, MD; Stanford Pathology)
2010 – 2013	Funder: Leukemia & Lymphoma Society (LLS CDA 4637; SPO#47564) Title: Genomic Determination of Response to Therapy in Patients with Follicular Lymphoma Role: PI
2010 – 2013	Funder: American Society of Clinical Oncology (Awarded/Declined) Title: ASCO Career Development Award Role: PI
2010 – 2016	Funder: NIH/NCI (U54CA149145, SPO#46590) Title: Modeling the Role of Differentiation in Cancer Progression Project 3: Modeling the Role of Differentiation in Follicular Lymphoma Role: Project Leader (PI S. Plevritis) Project 3/AS: Modeling Dynamics of Response and Progression Using Circulating Tumor DNA for Lymphoma. (A. Alizadeh, Project Leader)
2011 – 2014	Funder: Doris Duke Charitable Foundation (SPO#51778) Title: Genomic Approaches for Targeting Risk in Hematological Malignancies Role: PI
2011 – 2017	Funder: NIH/NCI (R01CA151748, SPO#47462) Title: Genetic Basis of Signaling Heterogeneity in Human Follicular Lymphoma Role: Co-Investigator (PI Levy)
2012 – 2013	Funder: SHC Innovation Award Title: Risk-Based Consolidation Therapy of Diffuse Large B-Cell Lymphoma (DLBCL) Role: PI
2012 – 2014	Funder: Department of Defense (SPO# 105652)

	Title: A Genomic Strategy for Residual Disease Monitoring in Non-Small Cell Lung Cancer Role: Co-Investigator (Co-PI M. Diehn)
2012 – 2015	Funder: Gabrielle's Angel Foundation (SPO# 104769) Title: Prospective Validation and Genetic Basis of a Novel Molecular Risk Predictor for Diffuse Large B-Cell Lymphoma. Role: PI
2012 – 2016	Funder: Lymphoma Research Foundation (SPO#107106) Title: Single Cell Characterization of Clonal Evolution in Follicular Lymphoma Role: PI
2013 – 2014	Funder: Translational Medicine Program, Stanford University Title: Identifying Somatic Mutations in Mantle Cell Lymphoma Associated with Response to Chemotherapy and Anti-Tumor Immune Response Role: PI
2013 – 2014	Funder: Stanford Cancer Institute DCRA Title: Personalized Genomic Analysis of Circulating Tumor DNA to Monitor Advanced Solid Tumors Role: PI (Co-PI M. Diehn)
2013 – 2014	Funder: Coulter Foundation Title: CAPP-Seq Ultra-Sensitive Detection of Tumor Derived Circulating Nucleic Acid Species Using Deep Sequencing Role: PI (Co-PI M. Diehn)
2013 – 2018	Funder: NIH/NCI (DP2CA186569, SPO#109485) Title: Developing a Genomic Approach for Cancer Screening Role: Co-Investigator (PI M. Diehn)
2014 – 2017	Funder: Damon Runyon Cancer Research (SPO#115279) Title: Definition and Targeting of Diffuse Large B-Cell Lymphoma Stem Cells Role: PI
2015 – 2016	Funder: NIH/NCI (R01CA188298, SPO#118276 [Subcontract]) Title: Improved Methods for Reversing Formalin-induced Crosslinks in Biomolecules Role: PI (CDS subcontract)
2015 – 2017	Funder: American Society of Hematology (SPO#116930) Title: The Hierarchy and Consequences of Somatic Alterations in Follicular Lymphoma Role: PI
2015 – 2021	Funder: NIH/NCI (R01CA188298, SPO#113443) Title: Noninvasive Monitoring of Lung Cancer Patients Treated with Radiotherapy Role: PI (Co-PI M. Diehn)
2016 – 2017	Funder: The V Foundation for Cancer Research (SPO#115767) Title: Noninvasive Detection and Monitoring of Tumors and Body Fluids Role: PI
2016 – 2018	Funder: Doris Duke Charitable Foundation (SPO#124911) Title: Personalization of cancer therapy utilizing circulating tumor DNA as biomarkers Role: PI (Mentor for Joanne Soo)
2016 – 2019	Funder: Stinehart/Reed Foundation Title: Mutation Haplotypes for Ultrasensitive Detection of Circulating Tumor DNA Role: PI
2016 – 2020	Funder: NIH/NCI (U01CA194389; SPO#116399) Title: Modeling the Molecular Determinants of Induced Anti-Tumor Immune Responses in Mantle Cell Lymphoma Role: PI

2017 – 2019	Funder: Emerson Collective Cancer Research Fund Title: Personalizing Cancer Therapy Using Circulating Tumor DNA Role: PI
2017 – 2019	Funder: Parker Institute for Cancer Immunotherapy (PICI; SPO#122835) Title: An Integrative Framework for Comprehensive Prediction of Antigen Binding Role: PI
2017 – 2019	Funder: SU2C/AACR (MGH Subcontract; SPO#131521) Title: Integrated Blood-based and Radiographic Interception of Lung Cancer Role: Co-I (PI M. Diehn/Sequist)
2020 - 2021	Funder: Stanford Cancer Institute Title: Assessment of Molecular Response and Genomic Selection During Therapy with Chimeric Antigen Receptor T-cells from Circulating Tumor DNA Role: Co-Investigator (PI Sworder)
2020 - 2021	Funder: Stanford University (COVID-19 Crisis Response: RISE Call for Proposals) Title: A non-invasive COVID-19 risk stratification model from sequencing of viral and human circulating cell-free RNA Role: PI (Co-PI Dr. Max Diehn)
2018 – 2024	Funder: NIH/ NIDCR (R01DE027750; SPO#131209) Title: Characterizing Head and Neck Tumor Neoantigens and T Cells: Looking Beyond the Usual Suspects Role: Co-Investigator (PI Sunwoo/Elias)
2019 – 2024	Funder: NIH/NCI (R01CA229766, SPO#133439) Title: A Noninvasive Integrated Genomic Approach for Early Cancer Detection and Risk Stratification after Transplantation Role: PI (Co-PI Khush)
2019 – 2023	Funder: Bristol Myers Squibb (151286, SPO#151286) Title: Circulating DNA for Molecular Response Prediction & Genomic Selection During Lisocabtagene Maraleucel (JCAR017) Therapy Role: PI
2019 – 2024	Funder: NIH/NCI (R01CA233975, SPO#135315) Title: A Genomic Framework for Molecular Risk Prediction & Individualized Lymphoma Therapy Role: PI (Co-PI Diehn)
2019 – 2024	Funder: Leukemia & Lymphoma Society (LLS-1366-20, SPO#138938) Title: Refining Molecular Risk Prediction & Individualized Lymphoma Therapy Using Circulating Tumor DNA Role: PI
2023 – 2025	Funder: Bio-X (IIP11-7, SPO#283277) Title: To Humanize and Deimmunize Synthetic Transcription Factors Role: Co-PI (PI Gao, X.)

