CURRICULUM VITAE

1. **Name:** **John Donald Roback, MD PhD**

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3. **E-mail Address:** jroback@emory.edu

4. **Citizenship:** USA

9/12/24

5. **Current Titles and Affiliations:**

   a. **Academic Appointments:**

      i. Primary Appointment: Professor of Pathology and Laboratory Medicine (tenured); Emory University School of Medicine; Atlanta, GA (2016 - present)

      ii. Adjunct Appointment: Adjunct Professor in the Department of Health Sciences PhD program within the College of Health Sciences at Rush University (Chicago, IL; 7/1/2020 – 6/30/2021)

   b. **Clinical Appointments:**

      Medical Director, Emory University Hospital Blood Bank, Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2009 - present)

      Director, Center for Transfusion and Cellular Therapies; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2009 - present)

      Director, Division of Clinical Pathology; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2014 - present)

      Medical Director, Emory Medical Laboratories, Emory Healthcare; Atlanta, GA (2017 – present)

      Clinical Privileges: EUH, EUHM, EUOSH, ESJH, EJCH, EDH, CHOA, Grady

   c. **Other Administrative Appointments:**

      Vice Chair, Division of Clinical Pathology; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2014 - present)

      Executive Vice Chair, Clinical Operations; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2020 – present)

6. **Previous Academic and Professional Appointments:**

   Assistant Professor, Transfusion Medicine; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (1999 – 2005)

   Associate Professor of Pathology and Laboratory Medicine (tenured); Emory University School of Medicine; Atlanta, GA (2005 - 2016)

   Medical Director, Medical Technologist Training Program; Department of Pathology and Laboratory Medicine, Emory University School of Medicine; Atlanta, GA (2007 - 2017)

7. **Previous Administrative and/or Clinical Appointments:**

Assistant Director, Emory University Hospital Blood Bank; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (1999 – 2001)

Associate Director, Emory University Hospital Blood Bank; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2001 – 2009)

Associate Program Director, CDC-Kenya Visiting Scholars Program in Transfusion Medicine; Transfusion Medicine Program; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2002 – 2010).

Associate Director, Center for Transfusion and Cellular Therapies; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2003 – 2009)

Director (*Interim*), Grady Memorial Hospital Blood Bank; Atlanta, GA (2003)

Interim Vice Chair and Director of the Division of Clinical Pathology; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2012 – 2014)

Facility Director, Stem Cell Processing Laboratory, Emory University Hospital; Atlanta, GA (2005 - 2017)

Medical Director, Blood Bank, Emory University Orthopaedic and Spine Hospital; Atlanta, GA (2008 – 2016)

Interim Executive Vice Chair, Clinical Operations; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2018 – 2020)

8. Licensure/Boards:

State of Georgia Medical License (1996 - present)

State of Florida Medical License (2012 - 2019)

NPI number: 1376591388

9. Specialty Boards:

Diplomate, American Board of Pathology in Clinical Pathology (2001 - present)

Diplomate, American Board of Pathology in Blood Banking and Transfusion Medicine (2002 - present)

10. Education:

1980 - 1984:	B.A.	Biophysics The Johns Hopkins University, Baltimore, MD
1984 – 1994:	Ph.D.	Experimental Pathology: 1992 The University of Chicago, Chicago, IL Supervisor: Bruce H. Wainer, M.D. Ph.D. Thesis: Neurotrophin and neurotrophin receptor expression in neurons and glia from the developing brain
	M.D.	1994 The University of Chicago, Chicago, IL

11. Postgraduate Training:

1994:	Post-doctoral Research Fellow Supervisor: Bruce H. Wainer, M.D. Ph.D. The Albert Einstein College of Medicine, Bronx, NY

1994 – 1996: Anatomic Pathology Resident
Program Director: J.J. Steinberg, M.D.
The Albert Einstein College of Medicine, Bronx, NY

1996 – 1998: Clinical Pathology Resident
Chairman: James L. Madara, M.D.
Emory University School of Medicine, Atlanta, GA

1997 – 1998: Chief Resident, Clinical Pathology
Chairman: James L. Madara, M.D.
Emory University School of Medicine, Atlanta, GA

1998 – 1999: Clinical Fellow, Blood Banking and Transfusion Medicine
Program Director: Christopher D. Hillyer, M.D.
Emory University School of Medicine, Atlanta, GA

12. Continuing Professional Development Activities:

Participant, EM-ProLEAD (the Emory Medicine Professional Leadership and Enrichment Development Program); Atlanta, GA 2015

Pathology Leadership Program (Association of Pathology Chairs); Boston, MA 2019

Emory Academic Leadership Program (ALP); Atlanta, GA 2019 - 2020

13. Committee Memberships:

a. National and International:

Member, Board of Trustees, National Blood Foundation (2002 - 2006)

Member, Executive Committee, Board of Trustees, National Blood Foundation (2002 - 2006)

Member, Transfusion-Transmitted Diseases Committee, American Association of Blood Banks (2003 - 2005)

Member, Steering Committee, Retroviral Epidemiology Donor Study II (REDS-II), NIH/NHLBI-funded national cooperative research group (2004 – 2009).

Member, Clinical Transfusion Medicine Committee, American Association of Blood Banks (2005 - 2008)

Liaison from Transfusion Transmitted Diseases Committee to the Blood Bank/Transfusion Service Program Unit, American Association of Blood Banks (2005 - 2006)

Co-Chairman, NIH/NHLBI Global Blood Safety and Availability Strategic Planning Committee (2005 – 2006)

Chairman, Clinical Transfusion Medicine Committee, American Association of Blood Banks (2006 - 2008)

Chairman, Clinical Guidelines Subcommittee of the Clinical Transfusion Medicine Committee, American Association of Blood Banks (2006 - 2008)

Member, Nominating Committee, American Association of Blood Banks (2008 - 2010)

Member, American Red Cross Blood Services Medical Advisory Council (2011 – present)

Member, Data Monitoring Committee, *"An assessment of the safety and pharmacokinetics of ascending doses of SANGUINATE^{TM} in healthy volunteers (Protocol SKL-SANG-001)"*, a clinical trial to assess the safety and efficacy of a novel artificial blood substitute (2013)

Member (appointed AABB representative), Centers for Disease Control and Prevention (CDC), Division of Laboratory Science and Standards (DLSS), Laboratory Medicine Best Practices (LMBP) Expert Panel, *"Red Blood Cell Transfusion Utilization"*, a systematic review and analysis of evidence-based best practices in blood transfusion (2013 – 2014).

Member, CDC National Healthcare Safety Network (NHSN) Hemovigilance Subject Matter Expert Workgroup (2014 - 2017)

Member, RBC Transfusion Working Group and Plasma Transfusion Working Group, 2015 NIH/NHLBI State of the Science Meeting in Transfusion Medicine (2014-2015)

Co-Lead, "*What's In The Bag*" Subgroup of the RBC Transfusion Working Group, 2015 NIH/NHLBI State of the Science Meeting in Transfusion Medicine (2014-2015)

Member, Clinical Transfusion Medicine Committee, American Association of Blood Banks (2014 - present)

Member, NHLBI Clinical Trials Data and Safety Monitoring Board (DSMB; 2020 – present)

b. Institutional:

Member, Transfusion Subcommittee of the Medical Practices Committee, Emory University Hospital (1999 - 2002)

Member, Joint Transfusion Subcommittee of the Medical Practices Committees, Emory University Hospital, Emory University Hospital-Midtown, Wesley Woods Geriatric Hospital, Emory University Orthopedic and Spine Hospital (2002 - present)

Member, Pathobiology of Disease Conference Steering Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2003 - present)

Leader, Blood Bank Automation Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2003 - 2005)

Emory University Blood Drive Coordinator, Emory University School of Medicine (2006 – 2008)

Member, Laboratory Operations Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2007 – present)

Member, Laboratory Strategic Planning Team, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2011 – 2014)

Member, ACLPS Meeting Planning Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2011 – 2013)

Member, Executive Leadership Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2012 – present)

Member, Departmental Promotions Committee, Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2012 – present)

Chair, Joint Transfusion Subcommittee of the Medical Practices Committees, Emory University Hospital, Emory University Hospital-Midtown, Wesley Woods Geriatric Hospital, Emory University Orthopedic and Spine Hospital (2013 - 2019)

Member, EUH Medical Executive Committee (2013 - present)

Member, EUH Medical Practice Committee (2013 - present)

Member and MD Champion, Emory Healthcare Value Acceleration Project Design Team (2014)

Member, Bone Marrow Transplantation Strategic Planning Group (2014 – 2015)

Member, Laboratory Implementation Team (2014 – present)

Member, Ancillary Partners Subcommittee of the Main OR Committee (2015 – present)

Member, Physician Retirement Program Task Force (2016)

Member, RAS Improvement Working Group (2017)

Member, Laboratory Clinical Steering Committee (2017 – present)

Member, EHC Budget Working Group, Equipment Functional Review Team (2017 – present)

14. Peer Review Activities:

a. Grants:

i. National and International:

Member, Research and Development Program Grants Review Panel, Canadian Blood Services (2000)

Member, Grants Review Panel, National Blood Foundation (2001 - 2006)

Member, NIH/NHLBI Scientific Review Group ZHL1 CSR-B S1 (RFA-01-016, Innovative Research Grant Program) (2002)

Co-Chair, Grants Review Panel, National Blood Foundation (2002)

Chair, Grants Review Panel, National Blood Foundation (2003 - 2006)

Member, NIH/NHLBI Scientific Review Group ZRG1 HEME-E (SBIR/STTR applications) (2003 – 2005; participant in 5 review sessions)

Member, NIH/NHLBI Scientific Review Group ZHL1 CSR-C F1 1 (Research and Dissemination Projects; R18s) (2004)

Member, NIH/NHLBI Scientific Review Group ZCA1 SRRB-E 01 R (Centers for Medical Countermeasures against Radiation) (2005)

Member, NIH/NHLBI, Special Emphasis Panel Review Group ZRG1-HEME-C, Review of Bioengineering Partnership Research Projects (2005)

Member, NIH/NHLBI, Special Emphasis Panel Review Group ZHL1 CSR-R, Review of Patient Oriented Research (K23, K24, K25) Career Enhancement Awards (2008)

Member, NIH/NHLBI, Clinical Hematology Review Group; VH-E 90S meeting (2009)

Member, NIH/NHLBI, Special Emphasis Panel Review Group ZHL1 CSR-G, F2-1, Review of investigator-initiated R01 clinical trials studies (2012)

Member, NIH/NHLBI, REDS-III RBC-omics External Review Panel (2012 – present)

Member, NIH/NHLBI, Special Emphasis Panel Review Group for RFA-HL-14-004/Ancillary Studies in Clinical Trials (R01) (2013)

Member, NIH/NHLBI Review Group ZRG1 VH-F (55) R: PAR13-025 and PAR13-026: Selected Topics in Transfusion Medicine (2014-15)

Member, Canadian Blood Services Intramural Grant Competition Review Panel (2014-2015)

Member, NIH/NHLBI Review Group ZHL1 CSR-1 (F1): Developing Improved Assessments of Tissue Oxygenation (2014)

Member, Icelandic Research Fund Grant Review Committee (2014)

Chair and Member, NIH/NHLBI Review Group ZRG1 VH-F (55)R, Selected Topics in Transfusion Medicine (2015)

Standing Member, NHLBI Program Projects Review Committee (2015 - 2019)

Chair, NHLBI Heart, Lung, and Blood Program Project Review (HLBP) Committee (2017 - 2019)

ii. Institutional:

Member, HIP-ACTS-CHOA Seed Grants Review Committee, Emory Healthcare Innovation Program, Emory University (2012, 2014)

b. Manuscripts:

Transfusion (1999 - present)

American Journal of Pathology (2000)

Journal of Molecular Diagnostics (American Journal of Pathology, Part B) (2000)

Immunohematology (2003, 2005)

Blood (2004 - present)

New England Journal of Medicine (2004, 2007)

Vox Sanguinous (2007 – present)

Anesthesia & Analgesia (2012)

Cochrane Collaborative Group (2012)

PLOS ONE (2013 – present)

Critical Care Medicine (2014)

American Journal of Transplantation (2015)

c. Conference Abstracts:

i. National and International:

Member, Annual Meeting Abstracts Review Panel, American Association of Blood Banks (2000 - 2014)

Member, Annual Meeting Abstracts Review Panel, American Society for Hematology Annual Meeting (2004 - 2005)

Coordinating Reviewer, Basic Science and Clinical Practice in Blood Transfusion, Annual Meeting Abstracts Review Panel, American Society for Hematology Annual Meeting (2005)

d. Other:

Lead Inspector, College of American Pathologists (CAP) inspection of Prospect Manchester Memorial Hospital Clinical Laboratories, Manchester, CT (1/5/2020 – 1/7/2020)

Lead Inspector, College of American Pathologists (CAP) inspection of Honor Health Clinical Laboratories, Scottsdale, AZ (5/15/20 – 5/20/22)

15. Consultantships:

UnitedPharma, Duluth, GA (MacoPharma US; CLIA 11D1052845) (2006 – 2016)

Transfusion & Transplantation Technologies LLC (3Ti), Atlanta, GA (CLIA 11D1054838) (2008 – 2016)

OctaPharma Plasma, Inc., Clarkston, GA (11D0716397) (2009 - 2014)

RF Dynamics, Ltd., Israel (2009 – 2010)

Castle Medical, Inc., Smyrna, GA (CLIA 11D2017949) (2010 – 2018)

Cambium Medical Technologies, LLC, Atlanta, GA (2012 – present)

CSL Plasma, Inc., Decatur, GA (CLIA 11D2064762) (2013 – 2021)

Anderson, Murphy, Hopkins (Little Rock, AR); legal consultation on medical malpractice case (2013-2014)

Smith, Haughey, Rice, and Roegge (Grand Rapids, MI); legal consultation on medical malpractice case (2016-2017)

Huff, Powell, Bailey (Atlanta, GA); legal consultation on medical malpractice case (2016 – 2018)

Calderhead, Lockemeyer, and Peschke (Loveland, OH); legal consultation on medical malpractice case (2019 – 2021)

BioMet, Warsaw Indiana (2014 – 2018)

Secure Transfusion Services (2019 – 2023)

Huff, Powell, Bailey (Atlanta, GA); legal consultation on medical malpractice case (2019 – 2021)

Cerus Corporation (2023 – present)

16. Editorships and Editorial Boards:

Editorial Board: Transfusion (Journal of the American Association of Blood Banks; AABB); 2004 – 2019.

Guest Editor: The National Blood Foundation: 20 Years of Innovative Research in Transfusion Science (special supplement to Transfusion; August 2005 issue)

Editor in Chief: AABB Technical Manual, 16th-17th Editions (primary technical and resource publication for the AABB); 2005 - 2010

Editorial Board: Transfusion Medicine Reviews; 2013 – present

Journal Club Editor: Transfusion Medicine Reviews; 2022 – present

17. Honors and Awards:

National Merit Scholar (1980)

Phi Beta Kappa (1984)

Graduation with General and Departmental Honors (1984)

National Blood Foundation Scholar (2000)

New Enterprise Award 2001 (1st place out of 70 entries)

Golden Apple Teaching Award: Best Teacher in Clinical Pathology; Department of Pathology and Laboratory Medicine, Emory University School of Medicine (2002-2003)

National Blood Foundation Hall of Fame (2005)

8th Annual Southeastern BIO Investor Forum (SEBIO) 2006. First place in the Early-Stage Company "Shoot-Out" competition (3Ti, and principals John Roback and Chris Hillyer selected from approximately 60 entries).

2014 Emory Office of Technology Transfer (OTT) Licensing Deal of the Year: Cambium Medical Technologies (Ian Copland, PhD; Jacques Galipeau, MD; John D. Roback, MD PhD; and Edmund K. Waller, MD PhD), *Human Platelet Lysate for Ocular Therapies.*

2016 Emory Pathology Faculty Mentorship Award

2017 AABB President's Award

2021 Emory Office of Technology Transfer (OTT) Innovation of the Year (Mehul Suthar, PhD; Jens Wrammert, PhD; John D. Roback, MD PhD; Rafi Ahmed, PhD), *Serological Test for SARS-CoV-2.*

2022 Emory Office of Technology Transfer (OTT) Startup Company of the Year (Edmund K Waller, MD PhD, and John D. Roback, MD PhD), *Cambium Medical Technologies.*

2023 Recipient, Emory COVID Warrior Medal

18. Society Memberships:

American Association of Blood Banks (1997 - present)

American Society for Hematology (1998 - present)

19. Organization of Conferences:

a. National and International:

i. Administrative Positions:

Abstracts Reviewer; American Association of Blood Banks Annual Meeting (2000 - 2014)

Chair; Grants Review Panel, National Blood Foundation; charged with selecting speakers for named educational lectures and awards (Landsteiner Award Lecture, Dale Smith Award) and National Blood Foundation Grants Recipient Symposium at American Association of Blood Banks Annual Meeting (2003 - 2006)

Abstracts Reviewer; American Society for Hematology Annual Meeting (2004 - 2006)

ii. Sessions as Chair:

Chair, "WBCs and Platelets"; American Association of Blood Banks Annual Meeting, 2000.

Chair, "Disease Syndromes"; 8th International Cytomegalovirus Workshop, 2001.

Co-Chair, "Cell Biology IV: Lymphocytes"; American Association of Blood Banks Annual Meeting, 2002.

Chair, "National Blood Foundation Scholars Research Symposium"; American Association of Blood Banks Annual Meeting, (2002 - 2006)

Chair, "Expert Consensus Conference: Prevention of Transfusion-Transmitted CMV"; American Society for Hematology, San Diego CA, December 5, 2003.

Co-Chair, "Cell Therapies"; American Association of Blood Banks Annual Meeting, 2004.

Chair, "Transfusion Medicine II"; American Society for Hematology Annual Meeting, 2004.

Chair, "Cell Therapies II"; American Association of Blood Banks Annual Meeting, 2005.

Chair, "Evidence-Based Guidelines for Plasma Transfusion"; American Association of Blood Banks Annual Meeting, 2008

Chair, "Cell Therapies"; American Association of Blood Banks Annual Meeting, 2009.

Chair, "Blood Transfusion Guidelines"; American Association of Blood Banks Annual Meeting, 2010.

Co-Chair, "Cellular Therapy"; American Association of Blood Banks Annual Meeting, 2011.

Co-Chair, "Transplantation and Cell Processing"; American Association of Blood Banks Annual Meeting, 2012.

Director and Moderator, "The RBC Storage Lesion: Vascular Other Physiologic Effects Following Transfusion of Stored Blood"; American Association of Blood Banks Annual Meeting, 2012.

Chair and Moderator, "Cellular Therapies"; American Association of Blood Banks Annual Meeting, 2013.

20. Clinical Services Contributions:

Transfusion Medicine Attending, Emory University Hospital; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (1999 - present)

- During my first 10 years on faculty, I attended on the EUH Blood Bank, Transfusion Medicine, and Hemapheresis services 4 months/year (1999 - 2009)
- From 2009 – 2017, I expanded my clinical role, attending 5-6 months/year on these services, while also concurrently attending on the transfusion medicine service at Emory University Hospital-Midtown.
- Since 2017, with the appointment of additional faculty, my total coverage of this service is about 4 months/year.

Assistant Director, Emory University Hospital Blood Bank; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (1999 - 2001)

Attending, Clinical Immunology Laboratory, Department of Pathology and Laboratory Medicine, Emory University Hospital, Atlanta, GA (2000 – present)

- I attend on the Clinical Immunology service 1-3 days/month.

Associate Director, Emory University Hospital Blood Bank; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2001 - 2009)

Director (*Interim*), Grady Memorial Hospital Blood Bank; Atlanta, GA (2003)

Director, Hematopoietic Stem Cell Processing Laboratory; Department of Pathology and Laboratory Medicine; Emory University School of Medicine; Atlanta, GA (2004 - 2017)

- I led the implementation of new infectious disease testing methods to reduce costs, reduce turn-around-times, and improve regulatory compliance, saving $4800 annually.
- I implemented a method to transition a cumbersome paper process for pre-transplant verification of stem cell product quality and compliance to a computer method that now places a summary report in PowerChart for later review.
- I worked, in collaboration with Drs. Jacques Galipeau and Ned Waller, to expand the Hematopoietic Stem Cell Processing Laboratory to include a state-of-the art cGMP laboratory (EPIC: Emory Personalized Immunotherapy Center) to support novel first-in-human cell therapy trials for patients at Emory and surrounding institutions.
- I participated as part of a committee to design the new hemapheresis and cell therapy facility (including expanded cGMP clean room) in the EUH Tower

Medical Director, Emory University Hospital Blood Bank; Atlanta, GA (2009 – present)

- In my position as Medical Director, I chaired (until early 2018) the Joint Transfusion Subcommittee of the Medical Practices Committees for Emory University Hospital, Emory University Hospital-Midtown, Wesley Woods Geriatric Hospital, and Emory University Orthopedic and Spine Hospital.
- I also serve as a member of the Laboratory Operations Committee, and the Bone Marrow Transplantation Strategic Planning Group.
- In 2012, I led efforts to expand blood bank consultative activities, including placing consult reports in PowerChart that help to improve patient care. We also instituted billing for these services, providing professional revenues of $18,500 annually.
- In 2014, I worked in collaboration with Laboratory and Hospital Administration to renegotiate the American Red Cross Blood Services Contract, reducing purchasing costs for blood products by $1,192,000 annually.
- In 2014, as the Physician Champion for the Laboratory Value Acceleration Team, I proposed and gained approval for a project to manage the platelet inventory for Emory Healthcare as a single entity, rather than continuing to have individual hospital manage their inventories separately. After 4 months, platelet wastage has decreased significantly (eg, by ~80% at EUHM), and the initiative is on-track to realize costs savings of $750,000 annually.
- In 2014, I led efforts to implement a hemapheresis consult service. Attendings, residents and fellows on our service now round on all hemapheresis inpatients and outpatients, more actively consult on treatment decisions with ordering physicians, and write regular consult notes in PowerChart. We also bill for this service, providing professional revenues by ~ $300,000 annually.

21. Formal Teaching:

a. Medical Student Teaching:

Medical School Pathology course (Pathology 616):

Spleen and Lymph Nodes: 2000 – 2007; 2 contact hours/year.

Laboratory Evaluation of the Anemic Patient: 2000 – 2003; 2 contact hours/year

Introduction to Lymphomas: 2001, 2003 – 2007; 2 contact hours/year

Medical Student Clinical Laboratory Experience (MSCLE): 2013 – present; 8 contact hours/year

b. Graduate Programs:

i. Residency Programs:

Clinical Pathology Core Curriculum Didactic Lectures:

Introduction to Blood Banking and Transfusion Medicine: 1998 – present; 1 contact hour every 2 years

Component Therapy I (Platelets): 1998 – present; 1 contact hour every 2 years

Transfusion Reactions: 2000 – present; 1 contact hour every 2 years

Transfusion Medicine Rotation Lectures for Junior Residents:

Transfusion Medicine: The Basics: 2000 – present; 30 contact hours/quarter = 120 contact hours/year delivered as part of Transfusion Medicine rotation for Pathology residents

Transfusion Medicine Review Lecture for Senior Residents:

Transfusion Medicine: A Comprehensive Review: 2003 – 2009, 2011, 2013; 4 contact hours/year (delivered at request of senior residents preparing for board exams)

Transfusion Medicine Journal Club: 2 hours/year

Clinical Pathology Faculty Unknown Lecture: 0.5 hours/year

ii. Fellowship Programs:

Advanced Transfusion Medicine for Clinical Fellows:

Comprehensive Transfusion Medicine: Beyond the Basics: 2001 – 2009; 10 contact hours/year (this course, designed to prepare clinical fellows for the Clinical Pathology Board Examinations and Transfusion Medicine Subspecialty Examinations, has been combined into residency training curriculum)

ii. Master's and PhD Programs:

Concepts in Immunology (IBS 542)

Congenital Immunodeficiencies: 1998-2001; 2 contact hours/year

c. Other Categories:

Medical Technologist Training Program:

Introduction to Blood Banking and Transfusion Medicine: 2008 – present; 3 contact hours/year

Fundamentals of Immunology and Complement: 2008 – 2015; 1.5 contact hours/year

Basic Molecular Biology for Blood Banking: 2008 – 2015; 1.5 contact hours/year

Donor Selection, Screening, and Blood Collection: 2008 – 2015; 3 contact hours/year

Blood Component Preparation I: 2008 – 2015; 3 contact hours/year

Blood Component Preparation II: 2008 – 2015; 3 contact hours/year

Designing and Conducting Medical Research: 2009 – 2010; 1 contact hour/year

Blood Bank Didactic Review: 2008 – present; 1 contact hour/year

Blood Bank Clinical Review: 2008 – present; 1 contact hour/year

Update for Practicing Community Pathologists (CME course organized by Department of Pathology, Emory University School of Medicine):

Case Studies in Transfusion Medicine: 2003 – 2006; 0.5 contact hours/year

Emory PACE continuing education program for laboratory staff:

Clinical Practice Guidelines for Blood Transfusion. 2013; 1 contact hour/year

22. Supervisory Teaching:

a. Post-Doctoral Fellows Mentored and Co-Mentored:

Karen S. Roush, MD; clinical fellow; AABB Fenwal Scholarship Award Recipient: 2000-2001 (mentored with Dr. Christopher Hillyer); currently in private practice in Texas

Levan Lezhava, MD; research fellow: 2001-2006; in private practice in Georgia

Mohammad S. Hossain, PhD; research fellow: 2001 – 2007 (mentored with Dr. Ned Waller); currently an Instructor at Emory University

Violet Alexandria (Lexy) Kelley, MD; clinical fellow: 2001-2002 (mentored with Dr. Christopher Hillyer); current position unknown

Gretchen S. Johns, MD; clinical fellow: 2001-2002 (mentored with Dr. Christopher Hillyer); currently Assistant Professor of Pathology and Laboratory Medicine, The Mayo Clinic (Florida)

Stephen L. Sgan, MD; clinical fellow: 2001-2002 (mentored with Dr. Christopher Hillyer); currently in private practice in Florida

Cassandra D. Josephson, MD; clinical fellow: 2002-2003 (mentored with Dr. Christopher Hillyer); currently a Professor of Pathology and Laboratory Medicine, and Pediatrics, in the Emory University School of Medicine

Leon Su, MD; clinical fellow: 2004-2006 (mentored with Dr. Christopher Hillyer); currently in private practice in Arizona

Liz Culler, MD; clinical fellow: 2004-2006 (mentored with Dr. Christopher Hillyer); currently in private practice in Tennessee

Shealynn Harris, MD; clinical fellow: 2004-2005 (mentored with Dr. Christopher Hillyer); currently in private practice in Georgia

Chelsea Sheppard, MD; clinical fellow: 2006-2007 (mentored with Dr. Christopher Hillyer); currently in private practice in Virginia

Jeanne Hendrickson, MD; clinical and research fellow: 2005-2008 (mentored with Dr. James Zimring); currently an Associate Professor of Pathology and Laboratory Medicine in the Yale University School of Medicine

Lawrence Benjamin Fialkow, DO; clinical fellow: 2008-2009 (mentored with Dr. Christopher Hillyer); currently in private practice in New York

Ayaz Rahman, MD; research fellow: 2008-2010 (mentored with Dr. Arshed Quyyumi); currently in private practice in Georgia

Anne Winkler, MD; clinical fellow: 2010-2011 (mentored with Dr. Cassandra Josephson); currently Medical and Scientific Affairs Director for Instrumentation Laboratory, Inc.

- Mentor (no compensation): NIH Loan Repayment Grant (PI: A. Winkler). 2014-2016.

Robert Neuman, MD; research fellow: 2011-2013 (mentored with Dr. Arshed Quyyumi): in private practice in Georgia

Sean Stowell, MD PhD; clinical/research fellow: 2012-2013 (designated Mentor on NIH Loan-Repayment grant, NBF grant, and Burroughs-Welcome grant): Associate Professor of Pathology and Laboratory Medicine (tenured, effective September 2019), Emory University School of Medicine

- Mentor (no compensation): NIH Loan Repayment Grant (PI: S. Stowell). 2014-2017.
- Co-Investigator/Mentor (no compensation): American Society for Hematology: Transfusion induced tolerance: an investigation of immunological mechanisms (PI: S. Stowell). $50,000 direct costs, 2014 – 2016.
- Co-Investigator/Mentor (no compensation): Burroughs Wellcome Fund: Elucidating mechanisms of innate immunity against molecular mimicry (PI: S. Stowell). $700,000 direct costs, 2014 – 2019.

Gizem Tumer, MD; clinical and research fellow: 2012-2014 (mentored with Dr. Cassandra Josephson); Assistant Professor of Pathology, University of Minnesota School of Medicine

Salim Hayek, MD; research fellow: 2013-2015 (mentored with Dr. Arshed Quyyumi); currently completing training

Robert Sheppard Nickel, MD; clinical fellow: 2014-2015 (mentored with Dr. Cassandra Josephson); Assistant Professor of Pathology and Pediatrics at the Children's National Medical Center

b. Residency Program:

Resident supervision and teaching on EUH Clinical Blood Bank rotation (4 months per year; 1999-present).

Supervised pathologists from Kenya in learning the basics of Transfusion Medicine as the Associate Program Director, CDC-Kenya Visiting Scholars Program in Transfusion Medicine: Margaret Oduor, MD (2002); Samson Obure, MD (2002); Efesper Asseri Nkya, MD (2004); Wilson Kiptoo Sugut, MD (2004); Njau Mungai Mbugua, MD (2004); Mbuuko Ng'ali, MD (2009); Dorothy Gicuku Njeru, MD (2009); Charles Muturi, MD (2009); Peter Kimenyi, MD (2009).

Research supervisor for Harold Clifford Sullivan, MD (2013-2014): Awarded an ASH Mentored Research Award.

c. Ph.D. Thesis Committees:

Kimberly M. Anderson, PhD; Immunology and Molecular Pathogenesis Program (2005-2007), Emory University School of Medicine

Maxime Desmarets, PhD; Immunology and Molecular Pathogenesis Program (2007-2011), Emory University School of Medicine

Kasia Darlak, PhD; Immunology and Molecular Pathogenesis Program (2008-2013), Emory University School of Medicine

Mojibade Hassan; Immunology and Molecular Pathogenesis Program (2015-2018), Emory University School of Medicine

d. Medical and Undergraduate Students:

Michele Manahan (1998-1999)

Einsley-Marie Janowski (1999-2000)

Candace L. Perry (1999-2000)

Adeline Ashmore (2000-2002)

Shazad Wada (2000-2001)

Erick Long (2001-2002)

Steven Tepper (2001-2002)

Jenny Larson (2002)

Hannah Rappaport (2002)

Catherine Jordan (2002-2004)

Elisabeth Hesse (2004)

Kevin Seitz, BA; Emory Master's of Science in Clinical Research (MSCR) trainee: 2014-2016 (designated Mentor)

- Designated Mentor (no compensation): NIH-funded Emory Master of Science in Clinical Research (MSCR), TL1TR000456; Trainee: K. Seitz. $75,000 direct costs, 2014 – 2016.

23. Lectureships, Seminar Invitations, Visiting Professorships:

a. National and International:

Cerus Corporation (Concord, CA): Adoptive Antiviral Immunotherapy Using Amotosalen-Treated T-Cells (2003).

Blood Centers of the Pacific (San Francisco, CA): Detection of CMV DNA in peripheral blood and cord blood components (2003).

University of California at San Francisco, Department of Pathology: Adoptive antiviral immunotherapy using MHC-mismatched T-cells in mice (2003).

NIH/NHLBI Adverse Effects of Blood Storage Working Group (Bethesda, MD): In vitro effects of stored RBCs on vascular function (2010).

American Red Cross Medical Advisory Committee (Washington, DC): Complications of blood supply logistics due to reduced RBC storage time (2011).

NIH/NHLBI Adverse Effects of Blood Storage Working Group (Bethesda, MD): Transfusion of stored RBCs adversely affects vascular physiology after transfusion in hospitalized patients and healthy volunteers (2012).

Advisory Committee on Blood and Tissue Safety and Availability (ACBTSA); HHS/OASH/NIH (Rockville, MD): Metabolic Changes in RBC During Storage (2012).

Visiting Professor, St. Jude's Children's Research Hospital, Department of Pathology (Memphis, TN): Evidence-based clinical practice guidelines for blood transfusion (2013).

American Red Cross Medical Advisory Committee (Washington, DC); Invited Speaker: Transfusion Support for Patients Infected with Ebola Virus (2014).

NIH/NHLBI Workshop: Towards Minimally-invasive or Non-invasive Approaches to Assess Tissue Oxygenation Pre- and Post-Transfusion (Bethesda, MD). Invited Speaker: Metabolomics for Studying RBCs and Tissue Perfusion (2019).

b. Regional:

Atlanta Regional Update for Practicing Pathologists (sponsored by Emory University School of Medicine, Department of Pathology and Laboratory Medicine): Case studies in Transfusion Medicine. (2003).

Atlanta Regional Update for Practicing Pathologists (sponsored by Emory University School of Medicine, Department of Pathology and Laboratory Medicine): Problems in Transfusion Medicine. (2004).

c. Institutional:

Emory University School of Medicine, Department of Pathology and Laboratory Medicine: Murine Models of CMV Disease and Treatment (2000).

Emory University School of Medicine, Winship Cancer Institute: Adoptive Antiviral Immunotherapy in a Murine Allogeneic BMT Model (2002).

Emory University School of Medicine, Division of Infectious Diseases: Adoptive Immunotherapy for Lethal CMV Infection (2003)

Emory University Orthopaedic and Spine Hospital: Transfusion Decision Making for Orthopaedic Surgery (2009).

Emory University Division of Cardiology; Clinical Cardiology Research Conference: Stored blood and adverse effects of transfusion: a possible role for nitric oxide (2010).

Emory University School of Medicine, Department of Anesthesiology, Faculty Conference: Implementation and Troubleshooting of a Massive Transfusion Protocol (2013)

Emory University School of Medicine, Winship Cancer Institute, Bone Marrow Transplantation Quality Improvement Meeting: Uses and Implications of Infectious Disease Testing in Bone Marrow Donors (2014)

Emory University Orthopaedic and Spine Hospital, Morbidity and Mortality Conference: Transfusion-Related Acute Lung Injury (TRALI) and Other Adverse Effects of Blood Transfusion (2014)

Emory University School of Medicine, Winship Cancer Institute, Grand Rounds: Biological and Clinical Effects of Pre-Transfusion RBC Storage (8 October, 2014)

Emory University School of Medicine, Cardiovascular Biology Seminar Series: Vascular function after transfusion: Pathobiologic effects of RBC storage (2 November, 2015)

Emory University School of Medicine, Department of Anesthesiology, Grand Rounds: Platelet Transfusions: Important Changes on the Horizon (19 January, 2017)

24. Invitations to National/International, Regional, and Institutional Conferences:

a. National and International:

American Association of Blood Banks Annual Meeting; Invited National Blood Foundation Scholar Lectureship: Cytomegalovirus in Transfusion Medicine: Animal Models for Clinical Problems (2000).

CMV2001, 8th International Cytomegalovirus Workshop; Invited Speaker: CMV in Blood Donors (2001)

American Association of Blood Banks Annual Meeting; Invited Symposium Presentation: Cell Biology IV: Therapeutic Use of Lymphocytes in Transfusion Medicine (2002).

American Society for Hematology Annual Meeting (San Diego, CA); Chairman and invited Speaker: Expert Consensus Conference: Prevention of Transfusion-Transmitted CMV: Inactivation of CMV in Platelet Components by Helinx Technology (2003).

Clinical Cytometry Society Annual Meeting (Long Beach, CA); Invited Speaker: Pretransfusion Immunohematology Testing by Capillary Cytometry. (2004).

European Bone Marrow Transplant Society Annual Meeting (Prague, Czech Republic); Invited Speaker: Strategies to Reduce the Risk of Transfusion Associated CMV and GvHD (2005).

International Society of Blood Transfusion, 15th Regional Congress Europe (Athens, Greece); Invited Speaker: Immunofluorescence Cytometry for Immunohematology Testing (2005).

European Plasma Fractionation Association & Paul Ehrlich Institute 12th NAT workshop (Bethesda, MD); Invited Speaker: NAT Screening for Cell-Associated Viruses (2005).

CMV2005, 10th International Cytomegalovirus Workshop; Invited Speaker: Transfusion-Transmitted CMV Infections: Current Approaches to Prevention (2005)

American Photobiology Society (Puerto Rico), 33rd meeting; Invited Speaker: Vaccination with Killed but Metabolically Active *Listeria monocytogenes* (2006).

American Society for Hematology Annual Meeting (Orlando, FL); Invited Speaker: Vaccine-Enhanced Donor Lymphocyte Infusion (veDLI) (2006).

National Institutes of Health, 10th Annual NIH SBIR/STTR Conference (Atlanta, GA); Invited Speaker: Application/Submission Tales from the Trenches (2008).

American Association of Blood Banks Annual Meeting (Montreal, Canada); Invited Speaker: Pathogen Inactivation Technologies (2008).

American Association of Blood Banks (AABB) Annual Meeting (Baltimore, MD); Session Chair and Invited Speaker: Evidence-Based Guidelines for Transfusion and Apheresis (2010).

American Society for Hematology Annual Meeting (San Diego, CA); Invited Speaker: Vascular Effects of the Red Cell Storage Lesion (2011).

Infusion Nurses Society Annual Meeting (Louisville, KY); Invited Speaker: Evidence-Based Guidelines for Plasma and Red Cell Transfusion (2011).

Blood Management University International Webinar; Invited Speaker: Clinical Investigations of the RBC Storage Lesion and Associated Adverse Effects in Transfusion Recipients (2012).

American Association of Blood Banks Annual Meeting (Boston, MA); Invited Speaker: What Constitutes a CMV-Safe Blood Unit? (2012).

American Association of Blood Banks Annual Meeting (Boston, MA); Session Chair and Invited Speaker: The RBC Storage Lesion: Vascular and Other Physiologic Effects Following Transfusion of Stored Blood (2012).

Scripps Cancer Center's 32nd Annual Conference: Clinical Hematology and Oncology 2012 (San Diego, CA); Invited Speaker: Adverse Consequences of Stored Blood (2012).

Annual Meeting of the NIH Common Fund Metabolomics Program (Ann Arbor, MI): Metabolomics of Stored Red Blood Cells Prior to Transfusion: Reproducible, Donor-Specific Alterations in Numerous Metabolites (2013).

American Association of Blood Banks Annual Meeting, Industry Workshop (Philadelphia, PA); Workshop Director and Invited Speaker: When RBC Quality Matters: Reducing the Impact of Storage Lesion Effects (2014).

American Association of Blood Banks Annual Meeting (Philadelphia, PA); Invited Speaker: Stump the Hemovigilance Experts (2014).

American Association of Blood Banks Annual Meeting (Philadelphia, PA); Invited Speaker, National Blood Foundation Symposium: Biological and Clinical Effects of Pre-Transfusion RBC Storage (2014).

American Association of Blood Banks Annual Meeting (Anaheim, CA); Invited Speaker: Revenge of the Hemovigilance Experts (2015).

American Association of Blood Banks Annual Meeting (Anaheim, CA); Invited Speaker: RAP Session: Changes in RBCs During Pre-Transfusion Storage (2015).

American Association of Blood Banks Annual Meeting (Anaheim, CA); Invited Speaker: Multicenter Evaluation of the Grifols Erytra (2015).

b. Regional:

Eighth Annual Southeastern BIO Investor Forum (Atlanta, GA). Completely Automated Pretransfusion Testing using the 3Ti AEGIS (2006). *First-prize among approximately 60 entries.*

Hemostasis, Bleeding and Therapeutic Approaches III (Atlanta, GA); Invited Speaker: Development of Evidence-Based Plasma Transfusion Guidelines (2009)

Hemostasis, Bleeding and Therapeutic Approaches; New Therapies and New Paradigms IV (Atlanta, GA); Invited Speaker: Red Blood Cell Storage and Implications (2010)

Southeast Region Association of Blood Banks (Atlanta, GA): Development of Evidence-Based Guidelines for Plasma Transfusion (2010).

Southeast Region Association of Blood Banks (Atlanta, GA): The RBC Storage Lesion: Is It Clinically Significant? (2011).

25. Abstract Presentations at National/International, Regional, and Institutional Conferences (*presenter):

a. National and International:

***Roback, J.D.**, Wainer, B.H., and Large, T.H. (oral presentation) The expression of nerve growth factor protein in the developing hippocampus in reaggregate culture. Society for Neuroscience Annual Meeting. 1988.

***Roback, J.D.**, Large, T.H., Otten, U., and Wainer, B.H. (oral presentation) Studies on the expression of NGF mRNA and protein in the developing hippocampus *in vitro*. Society for Neuroscience Annual Meeting. 1989.

***Roback, J.D.**, Downen, M., Lee, H.J., Zucker, J., Large, T.H., Otten, U., and Wainer, B.H. (oral presentation)NGF and NGF receptor expression in primary reaggregate cultures derived from the embryonic mouse septum. Society for Neuroscience Annual Meeting. 1990.

*Zucker, J.D., Jones, M.V., Harrison, N.L., Lee, H.J., **Roback, J.D.**, and Wainer, B.H. (oral presentation) Characterization of bi-laminar cultures from E16 rat septum. Society for Neuroscience Annual Meeting. 1990.

*Burke, M.A., **Roback, J.D.**, Wainer, B.H., and Kordower, J.H. (oral presentation) NGF levels, cholinergic septal neurons, and septal cytoskeletal markers are preserved following excitotoxic lesions of the hippocampus. Society for Neuroscience Annual Meeting. 1991.

*Mudd, L., Downen, M., **Roback, J.D.**, Zucker, J., Wert, M., Wainer, B., and Palfrey, H.C. (oral presentation) Nerve growth factor signal transduction in rat septal neurons grown in bilaminar culture. Society for Neuroscience Annual Meeting. 1991.

***Roback, J.D.**, Marsh, H.N., Downen, M., Palfrey, H.C., and Wainer, B.H. (oral presentation) BDNF receptors (TrkB) and signal transduction in primary cultures of rat cortical astrocytes. Society for Neuroscience Annual Meeting. 1993.

***Roback, J.D.**, Guy, C., Fried, M., and Duncan, A. (oral presentation) Novel serum markers for veno-occlusive disease of the liver after bone marrow transplantation. International Society for Thrombosis and Hemostasis Annual Meeting. 1997.

*Duncan, A., **Roback, J.D.**, Barclay, S., and Hillyer, C.D. (poster presentation) High prevalence of platelet specific alloantibodies in liver disease patients with antiphospholipid antibodies. International Society for Thrombosis and Hemostasis Annual Meeting. 1997.

***Roback, J.D.**, Trainor, L., Levy, J., Kreger, S., Gordon, R., Duncan, A., and Hillyer, C.D. (oral presentation) Significant disseminated intravascular coagulopathy (DIC) with secondary fibrinolysis identified during orthotopic liver transplantation (OLT). American Association of Blood Banks Annual Meeting. 1997.

***Roback, J.D.**, Buccolo, L., and Hillyer, C.D. (poster presentation) Effects of filtration and gamma-irradiation on cytomegalovirus (CMV) infectivity and replication: Development of a rhesus macaque transfusion model. American Society for Hematology Annual Meeting. 1997.

***Roback, J.D.**, Bray, R.A., and Hillyer, C.D. (oral presentation) Quantitation of CMV-associated leukocyte (WBC) subsets in red blood cell (RBC) units with leukoreduction (LR) and storage. American Association of Blood Banks Annual Meeting. 1998.

*Bucur, S.Z., Gillespie, T.W., **Roback, J.D.,** Lee, M.E., Adams, J.W., Bray, R.A., Villinger, F., Winton, E.F., Novembre, F., Ansari, A.A., Hillyer, C.D. (oral presentation) Hematopoietic response to rhGET administration during early versus late stage SIV infected rhesus macaques. 16th Annual Symposium on Nonhuman Primate Models of AIDS. 1998.

*__Roback, J.D.__, Bray, R.A., and Hillyer, C.D. (poster presentation) Changes in markers of CMV-infectivity with filter leukoreduction (LR) of red cells. American Society for Hematology Annual Meeting. 1998.

*__Roback, J.D.__, He, J., Janowski, E.-M., Perry, C.L., and Hillyer, C.D. (oral presentation; Plenary Session) Transfusion-transmitted cytomegalovirus infection (TT-CMV): Influence of leukoreduction (LR) and allogeneic interactions in a murine model. American Association of Blood Banks Annual Meeting. 1999.

*Grindon, A.J., Harris, S.L., **Roback, J.D.**, Allen, M.B., and Hillyer, C.D. (poster presentation) Low patient risk from market withdrawn (MW) blood components. American Association of Blood Banks Annual Meeting. 1999.

***Roback, J.D.**, Hillyer, C.D., Drew, W.L., Luka, J., Mocarski, E.S., Soderberg-Naucler, C., Woxenius, S., Busch, M.P. (oral presentation) Comparison of 7 PCR assays for detection of cytomegalovirus (CMV) DNA in PBMCs of blood donors: Results of a blinded multicenter study. American Society for Hematology Annual Meeting. 1999.

***Roback, J.D.,** Hillyer, C.D., Mittelstaedt, S., Waller, E.K. (oral presentation) Increased CMV-related mortality in allogeneic versus syngeneic bone marrow transplantation: Development of a murine model. American Association of Blood Banks Annual Meeting. 2000.

***Roback, J.D.,** Drew, W.L., Laycock, M., Todd, D., Hillyer, C.D., Busch, M.P. (oral presentation) Cytomegalovirus (CMV) DNA is detected infrequently in healthy US blood donors: results of a multicenter trial. American Association of Blood Banks Annual Meeting. 2000.

***Roback, J.D.,** Mittelstaedt, S., Hillyer, C.D., Waller, E.K. (oral presentation) Adoptive Immunotherapy with fludarabine-treated cytomegalovirus primed donor splenocytes following MHC mis-matched allogeneic bone marrow transplantation. American Society for Hematology Annual Meeting. 2000.

***Roback, J.D.,** Gorechlad, J.W., Alexander, S.A., Hillyer, C.D., Waller, E.K. (poster presentation) CMV organ loads in a mouse model of lethal CMV infection following bone marrow transplantation: Allo- versus auto-transplant and adoptive immunotherapy with allogeneic T-cells. American Association of Blood Banks Annual Meeting. 2001.

*Roush, K.S., Hillyer, K.L., Barclay, S., Kelley, V.A., Duncan, A., **Roback, J.D.,** Hillyer, C.D. (oral presentation) vWF-cleaving metalloprotease (MP) activity: comparison of fresh frozen plasma (FFP), cryosupernatant (CS), and solvent detergent treated plasma (SDP). American Association of Blood Banks Annual Meeting. 2001.

***Roback, J.D.,** Gorechlad, J.W., Alexander, S.A., Jaye, D., Mittelstaedt, S., Hillyer, C.D., Waller, E.K. (poster presentation) Adoptive immunotherapy using polyclonal allogeneic T-cells with limited GvHD activity protect against lethal post-BMT CMV infections. American Society for Hematology Annual Meeting. 2001.

*Hillyer, K.L., Kelley, V.A., Roush, K.S., Long, E.L., Barclay, S.B., Duncan, A., **Roback, J.D.,** Hillyer, C.D. (poster presentation) von Willebrand Factor-cleaving protease (vWF-CP) activity in S-59-treated donor plasma. American Society for Hematology Annual Meeting. 2001.

***Roback, J.D.,** Lezhava, L., Hossain, M.S., Waller, E.K., Hillyer, C.D. (oral presentation; Plenary Session) Optimized psoralen-mediated DNA crosslinking of CD8+ T-lymphocytes preserves IFN-γ production while blocking cell proliferation: Implications for adoptive immunotherapy. American Association of Blood Banks Annual Meeting. 2002.

***Roback, J.D.,** Kelley, L., Saakadze, N., Gillespie, T., Hillyer, C.D. (oral presentation; Plenary Session) Kinetics of peripheral blood murine cytomegalovirus (MCMV) viremia following

infection: Implications for a mouse model of transfusion-transmitted CMV (TT-CMV). American Association of Blood Banks Annual Meeting. 2002.

*Sgan, S.L., Gillespie, T.W., Caliendo, A.M., **Roback, J.D.,** Lane, T.A., Hillyer, C.D. (oral presentation) Predictive value of nucleic acid testing for cytomegalovirus in maternal donors of umbilical cord blood stem cell components by serostatus. American Association of Blood Banks Annual Meeting. 2002.

*Sgan, S.L., Gillespie, T.W., **Roback, J.D.,** Caliendo, A.M., Kurtzberg, J., Hillyer, C.D. (oral presentation) Nucleic acid testing for cytomegalovirus in umbilical cord blood plasma and stem cell components. American Association of Blood Banks Annual Meeting. 2002.

***Roback, J.D.**, Gillespie, T.W., Kelley, V., Saakadze, N., Hillyer, C.D. (oral presentation) Transfusion-transmitted CMV infection in a mouse model: High load of latent virus required for transmission. American Society for Hematology Annual Meeting. 2002.

*Hillyer, K.L., Rapaport, H.J., **Roback, J.D.**, Ritchie, J.C., Hillyer, C.D. (poster presentation) Pre-filtration oxygenation abrogates the leukoreduction filtration lesion in hemoglobin AS whole blood units. American Society for Hematology Annual Meeting. 2002.

*Hossain, M.S., Schnell, F.J., **Roback, J.D.**, Waller, E.K. (oral presentation) Polarization towards Th1 anti-mCMV immune responses following depletion of CD11b+ cells from mouse bone marrow. American Society for Hematology Annual Meeting. 2002.

*Kurtzberg, J., Issitt, L., Waters-Pick, B., DeOliveira, D., Newman, J., Caliendo, A.M., **Roback, J.D.,** Hillyer, C.D. (oral presentation) Nucleic acid testing (NAT) by PCR for cytomegalovirus (CMV) in umbilical cord blood (UCB) offers a superior detection method for CMV viremia when compared to screening of maternal serum for antibodies to CMV. 9th International Society for Cellular Therapy Annual Meeting. 2003.

*Dumont, L.J., Jones, J.F., Weinberg, A., **Roback, J.D.**, Hillyer, C.D., Ambrusco, D.R. (oral presentation) Seasonal allergen exposure and switch to T helper cell type 2 profile may be associated with cytomegalovirus reactivation. American Association of Blood Banks Annual Meeting. 2003.

***Roback, J.D.**, Barclay, S., Christey, P., Hillyer, C.D. (oral presentation) Accurate blood typing in an automatable capillary cytometry format. American Association of Blood Banks Annual Meeting. 2003.

*Hillyer, C.D., **Roback, J.D.**, Hillyer, K.L., Page, P.L. (oral presentation) Analysis of white particulate matter in red blood cell units. American Association of Blood Banks Annual Meeting. 2003.

***Roback, J.D.**, Hossain, M.S., Lezhava, L., Talib, S., Hearst, J.E., Waller, E.K., Hillyer, C.D. (oral presentation) Long-term functional persistence of amotosalen-treated T-cells after adoptive transfer. American Association of Blood Banks Annual Meeting. 2003.

*Zimring, J., **Roback, J.D.** (oral presentation) In vitro generation of CD8+ veto cells: Implications for tolerance in allogeneic hematopoietic stem cell transplants. American Association of Blood Banks Annual Meeting. 2003.

*Hillyer, C.D., **Roback, J.D.,** Saakadze, N., Lezhava, L., Hillyer, W.M., Maiers, T., Newman, J.L. (oral presentation) Transfusion-transmitted cytomegalovirus (CMV) infection: Elucidation of role of dose of monocytes in a murine model. American Society for Hematology Annual Meeting. 2003.

*Hossain, M.S., **Roback, J.D.,** Lezhava, L., Hearst, J.E., Talib, S., Waller, E.K. (poster presentation) Adoptive transfer of amotosalen treated donor T-cells leads to the polyclonal expansion of anti-

CMV memory T-cells without GvHD after allogeneic bone marrow transplantation. American Society for Hematology Annual Meeting. 2003.

*Jordan, C.T., Zimring, J.C., Chadwick, T., Hearst, J.E., Talib, S., Hillyer, C.D., **Roback, J.D.** (poster presentation) Amotosalen treatment of donor T-cells prior to BMT prevents GvHD without inhibiting anti-viral immunity via differential effects on naïve and effector T-cells. American Society for Hematology Annual Meeting. 2003.

*Jordan, C.T., Saakadze, N., Newman, J.L., Lezhava, L., Maiers, T., Hillyer, W.M., **Roback, J.D.,** Hillyer, C.D. (poster presentation) Photochemical treatment of platelet concentrates with amotosalen hydrochloride and ultraviolet A light inactivates free and latent cytomegalovirus (CMV) in a murine transfusion model. American Society for Hematology Annual Meeting. 2003.

*Hossain, M.S., Lezhava, L., Waller, E.K., **Roback, J.D.** (oral presentation) Prophylactic amotosalen-treated splenocytes effectively prevent lethality from delayed murine CMV challenge in allogeneic BMT recipients. American Association of Blood Banks Annual Meeting. 2004).

***Roback, J.D.**, Barclay, S., Hillyer, C.D. (oral presentation) Automated high-throughput quantitation of residual WBCs in filtered components by capillary cytometry. American Association of Blood Banks Annual Meeting. 2004.

*Zimring, J.C., Chadwick, T.E., Hillyer, C.D., **Roback, J.D.** (oral presentation) Inflammatory mediators do not inhibit tolerance induction by veto based cellular immunotherapy. American Association of Blood Banks Annual Meeting. 2004.

*Hossain, M.S., **Roback, J.D.,** Waller, E.K. (poster presentation) MCMV infection lowers the threshold for the development of clinical GvHD after allogeneic bone marrow transplantation. American Society for Hematology Annual Meeting. 2004.

***Roback, J.D.,** Lezhava, L., Hesse, E., Hillyer, C.D., Luckett, W., Dubensky, T.W., Giedlin, M. (oral presentation) Immunization with live-attenuated *Listeria* encoding CMV antigen induces extensive expansion of CMV-specific CD8+ T-cells following HSCT: An alternative to adoptive antiviral immunotherapy. American Society for Hematology Annual Meeting. 2004.

*Jordan, C.T., Zimring, J.C., **Roback, J.D.** (poster presentation) Effects of amotosalen hydrochloride and ultraviolet A light on CD4 and CD8 cells. American Society for Hematology Annual Meeting. 2004.

*Zimring J.C., Hair G., Anderson K.M., Hillyer C.D., **Roback J.D**. (oral presentation) Use of antigen-crosslinked red blood cells as a vaccine to promote crosspriming of foreign antigen into the MHC class I pathway. International Society for Cellular Therapy Annual Meeting. 2005.

*Zimring J.C., Hair G.A., Anderson K.M., Hillyer C.D., **Roback J.D.** (oral presentation) Use of red blood cells as a vaccine vector to induce humoral and cellular immunity. American Association of Blood Banks Annual Meeting. 2005.

***Roback J.D.**, Dubensky T.W., Hillyer C.D., Giedlin M.A. (oral presentation) Vaccination-Enhanced DLI (veDLI): An alternative to adoptive immunotherapy. American Association of Blood Banks Annual Meeting. 2005.

*Su L.L., **Roback J.D.**, Maiers T.T., Saakadze N., Newman J.L., Hillyer C.D. (oral presentation) Kinetics of recipient transfusion-transmitted cytomegalovirus infection in a murine model. American Association of Blood Banks Annual Meeting. 2005.

*Hendrickson J.E., Chadwick T.E., **Roback J.D.**, Hillyer C.D., Zimring J.C. (oral presentation) Host inflammation increases alloimmunization to transfused red blood cells. American Society for Hematology Annual Meeting. 2005.

*Zimring J.C., Hair G.A., Chadwick T.E., Desphande S.S., Anderson K.M., Hillyer C.D., **Roback J.D**. (oral presentation) Non-hemolytic antibody induced loss of RBC antigen during transfusion of crossmatch incompatible blood. American Society for Hematology Annual Meeting. 2005.

Culler E., Barclay S.B., Bray R.A., Gebel H.M., Hillyer C.D., ***Roback J.D**. (poster presentation) A fully-automated screening method for anti-HLA antibodies: Implications for screening plasma donations to prevent transfusion-related acute lung injury (TRALI). American Society for Hematology Annual Meeting. 2005.

***Roback J.D.**, Lezhava L.J., Luckett W., Dubensky T.W., Hillyer C.D., Giedlin M. (oral presentation) Live-attenuated and novel non-replicating Listeria vaccines encoding CMV antigen produce persistent functional antiviral immunity. American Society for Hematology Annual Meeting. 2005.

*Hendrickson, J.E., Chadwick, T.E., **Roback, J.D.**, Hillyer, C.D., and Zimring, J.C. (oral presentation) Mechanisms by which recipient inflammation enhances alloimmunization to red blood cell antigens. American Association of Blood Banks Annual Meeting. 2006.

*Zimring, J.C., **Roback, J.D.**, Schirmer, D.A., Spitalnik, S.L. and Hillyer, C.D. (oral presentation) Non-hemolytic antigen-loss during transfusion of crossmatch incompatible blood requires simultaneous binding of multiple antibodies. American Association of Blood Banks Annual Meeting. 2006.

***Roback, J.D.**, Barclay, S., Olsson, M.L., Hillyer, C.D., and Stassinopoulos, A. (poster presentation) Automated detection of low-level A-antigen on red blood cells. American Association of Blood Banks Annual Meeting. 2006.

*Hossain, M.S., **Roback, J.D.,** and Waller, E.K. (poster presentation) Host and donor immune responses contribute to anti-viral effects of amotosalen-treated donor lymphocytes following early post-transplant CMV infection. American Society for Hematology Annual Meeting. 2006.

*Zimring, J.C., Spitalnik, S.L, Schirmer, D.A., Parkos, C., **Roback, J.D.,** and Hillyer, C.D. (poster presentation) Non-hemolytic antigen-loss during transfusion of crossmatch incompatible blood requires cooperative binding of multiple antibodies recognizing different epitopes. American Society for Hematology Annual Meeting. 2006.

*Hendrickson, J.E., **Roback, J.D.,** Hillyer, C.D., and Zimring, J.C. (oral presentation) Recipient inflammation that increases alloimmunization also enhances consumption of transfused RBCs by dendritic cells. American Society for Hematology Annual Meeting. 2006.

***Roback J.D**., Isola, H., Lin, L., and Cazenave, J.-P. (poster presentation) Inactivation of infectious CMV in platelet products: comparison of INTERCEPT Blood System TM and leukofiltration. American Society for Hematology Annual Meeting. 2007.

*Hendrickson, J.E., **Roback, J.D.,** Hillyer, C.D., and Zimring, J.C. (oral presentation) An intact spleen is required for alloimmunization to transfused red blood cells due to intrasplenic activation of CD4+ T cells. American Society for Hematology Annual Meeting. 2007.

*Hossain, M.S., **Roback, J.D.,** Pollack, B.P., Jaye, D.L., and Waller, E.K. (oral presentation) Chronic GvHD decreases anti-CMV immune responses in allogeneic BMT: defect in T-cell homing. The 2007 BMT Tandem Meetings.

*Hossain, M.S, Hillyer, C.D., Gewirtz, A, Waller, E.K. and **Roback, J.D.** (oral presentation) Therapeutic use of flagellin to prevent graft versus host disease and improve viral immunity following allogeneic transplant. American Association of Blood Banks Annual Meeting. 2008.

*Kakaiya, R, Triulzi, D., **Roback, J.D.**, Fang, J., Tu, Y., Kleinman, S., Busch, M., Gottschall, J.L., Rios, J.A., Hillyer, C.D., Glynn, S., and Schreiber, G. (oral presentation) Characteristics of

cytomegalovirus (CMV) antibody positive volunteer blood donors. American Association of Blood Banks Annual Meeting. 2008.

Hossain, M.S., Gewirtz, A.T., Waller, E.K., Hillyer, C.D., and **Roback, J.D***. (oral presentation) Therapeutic Use of Flagellin to Prevent Graft-vs-Host Disease and Improve Viral Immunity Following Allogeneic Transplant. American Association of Blood Banks Annual Meeting. 2008.

*Hossain, M.S., Gewirtz, A.T., **Roback, J.D.,** and Waller, E.K. (poster presentation) Flagellin, a TLR5 Agonist, down-regulates CD62L on donor T cells and limits GvHD in allogeneic hematopoietic stem cell transplantation. American Society for Hematology Annual Meeting. 112. 2008.

*Hossain, M.S., Gewirtz, A.T., Hillyer, C.D., Waller, E.K., and **Roback, J.D.** (oral presentation) Flagellin, a TLR5 agonist, facilitates production of foxp3+CD4+CD25+ regulatory T cells to maintain balanced immune reconstitution in allogeneic BMT without GvHD. American Society of Bone Marrow Transplantation (ASBMT) 2009 Annual Meeting.

*Onyeagocha, C., Hossain, M.S., **Roback, J.D.,** and Gewirtz, A.T. (oral presentation) Latent cytomegalovirus (CMV) infection exacerbates severity of experimental dextran sodium sulfate (DSS) colitis. FASEB 2009 Annual Meeting on Experimental Biology. 2009.

*Norris, P.J., Carrick, D.M., Kleinman, S., Pandey, S., Lee, J.H., Vorhaben, R., **Roback, J.D.**, Chance, S., Lebedeva, M., Busch, M.P. (oral presentation) Comparison of assays to detect HLA antibodies. American Association of Blood Banks Annual Meeting. 2009.

*Hossain, M.S., Gewirtz, A.T., **Roback, J.D.,** and Waller, E.K. (poster presentation) Prophylactic use of flagellin: A novel method to boost immune reconstitution in allogeneic HSCT recipients with limited GvHD. American Society for Hematology Annual Meeting. 2009.

El-Ali, A., Newman, J.L., Shaz, B., Sutliff, R., and ***Roback, J.D.** (oral presentation) Length of RBC storage directly correlates with progressive impairment of endothelium-dependent arterial relaxation. American Association of Blood Banks Annual Meeting. 2010.

*Shaz, B., Johnson, H., Hillyer, C.D., and **Roback, J.D.** (poster presentation) Improvements in transfusion medicine rotation for pathology residents. American Association of Blood Banks Annual Meeting. 2010.

Alexander El-Ali, James L. Newman, Sulaiman Karatela, Roy Sutliff, and ***Roback, J.D.** (oral presentation) Red Blood Cells Stored for Increasing Periods Produce Progressive Impairments in NO-mediated Vasodilation. American Association of Blood Banks Annual Meeting. 2011.

***Roback, J.D.** Sulaiman Karatela, Kurt M. Bohren, Robert P. Mohney, and James L. Newman. (oral presentation) RBC Storage Produces Alterations in Hundreds of Metabolic Parameters. American Association of Blood Banks Annual Meeting. 2011.

*Cassandra Josephson, Angela Caliendo, Michael Hinkes, Kirk A. Easley, M. Frempong, N. Shenvi, K. Grier, T. Matzick, Christopher D. Hillyer, and **Roback, J.D.** (oral presentation) Reactivation of replication competent cytomegalovirus (CMV) from CMV seropositive (CMV-SP) maternal breast milk and infection of low birth weight infants (LBWIs $\leq$ 1500g): Preliminary results of a birth cohort transfusion-transmitted CMV study. American Association of Blood Banks Annual Meeting. 2011.

Marta Castillejo, **Roback, J.D.,** Michael Hinkes, J. Moore, A. Knezevic, Kirk A. Easley, J. Skvarich, L. Click, Natia Saakadze and *Cassandra Josephson. (oral presentation) Necrotizing enterocolitis (NEC) in low birth weight infants (LBWIs < 1500g): Preliminary results correlating age of red blood cells (RBC), timing of transfusions, and anemia in a prospective birth cohort study. American Association of Blood Banks Annual Meeting. 2011.

*Adelbert B. James, Cassandra Josephson, Marta Castillejo, and **Roback, J.D.** (poster presentation) Demographic differences among Hispanic blood donors. American Association of Blood Banks Annual Meeting. 2011.

*Michael Mazzeffi, Alexandra Franco, Matthias Grube, William Stein IV, Anne Winkler, **Roback, J.D.,** and Jerrold Levy. (poster presentation) An examination of the off label use of recombinant factor VIIa in cardiac surgical patients. Society of Cardiovascular Anesthesiologists Annual Meeting. 2011.

Dumont, Larry J., Zimring, James C, and ***Roback, J.D.** (oral presentation; Plenary Session) Correlation of RBC metabolomic changes during storage with RBC survival after transfusion in human autologous donor/recipients. American Association of Blood Banks Annual Meeting. 2012.

*Dumont, LJ, Herschel, L, **Roback, JD**, Zimring, JC, and Gray, AD. (oral presentation) Changes in the metabolic profiles of stored RBC following treatment with Rejuvesol solution. American Association of Blood Banks Annual Meeting. 2012.

*James, AB, Josephson, C., Schreiber GB, and **Roback, JD**. (poster presentation) Correlates of non-metropolitan Atlanta blood donors in Georgia. American Association of Blood Banks Annual Meeting. 2012.

*Patel, RM, Easley, KA, **Roback, JD,** Hinkes, MT, Knezevic, A., Castillejo, M., Skvarich, J., Click, L., Grier, K., and Josephson, C. (oral presentation) Red blood cell (RBC) storage age, irradiation storage days, and timing of RBC transfusion are potential risk factors for the development of necrotizing enterocolitis in very low birth weight infants: Preliminary results from a prospective birth cohort study. American Association of Blood Banks Annual Meeting. 2012.

*Zimring, J.C., Smith, N.H., Stowell, S.R., Francis, R.O., Hod, E.A., Spitalnik, S.L., Hendrickson, J.E., **Roback, JD.**, and Dumont, L.J. (oral presentation) Donor variability in RBC storage from genetically distinct mouse strains: The role of oxidative stress and metabolic variability in RBC storage. American Association of Blood Banks Annual Meeting. 2012.

*Patel, RM, **Roback, JD,** Hinkes, MT, Wu, B, Castillejo, M., Skvarich, J., Click, L., Grier, K., Easley, K.A., and Josephson, C. (oral presentation) Early hematologic parameters in very low birthweight infants and risk of intraventricular hemorrhage. American Association of Blood Banks Annual Meeting. 2012.

*Patel, RM, Easley, K.A., **Roback, JD,** Hinkes, MT, Knezevic, A., Castillejo, M., Skvarich, J., Keene, S., Click, L., Grier, K., and Josephson, C. (oral presentation) Red blood cell (RBC) irradiation storage time, storage age, and anemia are potential risk factors for necrotizing enterocolitis in very low birth weight (VLBW) infants. Pediatric Academic Society Annual Meeting. 2013.

*Neuman, RB, Menon, V, Karatela, S, Sher, S, Newman, J, Ashraf, K, Binongo, J, **Roback, JD,** and Quyyumi, AA. (oral presentation) Endothelial dysfunction precipitated by transfusion of storage-aged but not fresh red blood cells. American College of Cardiology Annual Meeting. (2013)

*Neuman, RB, Polhemus, D, Karatela, S, Sher, S, Newman, J, Binongo, J, Quyyumi, A, **Roback, JD**, Lefer, DJ. (oral presentation) Decreased nitrite and endothelial dysfunction precipitated by transfusion of storage-aged but not fresh red blood cells. Nitrite Society Annual Meeting. 2013.

*Ashraf, K., Smith, G., Sher, S., Neuman, R., **Roback, JD**, and Quyyumi, A. (oral presentation) Endothelial function is not affected by fresh or storage-aged autologous blood transfusions in healthy individuals. American Heart Association Annual Meeting. 2013.

Dumont, LJ, Newman, JL, Karatela, S, Zimring, JC and ***Roback, JD**. (oral presentation) Metabolomics of Stored Red Blood Cells Prior to Transfusion: Reproducible, Donor-Specific

Alterations in Numerous Metabolites. Annual Meeting of the NIH Common Fund Metabolomics Program. 2013.

*Neuman, RB, **Roback, JD** and Quyyumi, A. (oral presentation) Hospitalized patients transfused with storage-aged (but not fresh) RBCs demonstrate impaired endothelial function and significant reductions in circulating nitrite levels. American Association of Blood Banks Annual Meeting. 2013.

Dumont, LJ, Newman, JL, Karatela, S, Zimring, JC and ***Roback, JD**. (oral presentation) Donor-specific red blood cell (RBC) fingerprints: Metabolomic analysis identifies a subset of RBC biomarkers with storage kinetics that diverge between donors and which persist on subsequent donation. American Association of Blood Banks Annual Meeting. 2013.

*Swaroopa, Y, Zimring, JC, **Roback, JD**, and Dumont, LJ. (poster presentation) Correlation between red blood cell survival and cytochrome P450 IA2 enzyme activity. American Society for Hematology Annual Meeting. 2013.

*Patel, RM, Knezevic, A, Hinkes, MT, **Roback, JD,** Easley, KA, and Josephson, C. (oral presentation) Association between cumulative iron exposure and bronchopulmonary dysplasia in very low birth weight infants. American Association of Blood Banks Annual Meeting. 2014.

***Roback, JD,** Barclay, S, Moulds, JM, and Denomme, GA. (poster presentation) Efficiency of Grifols' Erytra walk-away analyzer for pretransfusion testing. American Association of Blood Banks Annual Meeting. 2014.

26. Research Focus:

My laboratory's focus is basic, translational, and clinical investigations to improve the safety and efficacy of blood transfusion. Specifically, we seek to: reduce CMV transmission by transfusion/transplantation; develop novel methods to improve speed and accuracy of blood testing; and improve methods for storing blood units prior to transfusion.

27. Patents:

a. Issued:

European Patent Appl. No. 01903454.5/1252522 "Immunological Assay System and Method"; Date Granted: April 26, 2006. Patent validated in UK, France, Germany, Italy, Spain. Inventors: John D. Roback and Christopher D. Hillyer.

U.S. Utility Patent No. 7,189,357: "Immunological Assay System and Method"; Issue Date: March 13, 2007; Inventors: John D. Roback and Christopher D. Hillyer.

U.S. Utility Patent No. 7,425,309, Continuation-in-Part, "Immunological assay system and method"; Issue Date: September 16, 2008; Inventors: John D. Roback and Christopher D. Hillyer.

U.S. Utility Patent No. 7,713,708, Continuation-in-Part, "Immunological assay system and method"; Issue Date: May 11, 2010; Inventors: John D. Roback and Christopher D. Hillyer.

>> The 4 patents listed above are the subject of a Licensing and Technology Development Agreement between Millipore-Merck and 3Ti, to fund remaining development, clinical studies, and commercialization of the AEGIS Immunohematology Platform; agreement signed 19 November, 2012

U.S. Patent No. 0206699, "Methods for the treatment of graft-versus-host disease"; Issue Date: August 25, 2011; Inventors: Mohammad S. Hossain, Andrew T. Gewirtz, John D. Roback, and Edmund K. Waller.

European Patent No. 2349291 "Methods for the treatment of graft-versus-host disease"; Issue Date: December 5, 2012; Inventors: Mohammad S. Hossain, Andrew T. Gewirtz, John D. Roback, and Edmund K. Waller.

U.S. Patent No. 8,486,408, "Methods for the treatment of graft-versus-host disease"; Issue Date: July 16, 2013; Inventors: Mohammad S. Hossain, Andrew T. Gewirtz, John D. Roback, and Edmund K. Waller.

Australian Patent (application No. 2009298122) "Agonists of toll-like receptor 5 for the treatment of graft-versus-host disease"; Issue Date: April 15, 2015; Inventors: Mohammad S. Hossain, Andrew T. Gewirtz, John D. Roback, and Edmund K. Waller.

b. Pending:

None.

28. Grant Support:

a. Active Support:

i. Federally funded:

PI (no compensation): National Institutes of Health, T32 HL069769-11: Training grant in Transfusion Medicine. $725,725 direct costs, 2019 – 2024.

Co-Investigator (10% effort): NIH/NIBIB RADx program. 2020-2025. This contract funds members of the ELIAD laboratory and other Emory faculty and staff to evaluate and validate novel tests to detect SARS-CoV-2 RNA and antigens.

Co-Investigator (10% effort): NIH/NCI, 1 U54 CA260563-01: Immune regulation of COVID-19 infection in cancer and autoimmunity. $6,375,000 direct costs, 2020 – 2025.

Co-PI (1% effort): National Institutes of Health, R38HL167243-01: Emory Pediatrics and Pathology Stimulating Access to Research in Residency (PP-StARR). $356,972 direct costs, 2023 – 2028.

ii. Private Foundation funded:

PI (5% effort): Marcus Foundation Grant to Implement and Expand Access to Serology Testing. 2020-2022. $3,000,000.

iii. Contracts:

PI (0.24 months): Centers for Disease Control and Prevention (CDC), 200-2012-51332: Freshly Drawn Blood and Blood Products. Cost-reimbursement contract, 2017- 2022.

b. Previous Support:

Trainee (100% effort): University of Chicago, NIH-Sponsored Predoctoral Multidisciplinary Medical Sciences Training Grant: 1990 – 1991.

Trainee (100% effort): NIMH Individual NRSA M.D./Ph.D. Fellowship: 1991 – 1994.

PI (10% effort): National Blood Foundation: The role of leukocytes in transfusion-transmitted cytomegalovirus (TT-CMV) infection: development of an animal model; $30,000 direct costs; 1998 - 2000.

PI (5% effort): Subcontract for NIH/NHLBI-sponsored REDS blood sample repository: Prevalence of Cytomegalovirus (CMV; HHV-5) strains among REDS donors; $12,350 direct costs: 2000.

PI (5% effort): The Resource Forum New Enterprise Award 2001 (to 3Ti): A novel device for rapid, completely automated blood compatibility testing. Cash and business services valued at $65,000, 2001 – 2002.

PI (10% effort): Emory University Research Committee (URC): Modification of allogeneic lymphocytes for adoptive immunotherapy. $30,000 direct costs, 2001.

PI (10% effort): Georgia Research Alliance/ATDC Faculty Research Commercialization Program: Novel devices for completely automated diagnostic blood bank testing. $60,000 direct costs, 2000 – 2001.

Co-Investigator (20% effort): National Institutes of Health, 1 RO1 HL63366-01A1: Transfusion transmission of cell-associated infections (C. Hillyer, PI). $600,000 direct costs, 2000 – 2005.

PI (10% effort): Department of Defense, Defense Applied Research Projects Agency (DARPA): Rapid, Automated, Multi-Parameter Blood Testing. $72,276 direct costs, 2001 – 2002.

PI (10% effort): Winship Cancer Institute, American Cancer Society Institutional Seed Grant: Modification of allogeneic lymphocytes for adoptive immunotherapy. $20,000 direct costs, 2001. *This award was funded, but declined, due to overlap with URC award.*

Co-PI (5% effort): Holland Laboratory Biomedical Development Project, American Red Cross: Nucleic acid testing for cytomegalovirus to improve the quality of umbilical cord blood stem cell components for transplantation (C. Hillyer, Co-PI). $75,000 annual direct costs, 2001-2003.

PI (10% effort): National Institutes of Health Small Business Technology Transfer Program (STTR) Phase I Grant, 1 R41 HL-66751-01: Novel devices for rapid blood compatibility testing. $100,000 direct costs, 2001 – 2002.

Co-Investigator (1% effort): Centers for Disease Control (CDC), RFP 2001-N-00092: Acquisition of Blood and Products (C. Hillyer, PI). $1,766,400 direct costs, 2001-2009.

Co-Investigator (5% effort): National Institutes of Health, 1 R01 HL71112-01: PCR Testing for CMV in UCBSC (CD Hillyer, PI). $200,000 direct costs, 2002 – 2004.

Co-Investigator (2% effort): National Institutes of Health, U01 HL72248 01: Transfusion Medicine/Hemostasis Clinical Research Network (C. Josephson, PI). 2002-2014.

PI (10% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase II grant, 1 R42 HL66754: Novel devices for rapid blood compatibility testing. $500,000 direct costs, 2002 – 2005.

PI (10% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase I grant, 1 R41 HL 073527 01A1: Rapid quantitation of residual WBCs in filtered blood. $99,999 direct costs, 2003 – 2005.

Co-investigator (8% effort): National Institutes of Health, 2 R01 CA074364-04A2: Separating antitumor & GvHD effect in allogeneic T-cells (E. Waller, PI). $1,528,109 direct costs, 2003 – 2008.

Co-Investigator (3% effort): National Institutes of Health Small Business Technology Transfer Program (STTR) Phase I Grant, 1 R41 HL 73493 01: Development of a laboratory test for TTP (C. Hillyer, PI). $106,860 direct costs, 2003 – 2005.

Co-Principal Investigator; and PI, Emory University component (10% effort): National Institutes of Health, HB-04-07: Retrovirus Epidemiology Donor Study II (REDS-II) (C. Hillyer, Program PI). $1,334,337 direct costs, 2004 - 2009.

Subproject PI, Emory University component (8% effort): Centers for Disease Control and Prevention, U62/CCU324043-01: Providing technical assistance support for the rapid strengthening of blood transfusion services in selected countries in Africa and the Caribbean under the President's Emergency Plan for AIDS Relief (K. Shoos Lipton, Program PI). $12,500,000 direct costs, 2004-2009.

Co-investigator (8% effort): National Institutes of Health, 1 R21 AI059987-01: Selective depletion of alloreactive T cells in BMT (J. Zimring, PI). $300,000 direct costs, 2004 – 2006.

PI (5% effort): Baxter Healthcare Corporation: Research Services Agreement. $32,680 direct costs, 2005 – 2006.

PI (10% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase I grant, 1 R41 HL086034: Automated high-throughput detection of anti-HLA antibodies to prevent TRALI. $100,000 direct costs, 2006 – 2008.

Co-investigator (5% effort): National Institutes of Health, 1 R21 HL086312-01: Alloimmunization to mHAs by RBC transfusion (J. Zimring, PI). $275,000 direct costs, 2006 – 2008.

PI (10% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase I grant, 1 R41 HL083719: Vaccine-enhanced DLI to prevent cancer recurrence after stem cell transplantation. $100,000 direct costs, 2006 – 2008.

PI (1% effort): Centers for Disease Control (CDC): Collection of leukoreduced blood for the examination of HHV-8. $2,288 direct costs, 2006.

PI (10% effort): Georgia Research Alliance, Industry Partnership Grant: *Aegis* device for HLA antibody testing. $60,000 direct costs, 2007 – 2008.

Co-investigator (no compensation): National Institutes of Health, Small Business Technology Transfer Program (SBIR) Phase II grant, 4 R42 HL076945: Amotosalen PCT of leukapheresis units for GvHD therapy (J.E. Hearst, PI). $746,325 direct costs, 2007 – 2009.

PI (10% effort; no salary support): Emory University Research Committee (URC): Vaccination-enhanced donor lymphocyte infusion (veDLI) after BMT. $30,000 direct costs, 2007 – 2008.

PI (no compensation): Georgia Research Alliance, VentureLab Phase III Grant (to 3Ti): Accelerated development of the *Aegis* blood analyzer. $250,000 direct costs, 2007 – 2008.

Co-investigator (5% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase I grant, 1 R41 HL092757: Development of an ABO-incompatibility Stop Device. $132,391 direct costs, 2008 – 2009.

Program Director (20% effort total): National Institutes of Health Program Project Grant, 1 P01 HL 086773-01: Mechanisms and interventions addressing serious hazards of transfusion and cellular therapies. $7,839,560 direct costs. 2008 – 2013. *I was assigned as PI of this award after Dr. Hillyer left Emory.*

- Project 2 (Co-investigator): Prevention of transfusion transmitted CMV (TT-CMV) in low birth weight infants (LBWI; < 1250 grams) using CMV seronegative and leukoreduced transfusions. $2,522,680 direct costs
- Project 3 (Co-investigator): Modified donor lymphocyte infusion (mDLI) for rapid immune reconstitution. $1,170,217 direct costs.
- Administrative Core (PI): $568,406 direct costs.

PI (15% effort:): Office of Naval Research: Rapid, automated, pre-transfusion testing: Type, crossmatch, and pathogen detection. $530,000 total costs, 2008 – 2009.

Co-Investigator (1% effort): Caridian BCT Biotechnologies, LLC: The effects of the Mirasol treatment on murine CMV using in-vivo mouse models. $54,408 direct costs, 2008 – 2009.

PI (10% effort): National Institutes of Health, Small Business Technology Transfer Program (STTR) Phase II Competing Continuation grant, 9 R42 DK075266-04: Novel devices for rapid blood compatibility testing. $557,339 direct costs, 2008 – 2013.

PI (10% effort): National Institutes of Health, HB-04-07: Retrovirus Epidemiology Donor Study II (REDS-II). $1,334,337 direct costs, 2009-2010. *I was assigned as PI of this award after Dr. Hillyer left Emory.*

PI (25% effort): National Institutes of Health, R01 HL095479-01: Adverse effects of RBC transfusions: A unifying hypothesis. $1,109,459 total costs. 2009 – 2014.

PI (2% effort): Centers for Disease Control (CDC), RFP 2001-N-00092: Acquisition of Blood and Products. $1,766,400 direct costs, 2009 - 2012. *I was assigned as PI of this award after Dr. Hillyer left Emory.*

PI (no compensation): National Institutes of Health, T32 HL069769 01A2: Training grant in Transfusion Medicine. $741,270 direct costs, 1 April, 2009 – 31 March, 2014. *I was assigned as PI of this award after Dr. Hillyer left Emory.*

PI (5% effort): Grifols, Inc: DG003 – In Vitro Study of Diagnostic Grifols DG Reader for Reading and Interpreting the Test Results from Manual DG Gel 8 Cards. $28,831 direct costs, 2011 – 2012.

PI (5% effort): Grifols, Inc: DG001 – In Vitro Study of Diagnostic Grifols DG Gel 8 Card Reagents, Manual DG Gel 8 Equipment for ABO, Rh Grouping, Antigen Typing, Red Cell Antibody Detection, Identification, Direct Antiglobulin Tests and Compatibility Testing. $27,872 direct costs, 2012.

Licensing and Technology Development Agreement from Millipore-Merck to 3Ti, to complete development, clinical studies, and commercialization of the AEGIS Immunohematology Platform (development of this platform was supported by the STTR, ONR, DARPA, and other State of Georgia awards listed below; development also resulted in the patents listed above). $500,000 initial tranche; agreement signed 19 November, 2012.

PI (5% effort): National Institutes of Health, Metabolomics supplement to HL095479: Adverse effects of RBC transfusions: A unifying hypothesis – Supplementary metabolomics studies. $87,473 direct costs. 2012– 2014.

PI (5% effort on Roback IPA): Naval Medical Research Unit, Validation of Rapid Blood Typing Device, 2012 – 2013
IPA – Roback: $94,539 direct costs
IPA – Barclay: $112,841 direct costs
IPA – Newman: $9480 direct costs

PI (5% effort): Clinical Site Agreement, Evaluation of Blood Typing Technology, Grifols, Inc – DG004; $42,500 direct costs; 2013 – 2014

PI (10% effort): National Institutes of Health Common Funds (University of Kentucky, NIH Resource Core for Stable Isotope Resolved Metabolomics): Dissecting metabolic fluxes in stored RBC units to improve transfusion outcomes. $44,000 direct costs for services. 2014 – 2015.

Co-Investigator (no compensation): National Blood Foundation: Physiologic effects of RBC storage in chronic transfusion recipients: vasoreactivity, exercise capacity, and oxygen consumption (R. Neuman, PI). $75,000 direct costs, 2013 - 2015.

Co-Investigator (no compensation): National Blood Foundation: Characterization of immunity and tolerance following RBC transfusion (PI: S. Stowell). $75,000 direct costs, 2013 – 2015.

Co-Investigator (5% effort): Emory + Children's Pediatric Research Center, Children's Healthcare of Atlanta, Children's Center for Cardiovascular Biology Pilot Project: RBC sorting by microfluidic chip: Understanding biophysical changes in stored/irradiated RBCs (C. Josephson, PI). $50,000 direct costs. 2014 – 2015.

PI (5% effort): Clinical Site Agreement, Evaluation of Blood Typing Technology, Grifols, Inc – DG005; $42,500 direct costs; 2013 – 2015

PI (5% effort): Citra Labs, LLC, CL.PD.AP004. Rejuvesol® solution in vitro effectiveness for Phase II; nitric oxide-mediated vasodilation changes and RBC flow characteristics changes with rejuvenation and washing of fresh and stored RBCs; $17,004 direct costs, 2014 – 2015.

Co-Investigator (2% effort): Georgia State University / CDC. Complications associated with therapeutic blood transfusions (C. Josephson, PI). $98,399 direct costs, 2014-15.

Co-Investigator (1% effort): IRC NIAID Influenza Research Collaboration: Immune Plasma for Treatment of Influenza (J. Biegel, PI; J. Sevransky, Emory PI). $20,000 direct costs (2014-2015)

Co-Investigator (5% effort; no compensation): Emory Center for Pediatric Nanomedicine Pilot Project: The release and transfer of microparticle-encapsulated miRNAs from stored red blood cells (C. Searles, PI). $50,000 direct costs. 2015-2016.

PI (no compensation): Onyx Pharmaceuticals: Examination of a proteasome inhibitor as a novel approach to prevent and eliminate transfusion-associated alloimmunization. $102,564 direct costs. 2015-2017.

Co-PI (no compensation): Regenerative Engineering and Medicine Center (REM) -- "Georgia Partners in Regenerative Medicine" Seed Grant Program. Development of novel iPSC-RBCs engineered to tolerize recipients to alloantigens that complicate transfusion and other cell therapies (J.D. Roback and J. Dahlman, Co-PIs). $75,000. 2016-2017

PI (20% effort): National Institutes of Health, R01 HL095479-06: Adverse effects of RBC transfusions: A unifying hypothesis. $2,825,003 direct costs. 2014 –2019.

PI (0.6 months): National Institutes of Health, OT2HL152668: Microfluidic Technologies as Clinical Biomarker Platforms for Sickle Cell Gene Therapies. $31,985 direct costs, 2019.

Program Director (27% effort total): National Institutes of Health Program Project Grant, 2 P01 HL 086773-06A1: Mechanisms and interventions addressing serious hazards of transfusion and cellular therapies. $7,158,722 direct costs. 2015 – 2020.

- Project 1 (PI; 20% effort): Identification and validation of biomarkers for RBC metabolic aging
- Project 2 (Co-investigator; 2% effort): RBC Irradiation and Anemia Trigger Gut Injury in Preterm Infants
- Administrative Core (PI; 5% effort)

PI (no funded effort): Pediatric Research Alliance Pilot Grant: IND-enabling pre-clinical validation of iPSC-RBC transfusions for patients with sickle cell disease. $50,000. 9/1/2019 – 8/31/2020.

PI (0.12 months): Center for Disease Control and Prevention (CDC), 75D301-20-Q-71607: CDC Blood Draw Public Health Surveillance Project. $354,391 direct costs, 2020.

Co-PI (20% effort): National Institutes of Health, R01 HL138656: Engineering iPSC-RBCs for Transfusion. $1,840,662 direct costs. 2017 –2022.

Co-PI (5% effort): National Institutes of Health, R01 HL138656-S1: Supplement to Engineering iPSC-RBCs for Transfusion. $191,100 direct costs. 2020 –2022.

29. Bibliography (h-index = 36):

a. Published and Accepted Research Articles in Refereed Journals:

1. **Roback, J.D.**, Large, T.H., Otten, U., and Wainer, B.H. (1990) Nerve growth factor expression in the developing hippocampus isolated *in vitro*. *Dev. Biol.* 137, 451-455.
2. Lee, H.J., Hammond, D.N., Large, T.H., **Roback, J.D.**, Sim, J.A., Brown, D.A., Otten, U.H., and Wainer, B.H. (1990) Neuronal properties and trophic activities of immortalized hippocampal cells from embryonic and young adult mice. *J. Neurosci.* 10, 1779-1787.
3. Eves, E.M., Tucker, M.S., **Roback, J.D.**, Downen, M., Rosner, M.R., and Wainer, B.H. (1992) Immortal rat hippocampal cell lines exhibit neuronal and glial lineages and neurotrophin gene expression. *Proc. Nat. Acad. Sci. (USA).* 89, 4373-4377.
4. Kordower, J.H., Burke-Watson, M., **Roback, J.D.**, and Wainer, B.H. (1992) Stability of septohippocampal neurons following excitotoxic lesions of the rat hippocampus. *Exp. Neurol.* 117, 1-16.
5. **Roback, J.D.**, Diede, S.J., Downen, M., Lee, H.J., Kwon, J., Large, T.H., Otten, U., and Wainer, B.H. (1992) Expression of neurotrophins and the low-affinity NGF receptor in septal and hippocampal reaggregate cultures: local physiologic effects of NGF synthesized in the septal region. *Dev. Brain Res.* 70, 123-133.
6. Choi, H.K., Won, L., **Roback, J.D.**, Wainer, B.H., and Heller, A. (1992) Specific modulation of dopamine expression in neuronal hybrid cells by primary cells from different brain regions. *Proc. Nat. Acad. Sci. (USA).* 89, 8943-8947.
7. Bleakman, D., **Roback, J.D.**, Wainer, B.H., Miller, R.J., and Harrison, N.L. (1993) Calcium homeostasis in rat septal neurons in tissue culture. *Brain Res.* 600, 257-267.
8. Downen, M., Mudd, L., **Roback, J.D.**, Palfrey, H.C., and Wainer, B.H. (1993) Early nerve growth factor-induced events in developing rat septal neurons. *Dev. Brain Res.* 74, 1-13.
9. **Roback, J.D.**, Marsh, H.N., Downen, M., Palfrey, H.C., and Wainer, B.H. (1995) BDNF-activated signal transduction in rat cortical glial cells. *Eur. J. Neurosci.* 7, 849-862.

10. Lee, M.E., Bucur, S.Z., Gillespie, T.W., Adams, J.W., Barker, A.T., Thomas, E.K., **Roback, J.D.,** and Hillyer, C.D. (2000) Recombinant human CD40 ligand inhibits simian immunodeficiency virus replication: A role for interleukin-16. *J. Med. Primatol.* 28, 190-194.

11. **Roback, J.D.**, Bray, R.A., and Hillyer, C.D. (2000) Longitudinal monitoring of leukocyte subsets in packed red blood cell units after filtration: Implications for transfusion-transmitted infections. *Transfusion* 40(5), 500-6.

12. Boss, V.**, Roback, J.D.**, Young, A., Vogt, D. Roback, L.J., Vogt Weisenhorn, D.M., Medina-Flores, R., and Wainer, B.H. (2001) Nerve growth factor, but not epidermal growth factor, increases Fra-2 expression and alters Fra-2/JunD binding to AP-1 and CREB binding elements in pheochromocytoma (PC12) cells. *J. Neurosci.* 21(1), 18-26.

13. **Roback, J.D.**, Hillyer, C.D., Drew, W.L., Laycock, M.E., Luka, J., Mocarski, E.S., Slobedman, B., Smith, J.W., Soderberg-Naucler, C., Todd, D., Woxenius, S., and Busch, M.P. (2001) Multicenter evaluation of PCR methodologies to detect cytomegalovirus (CMV) DNA in blood donors. *Transfusion* 41(10), 1249-1257.

14. **Roback, J.D.**, Drew, W.L., Laycock, M.E., Todd, D., Hillyer, C.D., and Busch, M.P. (2003) CMV DNA is rarely detected in healthy blood donors using validated PCR assays. *Transfusion* 43(3), 314-321.

15. **Roback, J.D.**, Barclay, S., and Hillyer, C.D. (2003) An automatable format for accurate immunohematology testing by flow cytometry. *Transfusion* 43(7), 918-927.

16. **Roback, J.D.**, Hossain, M.S., Lezhava, L., Gorechlad, J.W., Alexander, S.A., Jaye, D., Mittelstaedt, S., Talib, S., Hearst, J.E., Hillyer, C.D., and Waller, E.K. (2003) Allogeneic T-cells treated with amotosalen prevent lethal CMV disease without producing GvHD following BMT. *J. Immunol.* 171, 6023-6031.

17. **Roback, J.D.**, Barclay, S., and Hillyer, C.D. (2004) Improved methodology for fluorescence cytometric immunohematology testing. *Transfusion*. 44(2), 187-196.

18. Hillyer, C.D., **Roback, J.D.,** Hillyer, K.L., Josephson, C.D., and Page, P.L. (2004) Description and investigation of White Particulate Matter (WPM) in AS-1 pRBC units. *Transfusion.* 44(7), 977-983.

19. Jordan, C.T., Saakadze, N., Newman, J.L., Lezhava, L., Maiers, T., Hillyer, W.M., **Roback, J.D.**, and Hillyer, C.D. (2004) Photochemical treatment of platelet concentrates with amotosalen hydrochloride and ultraviolet A light inactivates free and latent cytomegalovirus in a murine transfusion model. *Transfusion.* 44(8), 1159-1165.

20. Zimring, J.C., Chadwick, T.E., Hillyer, C.D., and **Roback, J.D.** (2004) Effect of mediators of innate immunity and inflammation on CD8+ veto cells. *Transplantation*. 78(11), 1597-1600.

21. Waller, E.K., Giver, C.R., Rosenthal, H., Somani, J., Langston, A., Lonial, S., **Roback, J.**, Li, J.-M., Hossain, M.S., and Redei, I. (2004) Facilitating T-cell immune reconstitution after haplo-identical transplantation in adults. *Blood Cells, Molecules and Diseases*. 33(3), 233-237.

22. Hossain, M.S., **Roback, J.D.**, Lezhava, L., Hillyer, C.D., and Waller, E.K. (2005) Amotosalen treated donor T-cells have polyclonal antigen specific long-term function without GvHD after allogeneic bone marrow transplantation. *Biology of Blood and Marrow Transplantation*. 11(3), 169-180.

23. Schuetz, A.N., Kost, C., and **Roback, J.D.** (2005) Transfusion-transmitted *Streptococcus pneumoniae* from a single donor platelet apheresis unit. *Journal of Clinical Apheresis*. 20, 86-87.

24. Zimring, J.C., Hair, G., Chadwick, T.E., Deshpande, S., Anderson, K., Hillyer, C.D., and **Roback, J.D.** (2005) Non-hemolytic antibody induced loss of erythrocyte surface antigen. *Blood.* 106(3), 1105-1112.

[see accompanying editorial: Spitalnik, S.L. (2005) Yin and yang in transfusion medicine. *Blood* 106(3), 771-2]

25. **Roback, J.D.**, Caliendo, A.M., Newman, J.L., Sgan, S., Saakadze, N., Gillespie, T.W., Lane, T.A., Kurtzberg, J., and Hillyer, C.D. (2005) Comparison of CMV PCR and serology for screening umbilical cord blood components. *Transfusion*. 45(11), 1722-1728.

26. **Roback, J.D.,** Su, L., Newman, J.L., Saakadze, N., Lezhava, L., and Hillyer, C.D. (2006) Transfusion-transmitted cytomegalovirus (CMV) infections in a murine model: Characterization of CMV-infected donor mice. *Transfusion*. 46(6), 889-895.

27. Sheppard, C.A., O'Reilly, K.C., Schniederjan, S., Hillyer, C.D., **Roback, J.D.** (2006) Detection of mixed-field agglutination due to loss of red cell antigen in hematopoietic malignancy. *Transfusion*. 46(9), 1463-1464.

28. Hendrickson, J.E., Desmarets, M., Deshpande, S.S., Chadwick, T., Hillyer, C.D., **Roback, J.D.,** and Zimring, J.C. (2006) Recipient inflammation affects the frequency and magnitude of immunization to transfused red blood cells. *Transfusion*. 46(9), 1526-1536.

29. Hossain, M.S., **Roback, J.D.,** Pollack, B.P., Jaye, D.L., Langston, A., and Waller, E.K (2007) Chronic GvHD decreases anti-viral immune responses in allogeneic BMT. *Blood.* 109(10), 4548-4556.

30. Ninan, M.J., Flowers, C.R., **Roback, J.D.**, Arellano, M.L., Waller, E.K. (2007) Post-transplant thrombopoiesis predicts survival in patients undergoing autologous hematopoietic progenitor cell transplantation. *Biology of Blood and Marrow Transplantation*. 13(8), 895-904.

31. Hicks, M.L., Lonial, S., Langston, A., Flowers, C., **Roback, J.D.**, Smith, K.J., Sai, S.M., Teagarden, D., Hamilton, E.S., and Waller, E.K. (2007) Optimizing the timing of chemotherapy for mobilizing autologous blood hematopoietic progenitor cells. *Transfusion*. 47(4), 629-35.

32. Hendrickson, J.E, Chadwick, T.E., **Roback, J.D.,** Hillyer, C.D., and Zimring, J.C (2007) Inflammation Enhances Consumption and Presentation of Transfused RBC Antigens by Dendritic Cells. *Blood*. 110(7), 2736-43.

33. Zimring, J.C., Spitalnik, S.L., **Roback, J.D.,** and Hillyer, C.D. (2007) Transfusion induced auto-antibodies and differential immunogenicity of blood group antigens: A novel hypothesis. *Transfusion.* 47(12), 2189-96.

34. Hossain, M.S., **Roback, J.D.**, and Waller, E.K (2008) Host and donor immune responses contribute to anti-viral effects of amotosalen-treated donor lymphocytes following early post-transplant CMV infection. *J. Immunol.* 180(10), 6892-902.

35. Hendrickson, J.E, **Roback, J.D.,** Hillyer, C.D., Easley, K.A., and Zimring, J.C (2008) Discrete toll like receptor agonists have differential effects on alloimmunization to transfused red blood cells. *Transfusion*. 48(9), 1869-77.

36. Fowlkes. A.L., Brown, C., Amin, M.M., **Roback, J.D.**, Downing, R., Nzaro, E., Mermin, J., Hladik, W., and Dollard, S.C. (2009) Quantitation of HHV-8 antibody in patients transfused with HHV-8 seropositive blood. *Transfusion*. 49(10), 2208-13.

37. Djulbegovic, B., Trikalinos, T.A., **Roback, J.D.**, Chen, R., and Guyatt, G. (2009) Impact of quality of evidence on the strength of recommendations: an empirical study. *BMC Health Services Research.* 9:120, 1-6.

38. Onyeagocha, C., Hussein, S., Kumar, A., Jones, R.M., **Roback, J.D.,** and Gewirtz, A.T. (2009) Latent cytomegalovirus infection exacerbates experimental colitis. *Am. J. Pathology.* 175(5): 2034-2042.

39. Murad, M.H., Stubbs, J.R., Gandhi, M.J., Wang, A.T., Paul, A., Erwin, P.J., Montori, V.M., and **Roback, J.D.** (2010) The effect of plasma transfusion on morbidity and mortality: A systematic review and meta-analysis. *Transfusion.* 50(6): 1370-1383.

40. **Roback, J.D.**, Caldwell, S., Carson, J., Davenport, R., Drew, M.J., Eder, A., Fung, M., Hamilton, M., Hess, J. Luban, N., Perkins, J., Sachais, B., Shander, A., Silverman, T., Snyder, E., Tormey, C., Waters, J., and Djulbegovic, B. (2010) Evidence-based practice guidelines for plasma transfusion. *Transfusion.* 50(6): 1227-1239.

41. Akhtari, M., Giver, C.R., Ali, Z., Flowers, C.R., Gleason, C.L., Hillyer, C.D., Kaufman, J., Khoury, H.J., Langston, A.A., Lechowicz, M.J., Lonial, S., Renfrow, H.M., **Roback, J.D.**, Tighiouart, M., Vaughn, L., and Waller, E.K. (2010) Receiver operating curve analysis of circulating blood dendritic cell precursors and T-cells predicts response to extracorporeal photopheresis in patients with chronic graft-versus-host disease. *Transfusion.* 50(11): 2424-31.

42. Carrick, D.M., Johnson, B., Kleinman, S.H., Vorhaben, R., Chance, S.C., Lee, J.-H., **Roback, J.D.**, Pandey, S., Sun, Y., Busch, M.P., and Norris, P.J. (2010) Agreement among HLA antibody detection assays is higher in ever-pregnant donors and improved using a consensus cutoff. *Transfusion.* 51(5): 1105-16.

43. Rios, J.A., Schlumpf, K.S., Kakaiya, R.M., Triulzi, D.J., **Roback, J.D.**, Kleinman, S.H., Busch, M.P., Gottschall, J.L., Carey, P.M., and Nemo, G.J. (2011) Blood donations from previously transfused or pregnant donors: a multicenter study to determine the frequency of allo-exposure. *Transfusion.* 51(6): 1197-206.

44. Kleinman, S.H., Triulzi, D.J., Murphy, E.L., Carey, P.M., Gottschall, J.L., **Roback, J.D.**, Carrick, J.D., Carrick, D., Mathew, S., Wright, D.J., Cable, R., Ness, P., Gajic, O., Hubmayr, R.D., Looney, M.R., and Kakaiya, R.M. (2011) The Leukocyte Antibody Prevalence Study-II (LAPS-II): a retrospective cohort study of transfusion-related acute lung injury in recipients of high-plasma-volume human leukocyte antigen antibody-positive or –negative components. *Transfusion.* 51(10): 2078-91.

45. **Roback, J.D.,** Neuman, R.B., Quyyumi, A., and Sutliff, R. (2011) Insufficient nitric oxide bioavailability: a hypothesis to explain the adverse effects of red blood cell transfusion. *Transfusion.* 51: 859-866.

46. Hossain, M.S., Jaye, D.L., Pollack, B.P., Farris, A.B., Tselanyane, M.L., David, E., **Roback, J.D.**, Gewirtz, A.T., and Waller, E.K. (2011) Flagellin, a TLR5 agonist, reduces GvHD in allogeneic HSCT recipients while enhancing anti-viral immunity. *J. Immunol.* 187(10): 5130-40.

47. Ogawa, S., Szlam, F., Chen, E., Nishimura, T., Kim, H., **Roback, J.D.**, Levy, J., Tanaka, K (2012) A comparative evaluation of rotation thromboelastometry and standard coagulation tests in hemodilution-induced coagulation changes after cardiac surgery. *Transfusion.* 52(1): 14-22.

48. Murphy, E.L., Schlumpf, K., Wright, D., Cable, R., **Roback, J.D.**, Sacher, R., and Busch, M.P. (2012) BMI and obesity in U.S. blood donors: A potential public health role for the blood centre. *Public Health Nutrition.* 15(6), 964-971.

49. James, A.B., Josephson, C.D., Castillejo, M.I., Schreiber, G.B., and **Roback, J.D.** (2012) Epidemiological profiles of foreign-born and US-born Hispanic blood donors in a major metropolitan area in the United States. *J. Blood Transfusion. 2012: ID 820514, 7 pages.*

50. Carson, J.L., Grossman, B.J., Kleinman, S., Tinmouth, A.T., Marques, M.B., Fung, M.K., Holcomb, J.B., Illoh, O., Kaplan, L.J., Katz, L.M., Rao, S.V., **Roback, J.D.,** Shander, A., Tobian, A.A.R., Weinstein, R., and Djulbegovic, B. (2012) Red Blood Cell Transfusion: A Clinical Practice Guideline from the AABB. *Ann. Int. Med.* 157(1): 49-58.

51. Lu, Y., Giver, C.R., Sharma, A., Li J.M., Darlak, K.A., Owens, L.M., **Roback, J.D.,** Gewirtz, A.T., and Waller, E.K. (2012) IFN-γ and indoleamine 2,3-dioxygenase signaling between donor dendritic cells and T cells regulates graft versus host and graft versus leukemia activity. *Blood.* 119(4): 1075-85.

52. Dollard, S.C., **Roback, J.D.,** Gunthel, C., Amin, M.M., Barclay, S., Patrick, E., and Kuehnert, M. (2013). Measurements of human herpesvirus 8 viral load in blood before and after leukoreduction filtration. *Transfusion.* 53(10): 2164-2167.

53. Clark, K.B., Noisakran, S., Onlamoon, N., Hsia, H.-M., **Roback, J.D.**, Villinger, F., Ansari, A.A., Perng, G.C (2012). Multiploid CD61+ cells are the pre-dominant cell lineage infected during acute Dengue Virus infection in bone marrow. *PLoS ONE.* 7(12): e52902. https://doi:10.1371/journal.pone.0052902.

54. Gottschall, J., Triulzi, D., Kakaiya, R., Carrick, D., **Roback, J.D.,** Carey, P., and Kleinman, S., for the NHLBI Retrovirus Epidemiology Donor Study-II (2013). Human neutrophil antibodies in a blood donor population: a lookback study. *Vox Sanguinis.* 104(2): 166-70.

55. Copland, I.B., Garcia, M.A., Waller, E.K., **Roback, J.D.**, and Galipeau, J. (2013) The effect of platelet lysate fibrinogen on functionality of MSCs in immunotherapy. *Biomaterials.* 34(32): 7840-50.

56. Zimring, J., Smith, N., Stowell, S., Johnsen, J., Bell, L., Francis, R., Hod, E., Hendrickson, J., **Roback, J.,** Spitalnik, S. (2014). Strain-specific RBC storage, metabolism, and eicosanoid generation in a mouse model. *Transfusion.* 54(1): 137-48.

57. Alexander, J.T., El-Ali, A.M., Newman, J.L., Karatela, S., Predmore, B.L., Lefer, D.J., Sutliff, R.L., **Roback, J.D.** (2013). Red blood cells stored for increasing periods produce progressive impairments in NO-mediated vasodilation. *Transfusion.* 53(11): 2619-2628.

58. Marin, T., Moore, J., Kosmetatos, N., **Roback, J.D.**, Weiss, P., Higgins, M., McCauley, L., Strickland, O., Josephson, C. (2013). Red blood cell transfusion-related necrotizing enterocolitis in very low birth weight infants: A near-infrared spectroscopy investigation. *Transfusion.* 53(11): 2650-8.

59. Zwick, C., Held, G., Auth, M., Bernal-Mizrachi, L., **Roback, J.D.,** Sunay, S., Iida, S., Kuroda, Y., Sakai, A. Ziepert, M., Ueda, R., Pfreundschuh, M., and Preuss, K.-D. (2014) Over one third of African-American MGUS and multiple myeloma patients are carriers of hyperphosphorylated paratarg-7, and autosomal-dominantly inherited risk factor for MGUS/MM. International Journal of Cancer. 135(4): 934-8.

60. Tanaka, K.A., Egan, K., Szlam, F., Ogawa, S., **Roback, J.D.,** Sreeram, G., Guyton, R.A., and Chen, E.P. (2014) Transfusion and hematologic variables after fibrinogen or platelet transfusion in valve replacement surgery: preliminary data of purified lyophilized human fibrinogen concentrate versus conventional transfusion. *Transfusion.* 54(1): 109-18.

61. **Roback, J.D.,** Josephson, C.D., Waller, E.K., Newman, J.L., Karatela, S., Uppal, K., Jones, D., Zimring, J.C., and Dumont, L.J. (2014) Metabolomics of ADSOL (AS-1) red blood cell storage. *Transfusion Medicine Reviews* 28: 41-55

62. James, A.B., Josephson, C.D., Shaz, B.H., Schreiber, G.B., and **Roback, J.D.** (2014) The Value of area-based analyses of donation patterns for recruitment strategies. *Transfusion.* 54(12): 3051-3060.

63. Josephson, C.D., Patel, R.M., Easley, K., Knezevic, A., Shenvi, A., Caliendo, A., Hillyer, C.D., and **Roback, J.D.** (2014) Blood transfusion and breast milk transmission of cytomegalovirus in very low birth weight infants. *JAMA Pediatrics.* 168(11): 1054-1062.

64. Hosoba, S, Jaye DL, Cohen C, **Roback JD,** Waller EK. (2015) Successful treatment of severe immune hemolytic anemia following allogeneic stem cell transplantation with bortezomib; report of a case and review of literature. *Transfusion.* 55(2): 259-64.

65. Patel, R.M., **Roback, J.D.**, Jones, D.P., Yu, T., Uppal, K., and Josephson, C.D. (2015) Metabolomics profile comparisons of irradiated and non-irradiated stored donor red blood cells. *Transfusion.* 55(3): 544-52.

66. Keil, S, Saakadze, N, Bowen, R, Newman, J, Karatela, S, Gordy, P, Marschner, S, **Roback, J,** and Hillyer, CD. (2015) Riboflavin and UV light for pathogen reduction of murine CMV in blood products. *Transfusion.* 55(4): 858-863.

67. Neuman, R., Hayek, S., Rahman, A., Poole, J.C., Menon, V., Sher, S., Newman, J.L., Karatela, S., Polhemus, D., Lefer, D.J., De Staercke, C., Hooper, C., Quyyumi, A., and **Roback, J.D.** (2015) Effects of Storage-Aged RBC Transfusions on Endothelial Function in Hospitalized Patients. *Transfusion.* 55(4): 782-790.

68. **Roback JD,** Barclay SB, Moulds J, and Denomme G (2015) A multicenter study on the performance of a fully-automated, walk-away high throughput analyzer for pre-transfusion testing in the US population. *Transfusion.* 55(6): 1522-8.

69. Heddle, NM, Boeckh, M, Grossman, B, Jacobson, J, Kleinman, S., Tobian, AAR, Webert, K, Wong, ECC, and **Roback JD** (2016) AABB committee report: Reducing transfusion transmitted cytomegalovirus (CMV) infections. *Transfusion.* 56(6 Pt 2):1581-7. https://doi:10.1111/trf.13503

70. Patel, RM, Knezevic, A, Shenvi, N, Hinkes, M, Keene, S, **Roback**, **JD**, Easley, KA and Josephson, CD (2016) Association of Red Blood Cell Transfusion, Anemia and Necrotizing Enterocolitis in Very Low Birth Weight Infants. *JAMA.* 315(9):889-897. https://doi:10.1001/jama.2016.1204

71. deWolski, K, Fu, X, Dumont, LJ, **Roback, JD,** Waterman, H, Howie, HL, and Zimring, JC (2016) Metabolic Pathways that Correlate with Post-Transfusion Circulation of Stored Murine Red Blood Cells. *Haematologica.* 101(5): 578-586.

72. Carson, JL, Guyatt, G, Heddle, NM, Grossman, BJ, Cohn, CS, Fung, MK, Gernsheimer, T, Holcomb, JB, Kaplan, LJ, Katz, LM, Peterson, N, Ramsey, G, Rao, SV, **Roback**, **JD**, Shander, A, and Tobian, AAR (2016) Clinical Practice Guidelines from the AABB: Red Blood Cell Transfusion. *JAMA.* 316(19): 2025-2035. https://doi:10.1001/jama.2016.9185

73. **Roback, JD** (2016). Perspectives on the impact of storage duration on blood quality and transfusion outcomes. *Vox Sanguinis.* 111(4):357-364. https://doi:10.1111/vox.12441

74. Mitchell, AJ, Gray, WD, Hayek, SS, Ko, Y-A, Thomas, S, Rooney, K, Awad, M, **Roback, JD**, Quyyumi, A, Searles, CD (2016). Platelets confound the measurement of extracellular miRNA in archived plasma. *Scientific Reports.* 13;6:32651. https://doi:10.1038/srep32651

75. Howard, D.H., Karcz, A, and **Roback, JD** (2016). The accuracy of claims data for measuring transfusion rates. *Transfusion Medicine.* 26(6):457-459. https://doi:10.1111/tme.12358

76. Mitchell, AJ, Gray, WD, Schroeder, M, Hy, I, Taylor, JV, Dillard, RS, Zunlogke, Wright, ER, Step, D, **Roback, JD**, Searles, CD (2016). Pleomorphic structures in human blood are red blood cell-derived microparticles, not bacteria. *Plos One.* 11(10):e0163582. https://doi:10.1371/journal.pone.0163582

77. Seitz, K.P., Sevransky, J.E., Martin, G.S., **Roback, J.D.,** and Murphy, D.J. (2017) Evaluation of RBC transfusion practice in adult ICUs and the effect of restrictive transfusion protocols on routine care. *Critical Care Medicine.* 45(2):271-281. https://doi:10.1097/CCM.0000000000002077

78. Sullivan, HC, Gerner-Smidt, C, Nooka, A, Arthur, C, Thompson, L, Mener A, Patel, S, Yee, M, Fasano, R, Josephson, CD, Kaufman, R, **Roback, JD**, Lonial, S, Stowell, SR (2017). Daratumumab

(anti-CD38) induces loss of CD38 on red blood cells. *Blood.* 129(22):3033-3037. https://doi:10.1182/blood-2016-11-749432

79. Qi, Z, **Roback, JD**, Voit, E. (2017). Effects of storage time on glycolysis in donated human blood units. *Metabolites*. 7(2). pii: E12. https://doi:10.3390/metabo7020012
80. Howard, D.H., **Roback, JD**, Murphy, DJ (2017). Trends in transfusion rates after the FOCUS trial. *Journal of Comparative Effectiveness Research.* 7(2): 113-120. https://doi:10.2217/cer-2017-0038
81. Sagiv, E., Fasano, R.M., Luban, N.L.C., Josephson, C.D., Stowell, S.R., **Roback, JD**, Francis, R.O., and Yee, M.E.M (2018). Glucose-6-phosphate-dehydrogenase deficient red blood cell units are associated with decreased post-transfusion red blood cell survival in children with sickle cell disease. *American Journal of Hematology.* 93(5): 630-634. https://doi:10.1002/ajh.25051
82. Yee, M.E.M, Josephson, C.D., Winkler, A., Webb, J., Luban, N., Leong, T., Stowell, S.R., **Roback, J.D.**, Fasano, R. (2018). Hemoglobin A clearance in children with sickle cell anemia on chronic transfusion therapy. *Transfusion.* Volume 58(6): 1363-1371. https://doi:10.1111/trf.14610
83. Marin, T., Patel, R.M., **Roback, J.D.,** Stowell, S.R., Guo, Y., Easley, K., Warnock, M., Skvarich, J., Josephson, C.D. (2018). Does red blood cell irradiation and/or anemia trigger intestinal injury in premature infants with birth weight < 1250 g? An observational birth cohort study. *BMC Pediatrics*. 18. https://doi:10.1186/s12887-018-1241-5
84. Yang, W-H, Doss, J.F., Walzer, K.A., McNulty, S.M., Wu, J., **Roback, J.D., C**hi, J-T (2018) Angiogenin-mediated tRNA cleavage as a novel feature of stored red blood cells. *British Journal Haematology.* 185(4): 760-764. https://doi:10.1111/bjh.15605
85. Guruprasad, P, Mannino, R.G., Caruso, C., Zhang, H., Josephson, C.D., **Roback, J.D.,** Lam, W.A. (2019) Integrated automated particle tracking microfluidic enables high-throughput cell deformability cytometry for red cell disorders. *American Journal Hematology.* 94(2); 189-199. https://doi.org/10.1002/ajh.25345
86. Hosoba, S., Waller, E.K., Shenvi, N., Graiser, M., Easley, K.A., Al-Kadhimi, Z., Andoh, A., Antun, A.G., Barclay, S., Josephson, C.D., Koff, J.L., Khoury, H.J., Langston, A.A., Zimring, J.C., **Roback, J.D.,** Giver, C.R. (2018) Peritransplantation red blood cell transfusion is associated with increased risk of graft-versus-host disease after allogeneic hematopoietic stem cell transplantation. *Biology of Blood and Marrow Transplantation*. 24(5): 973-982. https://doi:10.1016/j.bbmt.2018.01.003
87. Jacob, R.P., Dean, C.L., Krummey, S.M., Goodman, A.L., **Roback, J.D.**, Gebel, H.M., Bray, R.A., and Sullivan, H.C. (2018) Stability of anti-A blood group titers among blood group B renal transplant candidates. *Transfusion*. 58(12): 2747-51.
88. Arthur, C., Nalbant, D., Feldman, H., Saeedi, B., Matthews, J., Robinson, B., Norine, K., Bennett, A.L., Cress, G., Sola-Visner, M., Jones, R.M., Zimmerman, B., Neish, A.S., Patel, R.M., Nopoulos, P., **Roback, J.D.,** Widness, J., Josephson, C.D., Stowell, S.R. (2019) Anemia induces gut inflammation and injury in an animal model of preterm infants. *Transfusion*. 59(4): 1233-45. https://doi:10.1111/trf.15254
89. Maier, C.L., Asbury, W.H., Duncan, A., Robbins, A., Ingle, A., Webb, A., Stowell, S.R., **Roback, J.D.** (2019) Using an old test for new tricks: Measuring direct oral anti-Xa drug levels by conventional heparin-calibrated anti-Xa assay. *American Journal Hematology.* 94(5): E132-4. https://doi:10.1002/ajh.25434
90. Park, J.S., Eldridge, W.J., Yang, W.-H., Corse, M., Ceballos, S., **Roback, J.D.,** Chi, J.-T.A., Wax, A. (2019). Quantitative phase imaging of erythrocytes under microfluidic constriction in a high refractive index medium reveals water content changes. *Microsystems and Nanoengineering.*5:63. https://doi.org/10.1038/241378-019-0113-y

91. Patel, R., Shenvi, N., Knezevic, A., Hinkes, M., Bugg, G., Stowell, S., **Roback, J.D.,** Easley, K., Josephson, C. (2019) Observational study of cytomegalovirus from breast milk and necrotizing enterocolitis. *Arch Dis Child Fetal Neonatal Ed.* 0:F1-F7. https://doi:10.1136/archdischild-2018-316613

92. Howie, H.L., Hay, A.M., de Wolski, K., Waterman, H., Lebedev, J., Fu, X., Fulp-Hill, R., D'Alessandro, A., Gorham, J.D., Ranson, M.S., **Roback, J.D.,** Thomson, P.C., and Zimring, J.C. (2019) Differences in Steap3 expression are a mechanism of genetic variation of RBC storage and oxidative damage in mice. *Blood Advances.* 3(15): 2272-2285. https://doi.org/10.1182/bloodadvances.2019000605

93. **Roback, J.D.**, Denomme, G., Billingsley, K., Bensing, K., Parsons, J., McDonough, W. (2019) Performance and reliability of a benchtop automated instrument for transfusion testing: a comparative multicenter clinical study in the US population. *Transfusion*. 59(11): 3511-3518. https://doi.org/10.1111/trf.15520

94. Thomasson, R.R., Yazer, M.H., Gorham, J.D. Dunbar, N.M., MTP Use Study Investigators, on behalf of the Biomedical Excellence for Safer Transfusion (BEST) Collaborative. International assessment of massive transfusion protocol contents and indications for activation. (2019) *Transfusion.* 59(5): 1637-1643. https://doi.org/10.1111/trf.15149

95. Patel, R.M., Knezevic, A., Yang, J., SHenvi, N., Hinkes, M., **Roback, J.D.,** Easley, K.A., Josephson, C.D. (2019). Enteral iron supplementation, red blood cell transfusion, and risk of bronchopulmonary dysplasia in very-low-birthweight infants. *Transfusion.* 59(5):1675-1682. https://doi.org/10.1111/trf.15216

96. Dean, C.L., Maier, C.L., **Roback, J.D.,** Stowell, S.R. (2019) Multiple hemolytic transfusion reactions misinterpreted as severe vaso-occlusive crisis in a patient with sickle cell disease. *Transfusion.* 59(2): 448-453. https://doi.org/10.1111/trf.15010

97. Mohammad, M.K., Wooten, M.S., Maier, C.L., Hill, C.E., Guarner, J., **Roback, J.D.,** Winkler, A.M., Sullivan, H.C. (2020) Electronic charting of transfusion medicine consults: implementation, challenges and opportunities. *Vox Sanguinis*. https://doi.org/10.1111/vox.12913

98. Hu W.T., Howell J.C., Ozturk T., Benameur K., Bassit L.C., Ramonell R., Cashman, K.S., Pirmohammed, S., **Roback, J.D.,** Marconi, V.C., Yang, I., Mac, V.V., Smith, D., Sanz, I., Wharton, W., Lee, F.E-H., Schinazi, R.F. (2020) Antibody profiles according to mild or severe SARS-CoV-2 infection, *Emerg Infect Dis.* 2020 Dec [*date cited*]. https://doi.org/10.3201/eid2612.203334

99. Suthar, M.S., Zimmerman, M.G., Kauffman, R.C., Mantus, G., Linderman, S.L., Hudson, W.H., Vanderheiden, A., Nyhoff, L., Davis, C.D., Adekunle, S., Affer, M., Sherman, M., Reynolds, S., Verkerke, H.P., Alter, D.N., Guarner, J., Bryksin, J., Horwarth, M., Arthur, C.M., Saakadze, N., Smith, G.H., Edupuganti, S., Scherer, E.M., Hellmeister, K., Cheng, A., Morales, J.A., Neish, A.S., Stowell, S.R., Frank, F., Ortlund, E., Anderson, E., Menachery, V.D., Rouphael, N., Mehta, A., Stephens, D.S., Ahmed, R., **Roback, J.D.,** Wrammert, J. (2020) Rapid generation of neutralizing antibody responses in COVID-19 patients. *Cell Reports Medicine*. 1(3). https://doi.org/10.1016/j.xcrm.2020.100040

100. Wade, J., Dean, C.L., Krummey, S.M., **Roback, J.D.**, Sullivan, H.C. (2020) How do I . . . implement diagnostic management teams in transfusion medicine? *Transfusion*. 60(2) 237-244. https://doi.org/ 10.1111/trf.15618

101. Rodriguez, Z., Shane, A.L., Verkerke, H., Lough, C.M., Zimmerman, M., Suthar, M., Wrammert, J., MacDonald, H., Wolf, M., Clarke, S., **Roback, J.D.,** Arthur, C.M., Stowell, S.R., Josephson, C.D. (2020) COVID-19 convalescent plasma clears SARS-CoV-2 refractory to remdesivir in an infant with congenital heart disease. *Blood Advances.* 4(18) 4278-4281. https://doi.org/10.1182/bloodadvances.2020002507

102. Montemayor, C., Simone, A., Long, J., Montemayor, O., Delvadia, B., Rivera, R. Lewis, K.L., Gandla, D.M., Dura, K., Krishnan, U.S., Wendzel, N.C., Elavia, N., Grissom, S., Karagianni, P., Bueno, M., Loy, D., Cacanindin, R., McLaughlin, S., Tynuv, M., Brunker, P.A.R., **Roback, J.D.,** Adams, S., Smith, H., Biesecker, L., and Klein, H.G. (2020) An open-source Python library for detection of known and novel Kell, Duffy, and Kidd variants from exome sequencing. *Vox Sanguinas. In press*. https://doi.org/10.1111/vox.13035

103. Truong, A.D., Auld, S.C., Barker, N.A., Friend, S., Winn, A.T., Cobb, J., Sniecinski, R.M., Tanksley, C.-L., Polly, D.M., Gaddh, M., Connor, M., Nakahara, H., Sullivan, H.C., Kempton, C., Guarner, J., Duncan, A., Josephson, C.D., **Roback, J.D.,** Stowell, S.R., Maier, C.L. (2020) Therapeutic plasma exchange for COVID-19-associated hyperviscosity. *Transfusion. In press.* https://doi.org/10.1111/trf.16218

104. Liu, S., Wu, M., Lancelot, M., Deng, J., Gao, Y., **Roback, J.D.,** Chen, T., Cheng, L. (2021). BMI-1 enables extensive expansion of functional erythroblasts from human peripheral blood mononuclear cells. *Molecular Therapy.* 29(5):1918-1932. https://doi.org/10.1016/j.ymthe.2021.01.022

105. Verkerke, H., Horwath, M., Saeedi, B., Boyer, D., Allen, J.W., Owens, J., Arthur, C.M., Nakahara, H., Rha, J., Patel, K., Wu, S.C., Paul, A., Yasin, N., Wang, J., Shin, S., Brown, D., Normile, K., Cole, L., Meyers, M., Lin, H., Woods, E., Isaac, J., Broder, K., Wade, J., Kauffman, R.C., Patel, R.;, Josephson, C.D., Reynolds, S., Sherman, M., Wrammert, J., Alter, D., Guarner, J., **Roback, J.D.,** Neish, A., Stowell, S.R. (2021) Comparison of antibody class-specific SARS-CoV-2 serologies for the diagnosis of acute COVID-19. *J. Clin. Microbiol.* 59(4): e02026-20. https://doi.org/10.1128/JCM.02026-20

106. Haddad, N.S., Nguyen, D.C., Kuruvilla, M.D., Morrison-Porter, A., Anam, F., Cashman, K.S., Ramonell, R.P., Kyu, S., Saini, A.S., Cabrera-Mora, M., Derrico, A., Alter, D., **Roback, J.D.,** Horwath, M., O'Keefe, J.B., Wu, H.M., Wong, A.I., Dretler, A.W., Gripaldo, R., Lane, A.N., Wu, H., Chu, H.Y., Lee, S., Hernandez, M., Engineer, V., Varghese, J., Patel, R., Jalal, A., French, V., Guysenov, I., Lane, C.E., Mengistsu, T., Normile, K.E., Mnzava, O., Le, S., Sanz, I.,Daiss, J.L., Lee, F.E. (2021) One-stop serum assay identifies COVID-19 disease severity and vaccination responses. *Immunohorizons.* 5(5): 322-335. https://doi.org/10.4-49/immunohorizons.2100011

107. Baker, J.M., Nelson, K.N., Overton, E., Lopman, B.A., Lash, T.L., Photakis, M., Jacob, J.T., **Roback, J.D.,** Fridkin, S.K., Steinberg, J.P. (2021) Quantification of occupational and community risk factors for SARS-CoV-2 seropositivity among health care workers in a large U.S. health care system. *Ann. Intern. Med.* 174(5):649-654. https://doi.org/10.7326/M20-7145

108. Wu, S.C., Arthur, C.M., Wang, J., Verkerke, H., Josephson, C.D., Kalman, D., **Roback, J.D.,** Cummings, R.D., Stowell, S.R. (2021). The SARS-CoV-2 receptor-binding domain preferentially recognizes blood group A. *Blood Adv.* 5(5): 1305-1309. https://doi.org/10.1182/bloodadvances.2020003259

109. Arthur, C.M., Allen, J.W.L., Verkerke, H., Yoo, J., Jajosky, R.P., Girard-Pierce, K., Chonat, S., Zerra, P., Maier, C., Rha, J., Fasano, R., Josephson, C.D., **Roback, J.D.**, Stowell, S.R. (2021) Antigen density dictates RBC clearance, but not antigen modulation, following incompatible RBC transfusion in mice. *Blood Adv.* 5(2):527-538. https://doi.org/10.1182/bloodadvances.2020002695

110. Wade, J., Dent, E.A., Wooten, M.S., Moosavi, M., Butler, H., Lough, C., Verkerke, H., Kamili, N.A., Maier, C.L., Josephson, C.D., **Roback, J.D.,** Stowell, S.R., Sullivan, H.C. (2021) COVID-19 convalescent plasma donor recruitment experience from the perspective of a hospital transfusion medicine service. *Transfusion.* https://doi.org/10.1111/trf.16448

111. George, P.E., Stokes, C.L., bassit, L.C., Chahroudi, A., Figueroa, J., Griffiths, M.A., Heilman, S., Ku, D.N., Nehl, E.J., Leong, T., Levy, J.M., Kempker, R., Mannino, R.G., Mavigner, M., Park, S.I., Rao, A., Rebolledo, P.A., **Roback, J.D.**, Rogers, B.B., Schinazi, R.F., Sullivan, J., Tyburski, E.A.,

Vos, M.B., Waggoner, J.J., Wang, Y.F., Madsen, J., Wechsler, D.S., Joiner, C.H., Martin, G.S., Lam, W.A. (2021).COVID-19 will not "magically disappear": Why access to widespread testing is paramount. *Am. J. Hematol.* Feb 1. 96(2):174-8. https://doi.org/10.1002/ajh.26059.

112. Frediani, J.K., Levy, J.M.,. Rao, A., Bassit, L., Figueroa, J., Vos, M.B., Wood, A., Jerris, R., Leung-Pineda, V., Gonzalez, M.D., Rogers, B.B., Mavigner, M., Schinazi, R.F., Schoof, N., Waggoner, J.J., Kempker, R.R., Rebolledo, P.A., O'Neal, J.W., Stone, C., Chahroudi, A., Morris, C.R., Suessmith, A., Sullivan, J., Farmer, S., Foster, A., **Roback, J.D.**, Ramachandra, T., Washington, C., Le, K., Cordero, M.C., Esper, A., Nehl, E.J., Wang, Y.F., Tyburski, E.A., Martin, G.S., Lam, W.A. (2021). Multidisciplinary assessment of the Abbott BinoxNOW SARS-CoV-2 point-of-care antigen test in the context of emerging viral variants and self-administration. *Sci Rep*. July 16. 11(1):14604. https://doi.org/10.1038/s41598-021-94055-1

113. Nehl, E., Heilman, S., Ku, D., Gottfried, D., Farmer, S., Mannino, R., Tyburski, E., Sullivan, J., Suessmith, A., Bassit, L., Figueroa, J., Wood, A., Leong, T., Rao, A., Rogers, B., Jerris, R., Park, S., Gonzalez, M., Frediani, J., Morris, C., Levy, J., Schoof, N., Mavigner, M., **Roback, J.D.**, Herzegh, K., Saakadze, N., Ingersoll, J., Cheedarla, N., Neish, A., Hanberry, B., Porter, C., Esper, A., Kempker, R., Rebolledo, P., McGuinness, P., Balagadde, F., Gore, R., Koren, A., Pollock, N., Rogers, E., Simin, K., Hafer, N., Picard, M.A., Ghezzi, C., McManus, D., Buchholz, B., Rostad, C., Claveria, V., Ramachandra, T., Wang, Y.F., Washington, C., Stone, C., Griffiths, M., Schinazi, R., Chahroudi, A., Vos, M., Brand, O., Martin, G., Lam W. (2021). The RADx Tech Test Verification Core and the ACME POCT in the evaluation of COVID-19 testing devices: A model for progress and change. *IEEE Open J Eng Med Bio*. April 28. 2: 142-151. https://doi.org/10.1109/OJEMB.2021.3070825.

114. Patel R.M., Lukemire J., Shenvi N., Arthur C., Stowell S.R., Sola-Visner M., Easley K., **Roback J.D.,** Guo Y., Josephson C.D. (2021). Association of blood donor sex and age with outcomes in very low-birth-weight infants receiving blood transfusion. *JAMA Netw Open*. https://doi.org/10.1001/jamanetworkopen.2021.23942

115. Sarker T.T., Delvadia B., Li S., **Roback J.D.**, Fasano R.M., Broder K.J., Monsrud A.L., Josephson C.D. (2021) Mizuho hemoglobinopathy presenting with severe hemolytic anemia and multisystem organ failure secondary to exertion. *Transfusion*. 61(7):1996-1997. https://doi.org/10.1111/trf.16522

116. Verkerke H., Saeedi B.J., Boyer D., Allen J.W., Owens J., Shin S., Horwath M., Patel K., Paul A., Wu S.C., Wang J., Ho A., Maier C.L., Zerra P.E., Chonat S., Arthur C.M., **Roback J.D.**, Neish A.S., Lough C., Josephson C.D., Stowell S.R. (2021). Are we forgetting about IgA? A re-examination of coronavirus disease 2019 convalescent plasma. *Transfusion*. 61(6):1740-1748. https://doi.org/10.1111/trf.16435

117. Ho A.D., Verkerke H., Allen J.W., Saeedi B.J., Boyer D., Owens J., Shin S., Horwath M., Patel K., Paul A., Wu S.C., Chonat S., Zerra P., Lough C., **Roback J.D.**, Neish A., Josephson C.D., Arthur C.M., Stowell S.R. (2021). An automated approach to determine antibody endpoint titers for COVID-19 by an enzyme-linked immunosorbent assay. *Immunohematology*. 37(1):33-43. https://doi.org/10.21307/immunohematology-2021-007

118. Zerra P.E., Patel S.R., Jajosky R.P., Arthur C.M., McCoy J.W., Allen J.W.L., Chonat S., Fasano R.M., **Roback J.D.**, Josephson C.D., Hendrickson J.E., Stowell S.R. (2021). Marginal zone B cells mediate a CD4 T-cell-dependent extrafollicular antibody response following RBC transfusion in mice. *Blood*. 138(8):706-721. https://doi.org/10.1182/blood.2020009376

119. Allen J.W.L., Verkerke H., Owens J., Saeedi B., Boyer D., Shin S., **Roback J.D.**, Neish A.S., Stowell S.R. (2021). Serum pooling for rapid expansion of anti-SARS-CoV-2 antibody testing capacity. *Transfus Clin Biol.* 28(1):51-54. https://doi.org/10.1016/j.tracli.2020.10.008

120. Moosavi M.M., Goodman A.L., Duncan A., Stowell S.R., Waller E.K., **Roback J.D.**, Sullivan H.C. (2021). Development of iron deficiency anemia in patients undergoing extracorporeal photopheresis: Comparison of the UVAR and CELLEX instruments. *J Clin Apher.* 36(1):34-40. https://doi.org/10.1002/jca.21836

121. Deng, J., Lancelot, M., Jajosky, R., Deng, Q., Deeb, K., Saakadze, N., Gao, Y., Jaye, D., Liu, S., Stowell, S.R., Cheng, L., **Roback, J.D.** (2022) Erythropoietic properties of human iPSC-derived RBCs in immunodeficient mice. *American Journal of Hematology.* 97(2):194-202. https://doi.org/10.1002/ajh.26410

122. Farmer, S., Razin, V., Peagler, A.F., Strickler, S., Fain, W.B., Damhjorst, G.L., Kempker, R.R., Pollock, N.R., Brand, O., Seitter, B., Heilman, S.S., Nehl, E.J., Levy, J.M., Gottfried, D.S., Martin, G.S., Greenleaf, M., Ku, D.N., Waggoner, J.J., Iffrig, E., Mannino, R.G., Wang, Y., Ortlund, E., Sullivan, J., Rebolledo, P.A., Claveria, V., **Roback, J.D**., Benoit, M., Stone., C., Esper., A., Frank, F., Lam, W.A. (2022) Don't forget about human factors: Lessons learned from COVID-19 point-of-care testing. *Cell Rep Methods*. May 23. 2(5):100222. https://doi.org/10.1016/j.crmeth.2022

123. Frediani J.K., McLendon K.B., Westbrook A., Gillespie S.E., Wood A., Baugh T.J., O'Sick W., **Roback J.D.**, Lam W.A., Levy J.M. (2022). SARS-CoV-2 reliably detected in frozen saliva samples stored up to one year. *PLoS One*. 17(8):e0272971. https://doi.org/10.1371/journal.pone.0272971

124. Verkerke H.P., Damhorst G.L., Graciaa D.S., McLendon K., O'Sick W., Robichaux C., Cheedarla N., Potlapalli S., Wu S.C., Harrington K.R.V., Webster A., Kraft C., Rostad C.A., Waggoner J.J., Gandhi N.R., Guarner J., Auld S.C., Neish A., **Roback J.D.**, Lam W.A., Shah N.S., Stowell S.R. (2022). Nucleocapsid antigenemia is a marker of acute SARS-CoV-2 infection. *J Infect Dis*. https://doi.org/10.1093/infdis/jiac225

125. Achram R., Denomme G.A., Stef M.A., Nguyen T.T.A., Delvadia B., Thompson L., Josephson C.D., **Roback J.D.**, Sullivan H.C. (2022). A case of Tn polyagglutination discovered by an ABO blood group discrepancy. *Transfusion*. 62(7):1452-1456. https://doi.org/10.1111/trf.16966

126. Snyder E.L., Wheeler A.P., Refaai M., Cohn C.S., Poisson J., Fontaine M., Sehl M., Nooka A.K., Uhl L., Spinella P., Fenelus M., Liles D., Coyle T., Becker J., Jeng M., Gehrie E.A., Spencer B.R., Young P., Johnson A., O'Brien J.J., Schiller G.J., **Roback J.D.**, Malynn E., Jackups R., Avecilla S.T., Lin J.S., Liu K., Bentow S., Peng H.L., Varrone J., Benjamin R.J., Corash L.M. (2022). Comparative risk of pulmonary adverse events with transfusion of pathogen reduced and conventional platelet components. *Transfusion*. 62(7):1365-1376. https://doi.org/10.1111/trf.16987

127. Karger A.B., Brien J.D., Christen J.M., Dhakal S., Kemp T.J., Klein S.L., Pinto L.A., Premkumar L., **Roback J.D.**, Binder R.A., Boehme K.W., Boppana S., Cordon-Cardo C., Crawford J.M., Daiss J.L., Dupuis A.P. 2nd, Espino A.M., Firpo-Betancourt A., Forconi C., Forrest J.C., Girardin R.C., Granger D.A., Granger S.W., Haddad N.S., Heaney C.D., Hunt D.T., Kennedy J.L., King C.L., Krammer F., Kruczynski K., LaBaer J., Lee F.E., Lee W.T., Liu S.L., Lozanski G., Lucas T., Mendu D.R., Moormann A.M., Murugan V., Okoye N.C., Pantoja P., Payne A.F., Park J., Pinninti S., Pinto A.K., Pisanic N., Qiu J., Sariol C.A., Simon V., Song L., Steffen T.L., Stone E.T., Styer L.M., Suthar M.S., Thomas S.N., Thyagarajan B., Wajnberg A., Yates J.L., Sobhani K. (2022). The serological sciences network (SeroNet) for COVID-19: Depth and breadth of serology assays and plans for assay harmonization. *mSphere*. https://doi.org/10.1128/msphere.00193-22

128. Wade J., **Roback J.D.**, Krummey S.M., Gebel H.M.., Bray R.A, Sullivan H.C. (2022). Implementing virtual crossmatch based diagnostic management teams in human leukocyte antigen laboratories and transplant programs. *Transpl Immunol*. https://doi.org/10.1016/j.trim.2022.101629

129. Jain V., Yang W.H., Wu J., **Roback J.D.**, Gregory S.G., Chi J.T. (2022). Single cell RNA-Seq analysis of human red cells. *Front Physiol.* https://doi.org/10.3389/fphys.2022.828700

130. Arthur C.M., Patel S.R., Sharma A., Zerra P.E., Chonat S., Jajosky R.P., Fasano R.M., Patel R., Bennett A., Zhou X., Luckey C.J., Hudson K.E., Eisenbarth S.C., Josephson C.D., **Roback J.D.**, Hendrickson J.E., Stowell S.R. (2022). Clodronate inhibits alloimmunization against distinct red blood cell alloantigens in mice. *Transfusion*. 62(5):948-953. https://doi.org/10.1111/trf.16872

131. Zhu J., Wang Y., Li J.X., Das P.K., Zhang H., Passang T., Li J.M., Nagy T., Gandhi K., Ravindranathan S., Giver C.R., Hassan M., Li Y., Antonova A.U., Wang S., **Roback J.D.**, Waller E.K. (2022). Donor plasmacytoid dendritic cells limit graft-versus-host disease through vasoactive intestinal peptide expression. Blood. https://doi.org/10.1182/blood.2021012561

132. Nooka A.K., Shanmugasundaram U., Cheedarla N., Verkerke H., Edara V.V., Valanparambil R., Kaufman J.L., Hofmeister C.C., Joseph N.S., Lonial S., Azeem M., Manalo J., Switchenko J.M., Chang A., Linderman S.L., **Roback J.D.**, Dhodapkar K.M., Ahmed R., Suthar M.S., Neish A.S., Dhodapkar M.V. (2022). Determinants of neutralizing antibody response after SARS CoV-2 vaccination in patients with myeloma. *J Clin Oncol*. https://doi.org/10.1200/JCO.21.02257

133. Yee M.E., Francis R.O., Luban N.L.C., Easley K.A., Lough C.M., **Roback J.D.**, Josephson C.D., Fasano R.M. (2022) Glucose-6-phosphate dehydrogenase deficiency is more prevalent in Duffy-null red blood cell transfusion in sickle cell disease. *Transfusion*. 62(3):551-555. https://doi.org/10.1111/trf.16806

134. Tedbury, P.R., Manfredi, C., Degenhardt, F., Conway, J., Horwath, M.C., McCracken, C., Sorscher, A.J., Moreau, S., Wright, C., Edwards, C., Brewer, J., Guarner, J., de Wit, E., Williamson, B.N., Suthar, M.S., Ong, Y.T., **Roback, J.D.,** Alter, D.N., Holter, J.C., Karlsen, T.H., Sacchi, N., Romero-Gomez, M., Invernizzi, P., Fernandez, J., Buti, M., Albillos, A., Julia, A., Valenti, L., Asselta, R., Banales, J.M., Bujanda, L., de Cid, R., Franke, A. Sarafianos, S.G., Hong, J.S., Sorscher, E.J., Ehrhardt, A. (2023) Mechanisms by which the cystic fibrosis transmembrane conductance regulator may influence SARS-CoV-2 infection and COVID-19 disease severity. *FASEB Journal.* 37(11). https://doi.org/10.1096/fj.202300077R

135. Forrest, AD, Poliektov, NE, Easley, KA, Michopoulos, V, Ravi, M, Cheedarla, N, Neish, AS, Cheedarla, S, **Roback, JD**, Dunlop, AL, Badell, ML, Dude, CM (2023) Characterization of the inflammatory response to COVID-19 illness in pregnancy. *Cytokine.* 170. https://doi.org/10.1016/j.cyto.2023.156319

136. Rao, A, Westbrook, A, Bassit, L, Parsons, R, Fitts, E, Greenleaf, M, McLendon, K, Sullivan, JA, O'Sick, W, Baugh, T, Bowers, HB, Frank, F, Wang, E, Le, M, Frediani, J, Roychoudhury, P, Greninger, AL, Jerris, R, Pollock, NR, Ortlund, EA, **Roback, JD**, Lam, WA, Piantadosi, A (2023) Sensitivity of rapid antigen tests against SARS-CoV-2 Omicron and Delta variants. *J. Clinical Microbiology.* https://doi.org/10.1128/jcm.00138-23

137. Wu, SC, Arthur, CM, Jan, HM, Garcia-Beltran, WF, Patel, KR, Rathgeber, MF, Verkerke, HP, Cheedarla, N, Jajosky, RP, Paul, A, Neish, AS, **Roback, JD**, Josephson, CD, Wesemann, DR, Kalman, D, Rakoff-Nahoum, S, Cummings, RD, Stowell, SR (2023) Blood group A enhances SARS-CoV-2 infection. *Blood.* 142(8): 742-7. https://doi.org/10.1182/blood.2022018903

138. Lancelot, M, Fibben, K, Sullivan, J, O'Sick, W, McLendon, K, Wu, HX, Rao, ANRD, Bassit, LC, Greenleaf, M, Miller, P, Krull, W., Tyburski, E, **Roback, JD**, Lam, WA, Damhorst, GL (2023) Effect of swab pooling on the Accula point-of-care RT-PCR for SARS-CoV-2 detection. *Frontiers in Microbiology.* 14. https://doi.org/10.3389/fmicb.2023.1219214

139. Patel, A, Kumar, S, Lai, LL, Chakravarthy, C, Valanparambil, R, Reddy, ES, Gottimukkala, K, Bajpai, P, Raju, DR, Edara, VV, Davis-Gardner, ME, Linderman, S, Dixit, K, Sharma, P, Mantus, G, Cheedarla, N, Verkerke, HP, Frank, F, Neish, AS, **Roback, JD**, Davis, CW, Wrammert, J, Ahmed, R, Suthar, MS, Sharma, A, Murali-Krishna, K, Chandele, A, Ortlund, EA (2023) Molecular basis of

SARS-CoV-2 Omicron variant evasion from shared neutralizing antibody response. *Structure.* 31(7). https://doi.org/10.1016/j.str.2023.04.010

140. Govindaraj, S, Cheedarla, N, Cheedarla, S, Irby, LS, Neish, AS, **Roback, JD**, Smith, AK, Velu, V (2023) COVID-19 vaccine induced poor neutralization titers for SARS-CoV-2 omicron variants in maternal and cord blood. *Frontiers in Immunology.* 14. https://doi.org/10.3389/fimmu.2023.1211558

141. Nakahara, H, Cheedarla, N. Verkerke, HP, Cheedarla, S, Wu, SC, Hendrickson, JE, Chang, AD, McLemore, ML, El Rassi, F, **Roback, JD**, Neish, AS, Fasano, RM, Stowell, SR (2023) Enhanced IgG immune response to COVID-19 vaccination in patients with sickle cell disease. *Br J Haematology.* https://doi.org/10.1111/bjh.18899

142. Damhorst, GL, Schoof, N, Nguyen, PV, Verkerke, H, Wilber, E, McLendon, K, O'Sick, W, Baugh, T, Cheedarla, S, Cheedarla, N, Stittleburg, V, Fitts, EC, Neja, MA, Babiker, A, Piantadosi, A, **Roback, JD**, Waggoner, JJ, Mavigner, M, Lam, WA (2023) Investigation of Blood Plasma Viral Nucleocapsid Antigen as a Marker of Active Severe Acute Respiratory Syndrome Coronavirus 2 Omicron Variant Infection. *Open Forum Infectious Diseases.* 10(5). Httsp://10.1093/ofid/ofad226

143. Druzak, S., Iffrig, E., Roberts, B., Zhang, T., Fibben, K., Sakurai, Y., Verkerke, H., Rostad, C., Chahroudi, A., Schneider, F., Wong, A., