W. Richard Burack, M.D., Ph.D.

Associate Professor
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W R Burack 1/19/17

EDUCATION

MD Medicine | Univ of Virginia Sch Medicine | *1995*

PhD Molecular Biophysics | Univ of Virginia Sch Medicine | *1994*

BS Biochemistry | McGill University | *1986*

POST-DOCTORAL TRAINING AND RESIDENCY

Post-Doctoral Fellow---PI: A. Shaw---T cell signal transduction | *July 1999 - July 2004*

Fellow, Hematopathology, Barnes-Jewish Hospital, St. Louis | *1998 - 1999*

Post-doctoral Fellow--PI T.W. Strugill--Enzymology of MAPK/ERK | *July 1995 - June 1998*

Resident, Clinical Pathology, University of Virginia Hospital | *1995 - 1998*

CERTIFICATIONS

BOARD

New York State Department of Health, Certificate of Qualification: Laboratory Director in Cellular Immunology, Clinical Chemistry, Hematology, Oncology. | *01/04/2016 - 01/04/2018*

American Board of Pathology, Hematopathology | *2000*

American Board of Pathology, Clinical Pathology | *1998*

LICENSURE

New York State Education Department, Registration Certificate: Physician. | *01/31/2019*

FACULTY APPOINTMENTS

Associate Professor | Pathology and Laboratory Medicine | SMD | *2007 - Present*

Interim Associate Professor | Pathology and Laboratory Medicine | SMD | *2007 - 2007*

Vice Chair for Clinical Operations | Pathology and Laboratory Medicine | SMD | *2016 - Present*

Director, Hematopathology Unit | Pathology and Laboratory Medicine | SMD | *2007 - Present*

Associate Professor | Cancer Center | *2007 - Present*

APPOINTMENTS

ACADEMIC - EXTERNAL

Assistant Professor of Pathology and Immunology Acting Director of Hematopathology Division Director of Hematopathology Fellowship Program Medical Director, Flow Cytometry laboratory Washington University School of Medicine St. Louis, MO | *2003 - 2007*

Instructor in Pathology Washington University School of Medicine St. Louis, MO | *1999 - 2003*

ACADEMIC - INTERNAL

Associate Professor of Pathology and Laboratory Medicine | *07/01/2007 - Present*

Director, Hematopathology Fellowship Program | *2007 - August 2016*

HOSPITAL

Vice Chair, Clinical Operations; Pathology and Laboratory Medicine | *November 2016 - Present*

Director, Molecular Genetic Pathology Unit | *06/01/2013 - Present*

Director, Clinical Protein Electrophoresis Laboratory | *07/01/2012 - 07/01/2014*

Director, Flow Cytometry Laboratory | *July 2007 - Present*

MEMBERSHIPS

PROFESSIONAL

American Society for Hematology.

Society for Hematopathology.

United States/Canada Association of Pathologists.

LECTURESHIPS

LOCAL

"EBV-lymphorpoliferative disorders---is it ever just one disease?" UHS Regional Hematopathology Meeting, Syracuse NY | *05/21/2016*

Intraclonal Diversity in Follicular Lymphoma. 8th Annual Symposium on Hematopathology. Skaneateles, NY | *05/20/2014*

Grand Rounds, Department of Pathology and Laboratory Medicine, University of Rochester | *05/05/2014*

AML with gene mutations. 8th Annual Symposium on Hematopathology. Binghamton, NY | *05/20/2013*

CTSI Seminar Series; "The Translational Potential of "-omics" Research". Presentation entitled: "Quantifying intraclonal heterogeneity in follicular lymphoma." Audience--URMC community. Promoted collaborative research efforts at the University. | *10/02/2012*

Pathogenesis, Clinical Behavior and Diagnosis of Angioimmunoblastic T-Cell Lymphoma and Adult T-cell Leukemia/Lymphoma. 7th Annual Hematology/ Hematopathology Symposium, Binghamton NY | *05/19/2012*

"Histogenesis of Diffuse Large B-Cell Lymphoma, NOS". 6th Annual Hematology/Hematopathology Symposium: Diffuse Large B-Cell Lymphoma and its Variants: What's New? Binghamton, NY | *05/14/2011*

NATIONAL

Invited Lecturer to Genomic Pathology at the 22nd Annual William Beaumont Symposium in Detroit, MI. Presented, "B cell clonality testing: Biomed-2 and Beyond." | *09/26/2013*

INTERNATIONAL

Cellular signal recognition and transduction. Berlin-Dahlem, Germany. | *10/13/2005 - 10/15/2005*

OTHER

Moffitt Cancer Center, Tampa, FL. Grand Rounds in the Department of Pathology. "Using Immunogenetics to understand the clinical evolution of Lymphoma." | *10/18/2013*

Montefiore/Einstein School of Medicine, Department of Pathology, Grand Rounds. "Evolution of Lymphoma" | *04/18/2013*

University of Virginia, Grand Rounds, Department of Pathology. "Molecular Diagnostics of Non-Hodgkin Lymphomas". | *April 2008*

AWARDS AND HONORS

Eric A. Schenk Award for Excellence in Teaching | Pathology and Laboratory Medicine, University of Rochester School of Medicine and Dentistry | *2014*

Excellence in 2nd Year Teaching | University of Rochester School of Medicine | *2010*

Class of 2010 Professor of the Year | Washington Univ School of Medicine | *2007*

Class of 2009 Professor of the Year | Washington Univ School of Medicine | *2006*

Class of 2008 Lecturer of the Year | Washington Univ School of Medicine | *2005*

Class of 2006 Distinguished Teacher Award | Washington Univ School of Medicine | *2004*

CONTRIBUTIONS

PROFESSIONAL

Moderator of Proffered paper presented at USCAP Annual Meeting in Baltimore, MD. | *03/04/2013 - 03/04/2013*

"Symposium on Myeloid Neoplasms in honor of Dr. John M. Bennett for June 9, 2012"; Organizer and chair | *2012*

STUDENTS

POST-DOCTORAL TRAINEES AND FELLOWS

Chad Hudson, MD | Hematopathology Fellow | *07/01/2016 - Present*

Abraham Loo, MD | Hematopathology Fellow | Current: private practice, NJ | *07/01/2014 - 06/30/2015*

Jaclyn Cappel, MD | Hematopathology Fellow | Current: private practice, Williamsport PA | *07/01/2013 - 06/30/2014*

Kelly Garner, MD | Hematopathology Fellow | Current: private practice, Buffalo NY | *07/01/2013 - 06/30/2014*

M. Kristen Subik, MD | Hematopathology Fellow | Current: academic practice, Albany Medical Center | *07/01/2012 - 06/30/2013*

Steven Nguyen, MD | Hematopathology Fellow | Current: private practice, Denver CO | *07/01/2012 - 06/30/2013*

Sarah Eakin, MD | Hematopathology Fellow | Current: private practice, Erie PA | *07/01/2011 - 06/30/2012*

Jennifer Pryor, MD | Hematopathology Fellow | Current: private practice, Williamsport PA | *07/01/2010 - 06/30/2011*

Joseph Weisensel, DO | Hematopathology Fellow | Current: private practice, New Jersey | *07/01/2009 - 06/30/2010*

Mathew Dress, MD | Hematopathology Fellow | Current: private practice, Memphis TN | *07/01/2008 - 06/30/2009*

Archibald Perkins, MD, PhD | Hematopathology Fellow | Current: Faculty, University of Rochester | *07/01/2007 - 07/30/2008*

COURSES

TAUGHT

Pathology of Immunologic Diseases, in "Pathobiology". URMC Department of Pathology Graduate Program. 4 lecture hours. | *2008 - 2014*

Pathology of Hematopoietic Diseases, in "Diagnosis, Pathogenesis, and Therapeutics". URMC School of Medicine Year 2 curriculum. 5 Lecture and 4 lab hours. | *2007 - Present*

Pathology of Hematopoietic Diseases. Washington University School of Medicine. Second Year core course in pathology. | *2001 - 2007*

PROFESSIONAL ASSIGNMENTS

SERVICE

Hematopathology Unit, Medical Director. | *07/01/2007 - Present*

ADMINISTRATIVE

Molecular Genetic Pathology Unit, Medical Director. To address significant administrative and to ensure growth of genomic-scale diagnostics at URMC, Drs. Ryan(Chair) and Blumberg (Chief of Laboratories) asked me to assume directorship of 3 independently operating laboratories: the cytogenetics (15 FTE), microarray (5 FTE), and molecular diagnostic (9 FTE) labs. My primary tasks have been to ensure the long term trajectory of genetic-based diagnostics at URMC by 1) two new junior faculty hires, both of which were completed in the last year. 2) managing succession planning among the PhD geneticists. 3) facilitating operational fusion of the labs to create more flexible staffing and growth potential for the labs. 4) creating a mission-driven team of the 5 PhD and 1 MD/PhD geneticists associated with these labs. 5) developing and advocating a medical and business plan that has resulted in the implementation of "Next generation" sequencing in the diagnostic laboratories. | *2013 - Present*

Clinical Protein Electrophoresis Lab, Medical Director. To address significant administrative issues, Drs. Ryan (chair) and Blumberg (Chief of Lab Medicine) asked me to lead this unit and potentially fuse it to the hematopathology unit. At the time that I took this role, the laboratory had >12 FTE and performed a wide variety of testing including HgbA1c assays, CSF oligoclonal banding, serum protein electrophoresis. After embedding myself in the operation to perform a thorough evaluation of the workflow and testing performed, I directed the decommissioning of the lab as a separate entity, including outsourcing of tests as appropriate to eliminate overhead costs to Strong Memorial Hospital. Most functions were transferred to the clinical chemistry unit of the laboratory, with considerable gains in efficiency and no loss of service to SMH. ~6 FTE were made available for other institutional needs. Having completed the reorganization of the work, the decommissioning of the lab effectively dissolved the role of the "medical director". | *2012 - 2014*

Clinical Flow Cytometry Laboratory, Medical Director. My principle administrative roles for this 9 FTE lab since 2007 have included managing two recruitments of senior supervisors and two complete upgrades of the cytometers. | *07/01/2007 - Present*

Hematopathology Fellowship Program, Director. When I initiated this program in 2007 it was only the second fellowship spot in the Department of Pathology and Laboratory Medicine, and the first new accredited fellowship in the department in more than 20 years. In part, the program lay the groundwork for a renewal of advanced, graduate medical education in this department. | *July 2007 - August 2016*

OTHER

Hematopoietic Tissue Procurement Core Facility, Principal Investigator. This is an active biospecimen procurement program which focuses on obtaining tissue for experiments that require viable cells. In addition to providing support for a range of investigators, this resource is a cornerstone of my own research program. | *2007 - Present*

Ad Hoc Reviewer: Blood, Leukemia Research, Leukemia, Human Pathology, American Journal of Clinical Pathology, BBA-Molecular Cell Research, Hematological Oncology, Oncotarget, Journal of Clinical Oncology | *Present*

Grant Reviewer: Cancer Research UK - Clinical Careers Committee 2016; URMC Clinical Translational Science Institute KL2 program

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RESEARCH GRANTS

PI: Burack and Mosmann | Title: Immune Function and Dysfunction in Lymphoma (2016 Pilot Program of the James P. Wilmot Cancer Institute) | Grant Type: non-NIH | Awarded: 07/01/2016 | Direct Cost: $50,000.00 | *07/01/2016 - 06/30/2017*

PI: Burack and Hashem (JAXlabs) | Title: The AID-RAD51 Axis as a Better Biomarker in Follicular Lymphoma; 5% salary/effort | Sponsor: Hope Foundation | Grant Type: non-NIH | Grant ID: SWOG ITSC Exploratory Pilot Program | Direct Cost: $50,000.00 | *01/01/2016 - 12/31/2016*

PI: Cerhan and Flowers | Investigators: Burack | Title: Lymphoma Epidemiology and Outcomes; 5% effort/salary | Grant Type: NIH | Direct Cost: $102,097.00 | *07/01/2015 - 06/30/2020*

PI: Burack | Title: Passenger Mutations Due to Activation-induced Deaminase as Biomarkers in Lymphoma; 10% effort/salary | Grant Type: NIH | NIH Grant ID: 1 R21-R21 CA198072-01-NCI | Awarded: 07/01/2015 | Direct Cost: $139,548.00 | *07/01/2015 - 06/30/2017*

PI: Burack | Title: Host-tumor interactions in FL: How tumor infiltrating T-cells modulate FL biology in vivo; 10% effort/salary | Sponsor: Lymphoma Reserach Foundation | Grant Type: non-NIH | Direct Cost: $150,000.00 | *09/01/2013 - 08/31/2016*

PI: Burack | Title: UR Clinical and Translational Science Institute: Quantifying Tumor Diversity to Predict and Target Cancer Progression | Grant Type: non-NIH | Direct Cost: $67,177.00 | *07/01/2013 - 06/30/2014*

PI: Bernstein, S. | Investigators: Burack | Title: UR Clinical and Translational Science Institute. Lymphoma and Its Microenvironment: A Novel Clinical Trial. | Sponsor: UR Clinical and Translational Science Institute | Grant Type: non-NIH | Direct Cost: $50,000.00 | *07/01/2013 - 06/30/2014*

PI: Burack, Walter Richard | Title: SPORE Scientific Development Project: Developing a Xeno-transplant model for non-Hodgkin Lymphomas for investigation of the tumor microenvironment and therapeutic trials | Grant Type: NIH | NIH Grant ID: P01-NCI | *07/01/2011 - 06/30/2012*

PI: Burack | Title: Regional Stat Tumor Procurement to Support Studies of Lymphoma (Upstate New York Translational Research Network Pilot Project) | Grant Type: non-NIH | Direct Cost: $50,000.00 | *07/01/2011 - 06/30/2012*

PI: Fisher, RI | Title: Biospecimen Core Director: SPORE in Lymphoma | Grant Type: NIH | NIH Grant ID: 1 P50-CA130805-01A1-NCI | Direct Cost: $256,888.00 | *09/01/2008 - 08/31/2013*

PI: Friedberg, J. | Investigators: Burack | Title: Southwest Oncology Group (SWOG) | Grant Type: NIH | NIH Grant ID: 5 CA011083-NCI | Direct Cost: $179,920.00 | *07/01/2007 - 12/31/2015*

PI: Fisher, S. | Investigators: Burack | Title: A Comprehensive Investigation of Viral-induced Lymphomagenesis; 5% effort/salary (investigator) | Grant Type: NIH | NIH Grant ID: R01-CA121180-NCI | *April 2006 - February 2011*

PI: Burack | Title: Burroughs-Welcome Career Development Award (Declined additional years support to pursue clinically oriented career) | Grant Type: non-NIH | *2001 - 2003*

COMMITTEES

DEPARTMENTAL

Cytogenetics Faculty Search Committee, Chair | *07/01/2014 - 03/01/2015*

Departmental Grand Rounds Committee (chair) | *01/01/2014 - 07/30/2014*

Pathology Department Steering Committee, member | *July 2013 - 12/30/2015*

Hematopathology Faculty Search Committee, Chair. | *April 2010 - March 2013*

Residency Education Committee | *July 2007 - 2015*

HOSPITAL

Wehrheim Professorship Search Committee. | *2013 - Present*

Laboratory Diagnostics Committee (Oncology) | *March 2011*

Residency Review Committees for ACGME credentialing (ad hoc member) | *2000 - Present*

NATIONAL

Southwest Oncology Group (SWOG) Membership Committee | *2010 - 2014*

National Comprehensive Cancer Network: Subcommittee for Myelodysplastic Syndromes. | *2005 - 2007*

OTHER

Nicole Pecora, MD PhD - Departmental Mentorship Committee | *2016 - Present*

Philip Meacham - PhD Dissertation Committee, University of Rochester | *2016 - Present*

URSMD Medical Scientist Training Program, Admissions Committee | *2016 - Present*

Yi Ding, MD PhD - Departmental Mentorship Committee (Chair) | *2016 - Present*

Michael Wilson - PhD Dissertation Committee, University of Rochester | *2015*

Andrew Evans, MD PhD - Departmental Mentorship Committee (Chair) | *2013 - Present*

Victoria (Yan) Zhang, PhD - Departmental Mentorship Committee | *2012 - Present*

JOURNAL ARTICLES

1. Youn P; Cummings MA; Dhakal S; Burack WR; Casulo C; Barr PM; Friedberg JW; Constine LS. "Prognostic Impact of Cell of Origin in Limited-Stage Diffuse Large B-Cell Lymphoma Treated With R-CHOP With or Without Radiation Therapy." International journal of radiation oncology, biology, physics. 2016;96(2S):E495.

2. Evans AG; Ahmad A; Burack WR; Iqbal MA. "Combined comparative genomic hybridization and single-nucleotide polymorphism array detects cryptic chromosomal lesions in both myelodysplastic syndromes and cytopenias of undetermined significance." Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc. 2016;29(10):1183-99.

3. Kuzin II; Kates SL; Ju Y; Zhang L; Rahimi H; Wojciechowski W; Bernstein SH; Burack R; Schwarz EM; Bottaro A. "Increased numbers of CD23(+) CD21(hi) Bin-like B cells in human reactive and rheumatoid arthritis lymph nodes." European journal of immunology. 2016;46(7):1752-7.

4. Aslam R; Segel GB; Burack R; Spence SA; Speck ER; Guo L; Semple JW. "Splenic lymphocyte subtypes in immune thrombocytopenia: increased presence of a subtype of B-regulatory cells." British journal of haematology. 2016;173(1):159-60.

5. Lindorfer MA; Cook EM; Tupitza JC; Zent CS; Burack R; de Jong RN; Beurskens FJ; Schuurman J; Parren PW; Taylor RP. "Real-time analysis of the detailed sequence of cellular events in mAb-mediated complement-dependent cytotoxicity of B-cell lines and of chronic lymphocytic leukemia

B-cells." Molecular immunology. 2016;70():13-23.

6. Till BG; Li H; Bernstein SH; Fisher RI; Burack WR; Rimsza LM; Floyd JD; DaSilva MA; Moore DF; Pozdnyakova O; Smith SM; LeBlanc M; Friedberg JW. "Phase II trial of R-CHOP plus bortezomib induction therapy followed by bortezomib maintenance for newly diagnosed mantle cell lymphoma: SWOG S0601." British journal of haematology. 2016;172(2):208-18.

7. Nedelkovska H; Rosenberg AF; Hilchey SP; Hyrien O; Burack WR; Quataert SA; Baker CM; Azadniv M; Welle SL; Ansell SM; Kim M; Bernstein SH. "Follicular Lymphoma Tregs Have a Distinct Transcription Profile Impacting Their Migration and Retention in the Malignant Lymph Node." PloS one. 2016;11(5):e0155347.

8. Halliley JL; Tipton CM; Liesveld J; Rosenberg AF; Darce J; Gregoretti IV; Popova L; Kaminiski D; Fucile CF; Albizua I; Kyu S; Chiang KY; Bradley KT; Burack R; Slifka M; Hammarlund E; Wu H; Zhao L; Walsh EE; Falsey AR; Randall TD; Cheung WC; Sanz I; Lee FE. "Long-Lived Plasma Cells Are Contained within the CD19(-)CD38(hi)CD138(+) Subset in Human Bone Marrow." Immunity. 2015;43(1):132-45.

9. Pulvino M; Chen L; Oleksyn D; Li J; Compitello G; Rossi R; Spence S; Balakrishnan V; Jordan C; Poligone B; Casulo C; Burack R; Shapiro JL; Bernstein S; Friedberg JW; Deshaies RJ; Land H; Zhao J. "Inhibition of COP9-signalosome (CSN) deneddylating activity and tumor growth of diffuse large B-cell lymphomas by doxycycline." Oncotarget. 2015;6(17):14796-813.

10. Evans AG; Rothberg PG; Burack WR; Huntington SF; Porter DL; Friedberg JW; Liesveld JL. "Evolution to plasmablastic lymphoma evades CD19-directed chimeric antigen receptor T cells." British journal of haematology. 2015; Epub 2015 Jun 18.

11. Vajpayee N; Burack R; Wang D; Hutchison RE; Gajra A. "Immunohistochemical expression of mTOR in germinal center and nongerminal center group of diffuse large B-cell lymphoma: a clinicopathological study." Clinical lymphoma, myeloma & leukemia. 2015;15(3):159-63.

12. Frederiksen JK; Sharma M; Casulo C; Burack WR. "Systematic review of the effectiveness of fine-needle aspiration and/or core needle biopsy for subclassifying lymphoma." Archives of pathology & laboratory medicine. 2015;139(2):245-51.

13. Casulo C; Burack WR; Friedberg JW. "Transformed follicular non-Hodgkin lymphoma." Blood. 2015;125(1):40-7.

14. Costaldi, M.E. Lall, A. Burack, R. Zhou, Z.D. "Using Flow Cytometry for the Diagnosis of Lung Neuroendocrine Carcinoma With Samples From Endobronchial Ultrasound Fine Needle Aspiration and Pleural Fluid". Journal of Interdisciplinary Histopathology. 2015; 3(1): 3-8.

15. Spence JM; Spence JP; Abumoussa A; Burack WR. "Ultradeep analysis of tumor heterogeneity in regions of somatic hypermutation." Genome medicine. 2015;7(1):24.

16. Zent CS; Burack WR. "Mutations in chronic lymphocytic leukemia and how they affect therapy choice: focus on NOTCH1, SF3B1, and TP53." Hematology. 2014;2014(1):119-24.

17. Spence JM; Abumoussa A; Spence JP; Burack WR. "Intraclonal diversity in follicular lymphoma analyzed by quantitative ultradeep sequencing of noncoding regions." The Journal of immunology : official journal of the American Association of Immunologists. 2014;193(10):4888-94.

18. Subik MK; Herr MM; Hutchison RE; Kelly J; Tyler WK; Merzianu M; Burack WR. "A highly curable lymphoma occurs preferentially in the proximal tibia of young patients." Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc. 2014;27(11):1430-7.

19. Friedberg JW; Unger JM; Burack WR; Gopal AK; Raju RN; Nademanee AP; Kaminski MS; Li H; Press OW; Miller TP; Fisher RI. "R-CHOP with iodine-131 tositumomab consolidation for advanced stage diffuse large B-cell lymphoma (DLBCL): SWOG S0433." British journal of haematology.

2014;166(3):382-9.

20. Friedberg JW; Mahadevan D; Cebula E; Persky D; Lossos I; Agarwal AB; Jung J; Burack R; Zhou X; Leonard EJ; Fingert H; Danaee H; Bernstein SH. "Phase II study of alisertib, a selective Aurora A kinase inhibitor, in relapsed and refractory aggressive B- and T-cell non-Hodgkin lymphomas." Journal of clinical oncology : official journal of the American Society of Clinical Oncology. 2014;32(1):44-50.

21. Brown JT; Burack WR; Becker MW; Vlad-Vonica R; Nadasdy T; Bennett JM; Mendler JH. "Extracellular crystals in plasma cell myeloma." Leukemia research reports. 2014;3(2):49-50.

22. Bernstein SH; Epner E; Unger JM; Leblanc M; Cebula E; Burack R; Rimsza L; Miller TP; Fisher RI. "A phase II multicenter trial of hyperCVAD MTX/Ara-C and rituximab in patients with previously untreated mantle cell lymphoma; SWOG 0213." Annals of oncology : official journal of the European Society for Medical Oncology. 2013;24(6):1587-93.

23. Rauh MJ; Rahman F; Good D; Silverman J; Brennan MK; Dimov N; Liesveld J; Ryan DH; Richard Burack W; Bennett JM. "Blastic plasmacytoid dendritic cell neoplasm with leukemic presentation, lacking cutaneous involvement: Case series and literature review." Leukemia research. 2012;36(1):81-6.

24. Yeung CC; Powers ML; Nguyen TD; Kreisel F; Frater JL; Zehnbauer BA; Burack R; Hassan A. "Relevance of IgVH gene somatic hypermutation and interphase cytogenetics in lymphomatous presentation of chronic lymphocytic leukemia/small lymphocytic lymphoma." International journal of surgical pathology. 2011;19(5):563-9.

25. Hilchey SP; Rosenberg AF; Hyrien O; Secor-Socha S; Cochran MR; Brady MT; Wang JC; Sanz I; Burack WR; Quataert SA; Bernstein SH. "Follicular lymphoma tumor-infiltrating T-helper (T(H)) cells have the same polyfunctional potential as normal nodal T(H) cells despite skewed differentiation." Blood. 2011;118(13):3591-602.

26. Spence JM; Rothberg PG; Wang N; Burack WR. "Demonstration of array-based analysis for highly multiplexed PCR assays application to detection of IGH@-BCL2 translocations in FFPE follicular lymphoma specimens." The Journal of molecular diagnostics : JMD. 2011;13(3):252-62.

27. Amador-Ortiz C; Chen L; Hassan A; Frater JL; Burack R; Nguyen TT; Kreisel F. "Combined core needle biopsy and fine-needle aspiration with ancillary studies correlate highly with traditional techniques in the diagnosis of nodal-based lymphoma." American journal of clinical pathology. 2011;135(4):516-24.

28. Cooper AR; Burack WR; Allerton JP. "A case of Kaposi sarcoma-associated herpesvirus/human herpesvirus 8-unrelated but Epstein-Barr virus-positive primary effusion lymphoma-like lymphoma in the setting of human immunodeficiency virus and hepatitis C virus infection." Leukemia & lymphoma. 2010;51(12):2303-5.

29. Ferrantino M; Eichelberger J; Burack HR; Li F; Lee FE. "A 48-year-old woman with a large mediastinal mass." Chest. 2010;138(5):1260-4.

30. Bennett JM; Pryor J; Laughlin TS; Rothberg PG; Burack WR. "Is the association of "cup-like" nuclei with mutation of the NPM1 gene in acute myeloid leukemia clinically useful?" American journal of clinical pathology. 2010;134(4):648-52.

31. Burack WR; Laughlin TS; Friedberg JW; Spence JM; Rothberg PG. "PCR assays detect B-lymphocyte clonality in formalin-fixed, paraffin-embedded specimens of classical hodgkin lymphoma without microdissection." American journal of clinical pathology. 2010;134(1):104-11.

32. Hilchey SP; Kobie JJ; Cochran MR; Secor-Socha S; Wang JC; Hyrien O; Burack WR; Mosmann TR; Quataert SA; Bernstein SH. "Human follicular lymphoma CD39+-infiltrating T cells contribute to adenosine-mediated T cell hyporesponsiveness." The Journal of immunology : official journal of

the American Association of Immunologists. 2009;183(10):6157-66.

33. Bernstein SH; Burack WR. "The incidence, natural history, biology, and treatment of transformed lymphomas." Hematology. 2009;

34. Vomastek T; Iwanicki MP; Burack WR; Tiwari D; Kumar D; Parsons JT; Weber MJ; Nandicoori VK. "Extracellular signal-regulated kinase 2 (ERK2) phosphorylation sites and docking domain on the nuclear pore complex protein Tpr cooperatively regulate ERK2-Tpr interaction." Molecular and cellular biology. 2008;28(22):6954-66.

35. HalldÃ³rsdÃ³ttir AM; FrÃ¼hwirth M; Deutsch A; Aigelsreiter A; Beham-Schmid C; Agnarsson BA; Neumeister P; Richard Burack W. "Quantifying the role of aberrant somatic hypermutation in transformation of follicular lymphoma." Leukemia research. 2008;32(7):1015-21.

36. HalldÃ³rsdÃ³ttir AM; Zehnbauer BA; Burack WR. "Application of BIOMED-2 clonality assays to formalin-fixed paraffin embedded follicular lymphoma specimens: superior performance of the IGK assays compared to IGH for suboptimal specimens." Leukemia & lymphoma. 2007;48(7):1338-43.

37. Seo J; Chung YS; Sharma GG; Moon E; Burack WR; Pandita TK; Choi K. "Cdt1 transgenic mice develop lymphoblastic lymphoma in the absence of p53." Oncogene. 2005;24(55):8176-86.

38. Markiewicz MA; Carayannopoulos LN; Naidenko OV; Matsui K; Burack WR; Wise EL; Fremont DH; Allen PM; Yokoyama WM; Colonna M; Shaw AS. "Costimulation through NKG2D enhances murine CD8+ CTL function: similarities and differences between NKG2D and CD28 costimulation." The Journal of immunology : official journal of the American Association of Immunologists. 2005;175(5):2825-33.

39. Tu PH; Giannini C; Judkins AR; Schwalb JM; Burack R; O'Neill BP; Yachnis AT; Burger PC; Scheithauer BW; Perry A. "Clinicopathologic and genetic profile of intracranial marginal zone lymphoma: a primary low-grade CNS lymphoma that mimics meningioma." Journal of clinical oncology : official journal of the American Society of Clinical Oncology. 2005;23(24):5718-27.

40. Burack WR; Shaw AS. "Live Cell Imaging of ERK and MEK: simple binding equilibrium explains the regulated nucleocytoplasmic distribution of ERK." The Journal of biological chemistry. 2005;280(5):3832-7.

41. Lee KH; Dinner AR; Tu C; Campi G; Raychaudhuri S; Varma R; Sims TN; Burack WR; Wu H; Wang J; Kanagawa O; Markiewicz M; Allen PM; Dustin ML; Chakraborty AK; Shaw AS. "The immunological synapse balances T cell receptor signaling and degradation." Science. 2003;302(5648):1218-22.

42. Burack WR; Lee KH; Holdorf AD; Dustin ML; Shaw AS. "Cutting edge: quantitative imaging of raft accumulation in the immunological synapse." The Journal of immunology : official journal of the American Association of Immunologists. 2002;169(6):2837-41.

43. Hailman E; Burack WR; Shaw AS; Dustin ML; Allen PM. "Immature CD4(+)CD8(+) thymocytes form a multifocal immunological synapse with sustained tyrosine phosphorylation." Immunity. 2002;16(6):839-48.

44. Nguyen A; Burack WR; Stock JL; Kortum R; Chaika OV; Afkarian M; Muller WJ; Murphy KM; Morrison DK; Lewis RE; McNeish J; Shaw AS. "Kinase suppressor of Ras (KSR) is a scaffold which facilitates mitogen-activated protein kinase activation in vivo." Molecular and cellular biology. 2002;22(9):3035-45.

45. Holdorf AD; Lee KH; Burack WR; Allen PM; Shaw AS. "Regulation of Lck activity by CD4 and CD28 in the immunological synapse." Nature immunology. 2002;3(3):259-64.

46. Burack WR; Dibble AR; Biltonen RL. "The relationship between compositional phase separation and vesicle morphology: implications for the regulation of phospholipase A2 by membrane structure." Chemistry and physics of lipids. 1997;90(1-2):87-95.

47. Burack WR; Dibble AR; Allietta MM; Biltonen RL. "Changes in vesicle morphology induced by lateral phase separation modulate phospholipase A2 activity." Biochemistry. 1997;36(34):10551-7.

48. Burack WR; Sturgill TW. "The activating dual phosphorylation of MAPK by MEK is nonprocessive." Biochemistry. 1997;36(20):5929-33.

49. Burack WR; Gadd ME; Biltonen RL. "Modulation of phospholipase A2: identification of an inactive membrane-bound state." Biochemistry. 1995;34(45):14819-28.

50. Burack WR; Biltonen RL. "Lipid bilayer heterogeneities and modulation of phospholipase A2 activity." Chemistry and physics of lipids. 1994;73(1-2):209-22.

51. Burack WR; Yuan Q; Biltonen RL. "Role of lateral phase separation in the modulation of phospholipase A2 activity." Biochemistry. 1993;32(2):583-9.

52. Lathrop BK; Burack WR; Biltonen RL; Rule GS. "Expression of a group II phospholipase A2 from the venom of Agkistrodon piscivorus piscivorus in Escherichia coli: recovery and renaturation from bacterial inclusion bodies." Protein expression and purification. 1992;3(6):512-7.

BOOKS AND CHAPTERS

W. Richard Burack. "The Roles of Molecular Techniques in the Diagnosis and Management of Follicular Lymphoma". Molecular Pathology of Hematolymphoid Disease. Springer, 2010.

W. Richard Burack John D. Pfeifer. "Non-imaging Cell and Tissue Techniques and Tissue Banking". Translational and Experimental Clinical Research. Daniel P. Schuster and William J. Powers. Philiadelphia, PA: Lippincott Williams and Wilkins, 2005. 413-434.

LETTERS

Burack WR. "Symposium on Myeloid Neoplasms" on June 9, 2012 in honor of Dr. John M. Bennett. Leukemia research. 2012; 36(12):1440. | *2012*

REVIEW ARTICLES

Bromley SK; Burack WR; Johnson KG; Somersalo K; Sims TN; Sumen C; Davis MM; Shaw AS; Allen PM; Dustin ML "The immunological synapse." Annual review of immunology. 2001; 19():375-96.

Burack WR; Cheng AM; Shaw AS "Scaffolds, adaptors and linkers of TCR signaling: theory and practice." Current opinion in immunology. 2002; 14(3):312-6.

Burack WR; Shaw AS "Signal transduction: hanging on a scaffold." Current opinion in cell biology. 2000; 12(2):211-6.

PATENTS - EXTERNAL

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