Patents & Patent Applications (US/EU)

USPN 7,332,280	Classification of patients having diffuse large B-cell lymphoma based upon gene expression
USPN 7,622,253	Classification of patients having diffuse large B-cell lymphoma based upon gene expression
USPN 8,758,750	Synergistic anti-CD47 therapy for hematologic cancers
EPN 2,477,648	Synergistic anti-CD47 therapy for hematologic cancers
USPN 9,005,619	Methods for enhancing anti-tumor antibody therapy
USPN 9,758,589	Methods for enhancing anti-tumor antibody therapy

USPN 10,633,450	Methods for enhancing anti-tumor antibody therapy
EPN 2,509,627	Methods for enhancing anti-tumor antibody therapy
USPN 9,605,320	Method of predicting responsiveness of B cell lineage malignancies to active immunotherapy
USPN 10,167,514	Methods and systems for determining proportions of distinct cell subsets
USPN 11,802,314	Methods and systems for determining proportions of distinct cell subsets
USPN 12,031,183	Methods and systems for determining proportions of distinct cell subsets
USPN 11,613,787	Methods and Systems for Analyzing Nucleic Acid Molecules
USPN 11,634,779	Methods and Systems for Analyzing Nucleic Acid Molecules
USPN 11,851,716	Methods and Systems for Analyzing Nucleic Acid Molecules
USPN 11,783,912	Methods and Systems for Analyzing Nucleic Acid Molecules
USPN 11,965,215	Methods and Systems for Analyzing Nucleic Acid Molecules
USPN 11,085,084	Identification and use of circulating nucleic acids
EPN 3,191,628	Identification and use of circulating nucleic acids
EPN 3,421,613	Identification and Use of Circulating Nucleic Acid Tumor Markers
EPN 3,795,696	Identification and Use of Circulating Nucleic Acid Tumor Markers
EPN 2,971,152	Identification and Use of Circulating Nucleic Acid Tumor Markers
USPN 11,447,833	Methods for preparing nucleic acid libraries for sequencing
USPN 12,249,401	Systems and methods for analyzing mixed cell populations
Patent application	Systems and methods for analyzing mixed cell populations (U.S. Provisional Patent Application No. 62/535,645)
Patent application	Methods of neoantigen identification for use in targeted immunotherapy (U.S. Provisional Patent Application No. 62/474,475)
Patent application	Identification and use of circulating nucleic acid tumor markers (U.S. Provisional Patent Application No. 14/774,518)
Patent application	Methods and Compositions for Assessing Patients with Non-small Cell Lung Cancer (U.S. Provisional Patent Application No. 61/952,057)
Patent application	Synergistic Anti-CD47 Therapy for Hematologic Cancers (U.S. Provisional Patent Application No. 17/150,881)
Patent application	Methods and Systems for Analyzing Nucleic Acid Molecules (U.S. Provisional Patent Application No. 17/107,668)
Patent application	Methods and Systems for Analyzing Nucleic Acid Molecules (U.S. Provisional Patent Application No. 17/820,200)
Patent application	Methods and systems for Identification of Human Leukocyte Antigen Peptide Presentation and Applications Thereof (U.S. Provisional Patent Application No. 16/943,951)
Patent application	Identification and Use of Circulating Nucleic Acid Tumor Markers (U.S. Provisional Patent Application No. 17/406,948)
Patent application	Methods to Assess Clinical Outcome Based Upon Updated Probabilities and Treatments Thereof (U.S. Provisional Patent Application No. 17/646,621)

Patent application	Systems and Methods for Deconvoluting Tumor Ecosystems for Personalized Cancer Therapy (U.S. Provisional Patent Application No. 17/755,713)
Patent application	Identification and Use of Circulating Nucleic Acid Tumor Markers (U.S. Provisional Patent Application No. 18/803,351)
Patent application	Methods and Systems for Analyzing Nucleic Acid Molecules (U.S. Provisional Patent Application No. 18/435,880)
Patent application	System and method for gene expression and tissue of origin inference from cell-free DNA (U.S. Provisional Patent Application No. 17/980,254)

Invited Talks & Lectures – National (USA)

1. "The Lymphochip: A Specialized cDNA Microarray for the Genomic-Scale analysis of Gene Expression in Normal and Malignant Lymphocytes", AACR Microarray Meeting, Tucson, AZ, August 1998.
2. "A Massively Parallel Approach for the Characterization of Gene Expression Variation in Lymphoid Malignancies", FASEB Annual Conference on Hematologic Malignancies, Saxons River, VT, July 1999.
3. "Distinct Types of Diffuse Large B-Cell Lymphoma Identified by Gene Expression Profiling", Nature Genetics Microarray Meeting, Scottsdale, AZ, September 1999.
4. "Strategies for the Identification and Characterization of Unknown Pathogens." Banbury Conference Series, Cold Spring Harbor, NY, April 2000.
5. "The Impact of the Human Genome Project on Infectious Disease", 38th Annual Meeting of the Infectious Disease Society of America, New Orleans, LA, September 2000.
6. "Gene Expression Variation as a Molecular Phenotype in Normal and Malignant Immune Cells", UCSF Department of Biochemistry Seminar Series, December 2002.
7. "Gene Expression Variation as a Molecular Phenotype in Normal and Malignant Immune Cells", Whitehead Institute Seminar Series, Massachusetts Institute of Technology, Cambridge, MA, January 2003.
8. "Genomic Approaches to Future Risk-Targeted Trials for Hematologic Malignancies", University of Washington, Department of Medicine, Monthly Conference, November 2009.
9. "Genomic Approaches to Future Risk-Targeted Trials for Lymphomas and Beyond", University of Miami, Department of Hematology, Monthly Grand Rounds, February 2010.
10. "A Leukemic Stem Cell Signature for AML Risk Stratification", Stanford University Stem Cell Institute Annual Retreat, January 2011.
11. "Chronic Lymphocytic Leukemia", Advances in Hematology 2011: Review of the ASH 52nd Annual Meeting and Exposition, San Jose, CA, January 2011.
12. "Incorporation of Correlative Studies into Lymphoma Clinical Trials & Treatment", Lymphoma Research Foundation Clinical Research Mentoring Program, Scottsdale, AZ, February 2014.

13. "Novel Approaches to Therapy of B-Cell Lymphomas with Monoclonal Antibodies", Lymphoma Research Foundation Clinical Research Mentoring Program, 2014, Scottsdale, AZ, February 2014.
14. "The Prognostic Landscape of Genes and Infiltrating Immune Cells in Human Cancers", Hematology and Medical Oncology Grand Rounds at Memorial Sloan-Kettering Cancer Center, New York, NY, April 2014.
15. "Genetic and Epigenetic Alteration of Antigen Presentation by Follicular Lymphoma Tumor-Propagating Cells", Inaugural ASH Meeting on Lymphoma Biology, Colorado Springs, CO, August 2014.
16. "Discrete Modes of Lymphoma Genome Evolution: Implications for Therapy & Monitoring", Yale Cancer Center, Hematology Grand Rounds, New Haven, CT, September 2014.
17. "Discrete Modes of Lymphoma Genome Evolution: Implications for Therapy & Monitoring", Hematology Grand Rounds, MD Anderson Cancer Center, Houston, TX, October 2014.
18. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring", San Diego, CA. 64th Annual Meeting of the American Society of Human Genetics, October 2014.
19. "Distinct Immunological Determinants of Cancer Outcomes Identified by Deconvolution of Tumor Leukocyte Infiltrates", Center for Cancer Systems Biology 4th Annual Symposium at Memorial Sloan-Kettering Cancer Center, New York, NY, October 2014.
20. "Distinct Immunological Determinants of Cancer Outcomes Identified by Deconvolution of Tumor Leukocyte Infiltrates", City of Hope Special Seminar, Duarte, CA, December 2014.
21. "What Does Stem Cell Reprogramming Teach Us About Hematologic Malignancies?" American Association of Cancer Research, Philadelphia, PA, April 2015.
22. "Personalized Cancer Detection and Monitoring Using Deep Sequencing of Circulating Tumor DNA", Grand Rounds, USC Norris Comprehensive Cancer Center, Los Angeles, CA, October 2015.
23. "Application of Microarray, Next Generation Sequencing, and Large Datasets to Hematology and Bioinformatics", American Society of Hematology, Orlando, FL, December 2015.
24. "Personalized Cancer Detection and Monitoring Using Deep Sequencing of Circulating Tumor DNA", Inaugural Surinder K. Puri Memorial Lecture, Emory Winship Cancer Institute, Atlanta, GA, February 2016.
25. "Noninvasive Monitoring of Lymphoma by Sequencing of Circulating Tumor DNA", Cambridge HealthTech Institute's 23rd International Molecular Med Tri-Con, San Francisco, CA, March 2016.
26. "Noninvasive Lymphoma Genotyping and Personalized Monitoring Using Circulating DNA", American Association of Cancer Research, New Orleans, LA, April 2016.
27. "How Best to Define Proliferation in Mantle Cell Lymphoma", American Society of Clinical Oncology, Chicago, IL, June 2016.
28. "Noninvasive Lymphoma Genotyping and Personalized Monitoring Using Circulating DNA", 14th International NHL Workshop, San Diego, CA, September 2016.
29. "Discrimination of Cell Composition from Tissue Expression Profiles", Immune Profiling in Health and Disease Conference, Seattle, WA, October 2016.
30. "Infiltrating Immune Cell Signatures and Genomic Determinants of Immune Recognition in Diverse Tumors", American Association of Cancer Research, Washington, DC, April 2017.
31. "Ultrasensitive Detection of Circulating Tumor DNA", TCC Omics Workshop [NASA], Houston, TX, April 2017.

32. “MRD Testing in Lymphoma”, 14th International Ultmann Chicago Lymphoma Symposium (IUCLS), Chicago, IL, May 2017.
33. “Antigen Presentation Profiling & Modeling of Immune Recognition of Lymphomas”, Cancer Systems Biology Consortium, Cambridge, MA, October 2017.
34. “Dynamic Monitoring of Lymphoma Genome Evolution”, Association of Molecular Pathology Meeting, Salt Lake City, UT, November 2017.
35. “Overview of Technology: Circulating Tumor Cells and DNA”, American Society of Clinical Oncology, Gastrointestinal Cancers Symposium, San Francisco, CA, January 2018.
36. “Clinical Applications of Circulating Tumor DNA Analysis”, Precision Medicine World Conference, Mountain View, CA, January 2018.
37. “Circulating Tumor DNA Analysis for Personalized Lymphoma Detection & Monitoring”, Northwestern Biochemistry & Molecular Genetics Seminar, Chicago, IL, February 2018.
38. “Circulating Tumor DNA Analysis for Personalized Cancer Detection & Monitoring”, Scripps Translation Science Institute, La Jolla, CA, March 2018.
39. “Circulating Tumor DNA Analysis for Personalized Risk Monitoring in Lymphoma”, Hematology Grand Rounds, MDACC, Houston, Texas, March 2018.
40. “Personalized Profiling for Genotyping, Classification, and Molecular Outcome Prediction in B-NHL”, Lunenburg Lymphoma Biomarkers Consortium Annual Meeting, Stanford, CA, April 2018.
41. “Technology Overview: Circulating Tumor DNA Analysis for Personalized Cancer Detection & Monitoring”, AACR Annual Meeting, Chicago, IL, April 2018.
42. “Cellular Determinants & Molecular Targets of Anti-Tumor Immune Responses: Lessons from Genome-Wide Studies”, AACR Annual Meeting, Chicago, IL, April 2018.
43. “Circulating Tumor DNA Analysis for Personalized Risk Monitoring in Lymphoma”, LRF MCL Workshop, Atlanta, GA, April 2018.
44. “Clinical Application of ctDNA in NHLs”, 3rd Annual MSK Symposium on Lymphoma, New York, NY, May 2018.
45. “Transcriptome Deconvolution for Inference of Tissue Composition”, Bio-X Symposium (Clark S360), Stanford, CA.
46. “Clinical Application of ctDNA in Lymphomas”, ASH Biennial Meeting on Lymphoma Biology, Chantilly, VA August 2018.
47. “Circulating Tumor DNA Analysis for Personalized Cancer Detection & Monitoring”, Beckman Center Fall Symposium, Stanford, CA September 2018.
48. “Liquid Biopsies as Probes for the Lymphoma Immune Microenvironment”, 6th Annual Translational Summit on The Immune Microenvironment: : Transforming Therapy in Blood Cancers, Washington, DC, October 2018.
49. “Deconvoluting Cellular Determinants of Anti-Tumor Immune Recognition”, OHSU Cancer Center Seminar Series, Portland, OR, November 2018.
50. “Immune Cell Deconvolution by Learning from Single Cells”, ASH Annual Meeting; Scientific Workshop on Novel Targets & Proteomics, San Diego, CA, December 2018.
51. Tracing founder mutations in circulating and tissue-resident follicular lymphoma precursors”, Ludwig Investigators Annual Meeting, Stanford, CA, December 2018.

52. “Circulating Tumor DNA Analysis for Personalized Cancer Risk Monitoring”, Precision Medicine World Conference (PMWC), Mountain View, CA, January 2019.
53. “Circulating Tumor DNA Analysis for Personalized Lymphoma”, Kite Investigators Meeting, Santa Monica, CA January 2019.
54. “Deconvoluting Cellular Determinants of anti-Tumor Immune Recognition”, MGH Grand Rounds/Harvard, Cambridge, MA, February 2019.
55. “Circulating Tumor DNA Analysis for Personalized Cancer Detection & Monitoring”, Grand Rounds GW Cancer Center, Washington, DC, February 2019.
56. “Genomic Approaches for Deconvolution of Tumor Heterogeneity”, STEMREM 202 Lecture, Stanford, CA, February 2019.
57. “Deconvoluting Cellular Determinants of Anti-Tumor Immune Recognition”, Molecular Med TRI-CON; Immuno-Oncology, San Francisco, CA, March 2019.
58. “Circulating Tumor DNA Analysis for Personalized Lymphoma Risk Monitoring”, Molecular Med TRI-CON; Circulating Tumor Cells & Liquid Biopsy; Circulating Tumor Biomarkers Informing Clinical Trials, San Francisco, CA March 2019.
59. “Deconvoluting Cellular Determinants of Anti-Tumor Immune Recognition, AACR Annual Meeting; Major symposium SY06, Atlanta, GA, April 2019.
60. “Cancer Genome Technologies for Resolving Heterogeneity in Lymphomas”, Lymphoma Investigators Meeting, Stanford, CA April 2019.
61. “Circulating Tumor DNA Analysis for Personalized Cancer Detection & Monitoring”, George Assimos Memorial Lecture; Medical Grand Rounds; Northwestern School of Medicine, Chicago, IL April 2019.
62. “Liquid Biopsies as Integrated Biomarkers for Hematological Malignancies”. 2019 ASH Annual Meeting, Scientific Workshop on Innovation in Clinical Trial Design, Beyond Response Rate: Novel Endpoints in Clinical Trials. Orlando, FL. December 2019.
63. “Analytical Considerations for Clinical Translation of ctDNA Profiling”. 2019 ASH Annual Meeting, ctDNA Working Group, Orlando, FL. December 2019.
64. “Toward noninvasive early cancer detection using circulating DNA”, GRAIL BXDS Meeting, Palo Alto, CA, March 2020.
65. “Toward noninvasive early cancer detection using circulating DNA”, 2020 AACR Virtual Annual Meeting II; Education Session, Novel Diagnostic Approaches for Cancer Early Detection, June 2020.
66. “Toward noninvasive early cancer detection using circulating DNA”; Special Session on Prevention & Survival; Medical & Scientific Affairs Committee Meeting; Leukemia & Lymphoma Society; Hybrid/Virtual; January 2020.
67. “Toward noninvasive early cancer detection using circulating DNA”; ED34. Novel Diagnostic Approaches for Cancer Early Detection ; AACR Virtual Annual Meeting II; June 2020.
68. “Genomic strategies for deconvolution of tumor heterogeneity”; STEMREM 200 BootCamp; Stanford, CA; September 2020.
69. “Cellular & mutational determinants of DLBCL therapeutic response: Noninvasive & tissue-based methods”; Kite/Gilead Translational Medicine Seminar Series; Santa Monica, A; September 2020.
70. “Toward noninvasive early cancer detection using circulating DNA”; Cancer Biology Program Translational Research Seminar Series; Stanford, CA; February 2021.

71. "Toward noninvasive early cancer detection using circulating DNA"; NIH/NCI Annual EDRN Scientific Workshop; Virtual; March 2021.
72. "Toward noninvasive early lung cancer detection using circulating DNA"; Comprehensive Cancer Research Training Program (CCRTP) Annual Meeting; Stanford, CA; March 2021.
73. "Liquid Biopsies As Integrated Biomarkers for Hematological Malignancies"; Stanford Pediatrics Leukemia/Lymphoma Research Group Seminar Series; Stanford, CA; April 2021.
74. "Liquid Biopsies As Integrated Biomarkers for Lymphomas"; Grand Rounds, FHCRC Division of Clinical Research, University of Washington Medical Oncology Division; Seattle, CA; May 2021.
75. "Genomic strategies for deconvolution of tumor heterogeneity"; Leukemia & Lymphoma Society / Borstein Family Foundation Meeting; Los Angeles, CA; September 2021.
76. "Heterogeneity in tumor phenotype & microenvironment of DLBCL"; AACR Precision Medicine Series; Strategies to Improve Therapy of DLBCL; Session 2: DLBCL Heterogeneity: Beyond Cell of Origin; Virtual; September 2021.
77. "Heterogeneity in gastric cancer phenotype & microenvironment"; Sara Shottenstein Foundation; Virtual; October 2021.
78. "Heterogeneity in tumor phenotype & microenvironment of DLBCL"; TMP Distinguished Speaker Seminar Series; MD Anderson Cancer Center; Houston, TX; November 2021.
79. "ctDNA & MRD for Lymphoma: Beyond Immunoglobulin"; 2021 Americal Molecular Pathology Annual Meeting; Philadelphia, PA; November 2021.
80. "Liquid Biopsies as Integrated Biomarkers for Lymphomas"; Grand Rounds, St. Jude Children's Research Hospital; Memphis, TN; March 2022.
81. "Molecular Monitoring of Liquid Tumors: Circulating Tumor DNA for Lymphoma Monitoring"; 12th International Symposium on Circulating Nucleic Acids in Plasma and Serum (CNAPS); San Francisco, CA; 17 May 2022.
82. "Adventures & Misadventures in ML for Molecular Oncology: Selected Case Studies", 2023 Annual Meeting of the American Association of Cancer Research (AACR); Machine Learning Workshop; Orlando, FL; 14 April 2023.
83. "Liquid Biopsies for Cancer Detection & Monitoring"; UCLA Leaders in the Field Seminar Series; UCLA Jonsson Comprehensive Cancer Center, Los Angeles, CA; 25 May 2023.
84. "Liquid Biopsies for Cancer Detection & Monitoring"; UPenn Distinguished Lectures in Cancer Research (DLCR) Seminar Series; University of Pennsylvania; Philadelphia, PA; 30 May 2023.
85. "Toward accelerating lymphoma drug-development using ctDNA MRD"; Minimal Residual Disease (MRD) Scientific Symposium of LRF and FDA; Lymphoma Research Foundation; Washington, DC; 21 September 2023.
86. "Monitoring of circulating tumor DNA in B-cell lymphomas – Clinical Applications"; International Workshop for Non-Hodgkin Lymphomas (iwNHL); 20th Annual Workshop; Miami, FL; 30 September 2023.
87. "MRD as an endpoint in lymphoma clinical trials"; United States Food and Drug Administration (FDA) Endpoints Workshop; Washington, DC; 26 October 2023.
88. "Analytical techniques for detecting ctDNA in lymphomas"; United States Food and Drug Administration (FDA) Endpoints Workshop; Washington, DC; 26 October 2023.

89. “Genetic & Epigenetic Evolution of Follicular Lymphoma Precursors”; AACR Blood Cancer Discovery Symposium (Westin Copley Place); Boston, Massachusetts; 5 March 2024
90. “Circulating tumor DNA: Opportunities in Translational Research at Stanford”; AstraZeneca/Stanford Oncology Discovery & Translational Science Symposium; Stanford, CA 11 April 2024.
91. “Molecular Monitoring of Liquid Tumors: Circulating Tumor DNA for Lymphoma Monitoring”; Translational & Clinical Oncology Seminar Series, Sylvester Comprehensive Cancer Center, University of Miami, Miami, FL; 2 May 2024.
92. “Liquid Biopsies for Cancer Detection & Monitoring”; MD2 Grand Rounds, Stanford University School of Medicine, Stanford, CA; 6 September 2024.
93. “Toward the noninvasive characterization of lymphomas & their microenvironments”; 2024 Research Updates in Lymphoma, Cedars Sinai, Los Angeles, CA; 28 September 2024.
94. “Transformed follicular lymphoma biology: Knowns, unknowns and needs”; 2024 Research Updates in Lymphoma, Cedars Sinai, Los Angeles, CA; 29 September 2024.
95. “Toward the noninvasive characterization of lymphomas & their microenvironments”; Liquid Biopsy: From Discovery to Clinical Implementation, AACR Special Conference in Cancer Rsearch, San Diego, CA; 13 November 2024.
96. “Circulating Tumor DNA: All You Need Is Blood”; ASH Annual Meeting, Dan Diego, CA; 6 December 2024.
97. “Circulating Tumor DNA as an Early Outcome Predictor in Patients with Second-Line Large B-Cell Lymphoma After Lisocabtagene Maraleucel Versus Standard of Care Treatment from the Phase 3, Randomized TRANSFORM Study”; ASH Annual Meeting; Oral Abstract Presentation; San Diego, CA, USA; 7 December 2024.
98. “Toward the noninvasive characterization of lymphomas & their microenvironments”; Stanford Cancer Institute: Cancer Biology & Cancer Stem Cell Talks; Stanford, CA, USA; 13 February 2025.

Invited Lectures – International

1. “Expression Profiles Accompanying Immune Physiologic and Pathophysiologic States”, Symposium on Gene Expression Analysis, Institute for Molecular Pathology, Vienna, Austria, February 2000.
2. “DNA Microarray Technology: State of the Art”, European Hematology Association, Workshop on Microarray Approaches to Hematological Malignancies, Cascais, Portugal, October 2005.
3. “Targeting Disease Risk in AML Mediated by Leukemic Stem Cells”, Speaker, New Frontiers in Hematological Malignancies Symposium, Pamplona, Spain, November 2011.
4. “Distinct patterns of intra-tumoral clonal evolution at diagnosis and progression of Follicular Lymphoma”, Cancer Research Center of Salamanca (CIC) of Salamanca, Salamanca, Spain, July 2012.
5. “Targeting the cell surface in B-cell lymphomas with novel monoclonal antibodies”, 54RD National Meeting of the Spanish Hematology and Hemotherapy Society and 28th National Congress of the Spanish Society of Thrombosis and Hemostasis. Salamanca, Spain, October 2012.

6. “The Structure of Stepwise Clonal Evolution Events Shaping Follicular Lymphoma Coding Genomes”, 12th International Conference on Malignant Lymphoma, Palazzo dei Congressi, Lugano, Switzerland, June 2013.
7. “Obstacles in the Translation of the Cancer Genome: Focus on Technologies for Addressing Intra-Tumoral Heterogeneity (ITH)”, Cancer Genomics & Tumor Heterogeneity Herrenhausen Symposium, Hannover, Germany, May 2015.
8. “Personalized Cancer Detection & Monitoring Using Deep Sequencing of Circulating Tumor DNA”, International Academy for Advanced Oncology Annual Meeting, Tokyo, Japan, July 2016.
9. “Genetic and Epigenetic Alteration of Antigen Presentation by Follicular Lymphoma Tumor-Propagating Cells”, Third Annual Summit on the Immune Microenvironment in Hematologic Malignancies, Dublin, Ireland, September 2016.
10. “CAPP-Seq Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring”, The Royal College of Pathologists of Australasia Annual Meeting, Sydney, Australia, February 2017.
11. “Dynamic Monitoring of Lymphoma Genome Evolution”, North Berwick Follicular Lymphoma Symposium, Edinburgh, Scotland, UK, March 2017.
12. “Circulating Tumour DNA in Non-Hodgkin Lymphoma”, European School of Hematology’s 3rd International Conference on New Concepts in Lymphoid Malignancies, Mandelieu, France, September 2017.
13. “Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring”, Norwegian Cancer Symposium, Oslo, Norway, December 2017.
14. “Circulating DNA in Patients with B-Cell Lymphoma”, Lymphoma Study Association (LYSA) Meeting, Nantes, France, February 2018.
15. “Deconvoluting Cellular Determinants of Anti-Tumor Immune Recognition”, IAAO Annual Meeting, Tokyo, Japan, July 2018.
16. “Circulating Tumor DNA Analysis for Personalized Lymphoma Detection & Monitoring”, 7th International Workshop; PET in Lymphoma & Myeloma (PILM), Menton, France, October 2018.
17. “Leveraging Big Data for Noninvasive Monitoring of Cancer (Immuno)therapy”, Cancer Research UK (CRUK) and the Experimental Cancer Medicine Centers (ECMC) Network, London, England, September 2019.
18. “Deconvoluting DLBCL Tumor Ecosystems Using scRNA-Seq”, 5th International Conference on New Concepts in Lymphoid Malignancies, Estoril, Portugal, October 2019.
19. “The role of liquid biopsy in the management of Lymphoma”, 16th International Conference on Malignant Lymphoma (16-ICM), Gianni Bonadonna Memorial Lecture, Palazzo dei Congressi, Lugano, Switzerland, June 2021.
20. “Liquid Biopsies as Integrated Biomarkers for Hematological Malignancies”; 3rd International Liquid Biopsy Symposium, Universitätsklinikum Freiburg; Freiburg, Germany; October 2020.
21. “Liquid Biopsies as Integrated Biomarkers for Lymphomas”; Israel Society of Hematology & Transfusion Medicine; Lymphoma Working Group; Jerusalem, Israel; June 2021.
22. “Application of PhasED-Seq for Detection of Lymphoma”; MORE Health Medical Programs; Sun Yat-Sen University Cancer Hospital; Guangzhou, China; November 2021.

23. “Molecular Monitoring of Liquid Tumors: Circulating Tumor DNA for Lymphoma Monitoring”; JSH2022: 84th Annual Meeting of the Japanese Society of Hematology; Fukuoka, Japan; 15 October 2022.
24. “Ecotyping for Resorving Heterogeneity in Tumor Microenvironment Phenotypes”; AstraZeneca UK/Switzerland Virtual Seminar Series; 19 October 2022.
25. “Monitoring of circulating tumor DNA in B-cell lymphomas – Clinical Applications”; European School of Hematology (ESH 7th Translational Research Conference Lymphoid Malignancies Estoril; Portugal; 22 October 2023.
26. “Circulating Tumor DNA in Lymphoma: Principles & Future Directions”; 14th Brazilian Lymphoma Conference; Brazil; 27 April 2024.
27. “Toward the noninvasive characterization of lymphomas & their microenvironments”; 2024 Annual West German Lymphoma Symposium; Conference Center Essen; Essen, Germany; 24 May 2024.
28. “Toward the noninvasive characterization of lymphomas & their microenvironments”; 4th International Meeting, Advances in Malignant Lymphoma; American Association for Cancer Research (AACR) / ICML; Philadelphia, PA, USA; 22 June 2024.
29. “Toward the noninvasive characterization of lymphomas & their microenvironments”; Cambrdige Lymphoma Biology International Symposim, Magdalene College, University of Cambridge, Cambridge, England; 18 September 2024.
30. “Toward the noninvasive characterization of lymphomas & their microenvironments”; Keynote Lecture; Opening Ceremony, Hematologie 2025; 25th Annual Prague Hematology Meeting; Prague, Czech Republic; 22 January 2025.
31. “Liquid biopsy in DLBCL – Where are we in 2025? Toward the noninvasive characterization of lymphomas & their microenvironments”; Canadian Hematology Today 2025 Symposium on B-cell Malignancies; Toronto, Canada; 12 April 2025.
32. “Managing Lymphoma in the Era of Noninvasive Genomic Profiling”; Keynote Lecture; 2025 Joint Annual Congress ; The Hematology Society of Taiwan & Taiwan Society of Blood & Marrow Transplantation; Taipei, Taiwan; 27 April 2025.
33. “Managing Lymphoma in the Era of Noninvasive Genomic Profiling”; 18th International Conference on Malignant Lymphoma (18-ICML); Closed Workshop: Genetics of DLBCL; Toward Improved Diagnosis, Outcome Prediction, & Therapeutic Targeting; East Campus USI, Lugano, CH; 17 June 2025.
34. “Mechanisms of Resistance to T-cell Redirecting Therapies”; 18th International Conference on Malignant Lymphoma (18-ICML); Session 11: Basic & Translational Research (AACR-ICML Joint session); Polivalente Room, East Campus, USI, Lugano, Switzerland; 20 June 2025.
35. “Liquid Biopsies in Hematology: The Case for Lymphoma”; International Academy for Clinical Hematology (IACH); Global Webinar Series; 3 July 2025.

Trainees: PhD Students

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Lee, Luke J	2012 – 2017	B.S.	2011	John Hopkins University	Gene expression predictor for prognosis in non-small cell lung cancer	CEO and Co-Founder, 3T Biosciences
Chabon, Jacob J	2013 – 2018	B.S.	2010	University of Denver	Mechanisms underlying acquired resistance to genotype-targeted therapies in patients with non-small cell lung cancer	CEO and Co-Founder, Foresight Diagnostics
Romero-Camarero, Isabel	2013	B.S.	2010	University of Salamanca, Spain	Chromatin immuno-precipitation for enrichment of cancer cell-free DNA	Post-Doctoral Fellow, University of Manchester, UK
Chen, Binbin	2014 – 2019	B.S.	2013	Georgia Institute of Technology	Bioinformatics and machine learning for cancer immune therapies and precision medicine	MD/PhD Student, Stanford MSTP
Fazel, Azar	2015 – 2016	B.S.	2014	San Jose State University	Cancer personalized profiling by deep sequencing (Rotation Student)	Software Engineer, Amazon
Garofalo, Andrea	2018 – 2023	B.S.	2014	University of Chicago	Genomics of post-transplant lymphoproliferative disorders	MD/PhD Student, Stanford School of Medicine
Lee, Audrey	2017	B.S.	2016	Imperial College London	A pan-cancer analysis of the immunological landscape of clinically relevant infiltrating cells in The Cancer Genome Atlas (TCGA)	PhD Student, Stanford Immunology Program
Pacalin, Naomi	2017	B.S.	2016	University of Chicago	Targeted capture of T-cell receptors in cell free DNA	PhD Student, Stanford Bioengineering
Steen, Chloe B	2017 – 2018	PhD	2018	University of Oslo	Deconvolution of follicular lymphoma	Post-Doctoral Fellow, Stanford University

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Hamilton, Emily G	2017 – 2022	B.S.	2017	Columbia University	Genetic and epigenetic cell-free biomarkers for early lung cancer detection	Post-Doctoral Fellow, Stanford University
Shamardani, Kiarash	2019	B.S.	2017	UC Berkeley	Spatial characterization of lymphoma ecotypes in DLBCL	Graduate Student, Stanford University
Shuyu, Shu	2023 - Pres	B.S.	2022	Peking University	A noninvasive integrated genomic machine learning approach for lymphoma and immune state prediction in immunosuppressed individuals.	BioE Graduate Student, Stanford University
Phillips, Nick	2023 - Pres	M.S.	2021	Stanford University	Characterization of tumor- and T-cell-centric mechanisms of resistance in anti-CD19 CAR-T therapy	Cancer Biology Graduate Student, Stanford University
Zhang, Harrison	2023 - Pres	B.A	2022	Columbia University	Machine learning methods for multiomic strategies for early cancer detection	MD/PhD MSTP Candidate Stanford University
Dai, Haoyu	2024	B.S.	2023			Chemical Engineering Graduate Student, Stanford University

Trainees: Medical Students

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Soo, Joanne	2016 – 2020	B.S.	2014	Duke University	Noninvasive genomics of non-Hodgkin lymphoma	Resident, Stanford School of Medicine

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Garofalo, Andrea	2016 – 2018	B.S.	2014	University of Chicago	Genomics of post-transplant lymphoproliferative disorders	MD/PhD Student, Stanford School of Medicine
Jin, Michael	2018 – 2020	B.S.	2016	Stanford University	Noninvasive detection of somatic copy number anomalies using ctDNA	MD Student, Stanford School of Medicine
Macaulay, Charles	2018 – 2020	B.S. / M.S.	2018	Boston University	Genomic determinants of response to CAR T-cells	MD Student, UCSF
Muftuoglu, Yagmur	2019 – 2020	PhD	2016	Yale University	Using structural determinants of MHC/TCR interactions to assess likelihood of immune recognition of cancer neo-antigens and graft rejection of transplanted organs	MD Student, Stanford School of Medicine
Craig, Alexander	2019 – 2020	B.A. / M.A.	2012	Princeton University	Noninvasive molecular subtyping and risk stratification of diffuse large B-cell lymphoma	MD Student, UCSF ASH Career Development Award
Kathuria, Karan	2020 – 2022	B.S.A.	2018	University of Texas at Austin	Applying deep-learning antigen presentation prediction to immune checkpoint blockade response and post-HSCT GvHD	MD Student, Stanford School of Medicine ASH Physician-Scientist Career Development Award
Shukla, Navika	2020 – 2021	B.A.	2016	University of Illinois at Chicago	Characterizing the TCR repertoire from ctDNA in solid malignancies	MD Student, Stanford School of Medicine
Hur, Dong	2022	B.S.	2020	Harvard University	Optimizing cfDNA preservation and recovery for chronic lymphocytic leukemias	MD Student, Stanford School of Medicine

Trainees: Undergraduate Students

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Lossos, Chen	2010 – 2012	B.S.	2012	Stanford University	Database of annotated B-cell immunoglobulin sequences (called IGBASE) from different B-cell malignancies	MD/PhD Student, Harvard Medical School
Marsh, Austin	2011	B.S.	2011	UCSB	National Cancer Institute Integrative Cancer Biology Program	MD Student, UCSD SoM
Kihira, Shingo	2011 – 2013	B.S.	2011	Baylor University	Targets of EZH2 in potential cancer therapy	Resident Physician, Mount Sinai Hospital
Patel, Sonia	2012 – 2013	B.S.	2013	Rensselaer Polytechnic Institute Dept. of Biology	Optimal methods for collection, preservation, and characterization of plasma cell-free DNA	MD Student, Albany Medical College Accelerated Physician Scientist Program
Ahlawat, Nivi	2014	B.S.	2019	UCLA	Clinical tissue banking and data management	Masters Student, Stanford School of Medicine
Wang, Jason	2015	B.S.	2019	Stanford University	Kinetics of ctDNA clearance in patients with cancer	MD Student, Harvard-MIT HST Program
Johri, Aanchal	2015 – 2016	B.S.	2018	Stanford University	Chemotherapy treatment effects on the release of ctDNA in RAJI lymphoma cells (liquid biopsies)	Product Manager, Apple
Chen, Shirley	2015 – 2016	B.S.	2018	Stanford University	Identification of mutations present in the HLA II gene of lymphoma patients	MD Student, Weill Cornell Medicine
Craig, Alexander	2015 – 2016	BA/MA	2012	Princeton University	Noninvasive molecular subtyping and risk stratification of diffuse large B-cell lymphoma	MD Student, UCSF

Trainee Name	Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position (Past Trainees) Source of Support (Current Trainees)
Jin, Michael	2016 – 2018	B.S.	2016	Stanford University	Noninvasive detection of somatic copy number anomalies using ctDNA	MD Student, Stanford School of Medicine
Zhou, Joshua	2016	H.S. Diploma	2017	Homestead High School	Algorithmic improvements to circulating tumor DNA detection	Undergraduate, UC Berkeley
Keh, Lyron Co Ting	2017- Pres	H.S. Diploma	2019	Crescenta High School	Phased haplotypes for ctDNA	Undergraduate, Stanford University
Smith, Isaac	2017 – 2021	NA	NA	Stanford University	Proteome deconvolution	Undergraduate, Stanford University
Nabulsi, Zaid	2017 -2018	B.S. / M.S.	2020	Stanford University	Machine learning for elimination of stereotyped errors in cell-free DNA sequencing	Masters/Co-Term Student, Stanford University
Arammash, Mohammad	2018	NA	NA	Yale University	Peptide targeting of B-cell lymphoma receptors	Undergraduate, Yale University
Singhal, Shivam	2018-2019	H.S. Diploma	2019	Saint Francis School	Algorithms for genotyping RNA	Undergraduate, UC Berkeley
Sumimoto, Nanami	2019	H.S. Diploma	2017	Cupertino High School	Clinical tissue banking	Undergraduate, University of Toronto
Strohband, Maya	2022 - 2024	H.S. Diploma	2020	Menlo Atherton High School	Pediatric Hodgkin Lymphoma Circulating Tumor DNA	Undergraduate, Harvard University
Sun, Christopher	2024 - Pres	H.S. Diploma	2022		Machine Learning for Genomics	Undergraduate, Stanford University

Trainees: PhD Post-Doctoral Fellows

Trainee Name	Training Period	Prior Academic Degree(s)	Trainee Awards Received	Current Position (Past Trainees) Source of Support (Current Trainees)
Liu, Chih Long	2008 – 2011	PhD	NIH F32 2009-2011	Research Scientist, Division of Oncology, Stanford University
Green, Michael R	2011 – 2014	PhD	2011 Leukemia & Lymphoma Society; 2011 Lymphoma Research Foundation	Associate Professor, MD Anderson, University of Texas
Newman, Aaron M	2011 – 2016	PhD	Siebel Fellowship; Mentored DoD Visionary Award; Mentored NIH NCI K99/R00	Assistant Professor, Stanford University
Klass, Daniel M	2013 – 2015	PhD	Tobacco-Related Disease Research Program Postdoctoral Fellowship	Senior Director of Emerging Technologies Freenome
Lovejoy, Alex Fraser	2013 – 2015	PhD	NIH T32	Director of Molecular Research Freenome
Stehr, Henning	2013 – 2017	PhD		Clinical Assistant Professor, Stanford University
Hewings, David	2014 – 2015	PhD	Stanford SIBC Fellowship	Principal Research Scientist, Vertex Pharmaceuticals
Chabon, Jacob J	2018 – 2021	PhD		CEO Foresight Diagnostics
Esfahani, Mohammad Shahrokh	2015 – 2024	PhD	NIH NCI U54 CSBS Scholarship	Assistant Professor, Stanford University
Mehrmohamadi, Mahya	2016 – 2019	PhD	NIH F99/K00	Assistant Professor, University of Tehran
Nabet, Barzin Y	2017 – 2020	PhD	ACS Postdoctoral Fellowship	Scientist, Genentech
Steen, Chloe B	2018 – 2021	PhD	AACR Postdoctoral Fellowship	Postdoctoral Fellow, Oslo University
Yang, Mi	2018 – 2021	PhD		Senior Scientist, Sanofi
Sheybani, Natasha	2020 – 2021	PhD	NIH F99/K00	Assistant Professor, University of Virginia
Hamilton, Emily G	2022 – Pres	PhD		Postdoctoral Fellow, Stanford University
Ashtari, Amirsaman	2024 - Pres	PhD		Postdoctoral Fellow, Stanford University

Trainees: MD Post-Doctoral Fellows

Trainee Name	Training Period	Prior Academic Degree(s)	Trainee Awards Received	Current Position (Past Trainees) Source of Support (Current Trainees)
Scherer, Florian	2013 – 2016	MD	2016 ASCO Travel Award; Deutsche Forschungsgemeinschaft (DFG)	Assistant Professor, Freiburg University
Krishnan, Rashi	2014 – 2015	MD	Stanford Innovation Award	Assistant Professor, University of Arkansas for Medical Sciences (UAMS)
Aleshin, Alexey	2014 – 2017	MD	NIH T32	Chief Medical Officer, Natera
Dudley, Jonathan	2015 – 2018	MD	Damon Runyon Postdoctoral Fellowship	Assistant Professor, Johns Hopkins Hospital
Schroers-Martin, Joseph	2017 – 2024	MD	Stanford Cancer Institute Fellowship Award, ASCO Young Investigator Award, AACR-AstraZeneca Lymphoma Research Fellowship	Assistant Professor, Stanford University
Alig, Stefan	2018 – 2023	MD	Pending	Clinical Fellow, LMU Munich Hospital
Shyam, Ragini	2019 – 2021	MD	Tashia and John Morgridge Postdoctoral Fellowship Endowment	Clinical Assistant Professor, Georgetown University Hospital
Boegeholz, Jan	2019 – 2023	MD	Swiss Cancer League Postdoctoral Fellowship Award	Assistant doctor, Department of Medical Oncology and Hematology, USZ Zurich
Rossi, Cedric	2021 - 2024	MD	Philippe Foundation, Fondation Arc pour la Recherche sur le Cancer; Fondation de France; France Lymphome Espoir, Prix Bertrand Coiffier pour la mobilité internationale, Cancéropôle Est	Post-doctoral Fellow, Stanford University
Sugio, Takeshi	2021 - Pres	MD	Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship	Post-doctoral Fellow, Stanford University
Goldstein, Jordan	2023 - Pres	MD	Lymphoma Scientific Research Mentoring Program (LSRMP), ASH Research Training Award for Fellows (RTAF)	Post-doctoral Fellow, Stanford University
Fontanilles, Maxime	2023 - Pres	MD		Post-doctoral Fellow, Stanford University
Ransohoff, Julia	2024 - Pres	MD		Instructor, Stanford University

Trainee Name	Training Period	Prior Academic Degree(s)	Trainee Awards Received	Current Position (Past Trainees) Source of Support (Current Trainees)
Hosoya, HItomi	2024 - Pres	MD	LLS Career Development Program	Post-doctoral Fellow, Stanford University
Srinagesh, Hrishi	2024 - Pres	MD		Post-doctoral Fellow, Stanford University
Lee, Caroline	2024 - Pres	MD	ASH Research Training Award for Fellows (RTAF), ASCO Young Investigator Award (YIA)	Post-doctoral Fellow, Stanford University
Osswald, Lena	2025 - Pres	MD		Post-doctoral Fellow, Stanford University

Trainees: MD/PhD Post-Doctoral Fellows

Trainee Name	Training Period	Prior Academic Degree(s)	Trainee Awards Received	Current Position (Past Trainees) Source of Support
Takahashi, Kazuhiro	2011 – 2013	MD/PhD	Research Award from Cicrosporin Pharmaco-Clinical Forum, Japan (2005)	Assistant Professor, Teikyo University School of Medicine
Kurtz, David M	2013 – 2021	MD/PhD	Advanced Residency Training at Stanford 2016 ASCO Young Investigator Award; 2015 Lymphoma Research Foundation Clinical Research Mentoring Program; NIH K08	Assistant Professor, Stanford University
Khodadoust, Michael	2013 – 2018	MD/PhD	2015 ASCO Young Investigator Award; Leukemia & Lymphoma Society	Assistant Professor, Stanford University
Jan, Max	2015	MD/PhD		Dana-Farber Harvard Cancer Center, Assistant Professor
Mancuso, Michael	2015 – 2018	MD/PhD	NIH T32	Lead Medical Director, Genentech
Steiner, David	2016 – 2017	MD/PhD	NIH T32	Health/Pathology Team, Google Research
Chaudhuri, Aadel	2016 – 2018	MD/PhD	2016-17 Radiological Society of North America Resident Research Grant	Associate Professor, Mayo Clinic
Sworder, Brian J	2016 – 2023	MD/PhD	NIH T32; Lymphoma Research Foundation Lymphoma Scientific Research Mentoring Program Scholar, NIH K08	Assistant Professor, City of Hope
Moding, Everett	2018 – 2020	MD/PhD	ASCO Conquer Cancer Young Investigator Award	Assistant Professor, Stanford University

Trainee Name	Training Period	Prior Academic Degree(s)	Trainee Awards Received	Current Position (Past Trainees) Source of Support
King, Daniel A	2018 – 2021	MD/PhD	NIH T32	Assistant Professor, Feinstein Institutes for Medical Research
Hamilton, Mark	2021 - 2025	MD/PhD	Leukemia and Lymphoma Society	Assistant Professor, MD Anderson Cancer Center
Noordenbos, Troy	2023 - Pres	MD/PhD	Lymph & Co. Marie Curie Fellowship ERC	Post-doctoral Fellow, Stanford University

Active Protocols (Clinical/Animal/Laboratory)

Protocol #	**Protocol Director**	**Last Approval**	**Protocol Title**
APB-4876-AA0623	Alizadeh, Arash	05/08/25	Identification of genes regulating key features of normal and cancer stem cells.
IRB-6453	Levy, Ronald	04/09/24	Functional and Molecular Characterization of Human Hematologic Disorders
IRB-11062	Lacayo, Norman James	01/22/24	Genome, Proteome and Tissue Microarray Studies in Childhood Malignant and Non-Malignant Hematologic Disorders (SQL 74816)
IRB-12597	Fan, Alice	05/13/25	Investigation of Oncogenes in Cancer
IRB-13500	Alizadeh, Arash	04/23/24	Clinical and Pathologic Studies in Non-Hodgkin's Lymphoma and Hodgkin's Disease (SQL 76973)
IRB-13535 (VAR0006)	Diehn, Maximilian (Co-Investigator)	07/31/25	Development of Novel Biomarkers for Personalized Detection, Treatment, and Monitoring of Cancer Patients (SQL 77923)
IRB-13956 (XBANK LYMST0001)	Levy, Ronald (Co-Investigator)	05/15/25	Stanford University Lymphoma and Solid Tumor Outcomes Research Database Study
IRB-14839	Majeti, Ravindra (Co-Investigator)	05/26/22	Clinical-Pathologic Correlates and Outcomes in Adult Patients with Hematologic Malignancies
IRB-15652	Alizadeh, Arash	08/30/18	Identification of Pathogens in Clinical Specimens from Patients with Unusual Hematologic Syndromes
IRB-17666	Khush, Kiran	01/10/24	Genome Transplant Dynamics: Non-Invasive Sequencing-Based Diagnosis of Rejection
IRB-25216	Alizadeh, Arash	05/31/25	LRF – Tissue Acquisition for Research and Analysis
IRB-28205	Rogers, Angela	03/19/24	Stanford ICU Biorepository
IRB-31067	Ganjoo, Kristen	03/31/24	Blood Collection for Research in Bone and Soft Tissue Tumors
IRB-33886	Alizadeh, Arash	12/17/19	Modeling the Molecular Determinants of Induced Anti-Tumor Immune Responses
IRB-36478	Nelson, Joanna	12/06/18	Infectious Complications in Hemophagocytic Lymphohistiocytosis
IRB-36560	Majeti, Ravindra	11/30/23	Functional and Molecular Characterization of Human Hematologic Disorders
IRB-37547	Diehn, Maximilian	04/05/19	Monitoring Genitourinary Tumors through Analysis of Urinary Cell-Free Tumor DNA
IRB-42220	Khush, Kiran	04/10/24	A Noninvasive Integrated Genomic Approach for Early Cancer Detection and Risk Stratification after Transplantation
IRB-43375	Miklos, David	04/30/25	CCT5019: Tissue Sampling and Biorepository to Improve Cancer Cell Therapy
IRB-51322	Poultsides, George	05/12/23	A Retrospective Review of Patients with Gastrointestinal Malignancies
IRB-55033	Diehn, Maximilian	02/06/20	Analysis of Existing De-identified Genomic Data

IRB-55874	Diehn, Maximilian	03/31/25	Developing Novel Diagnostic Approaches for COVID-19
SCRO-380	Alizadeh, Arash	05/15/15	Functional and Molecular Characterization of Human Normal and Cancer Stem Cells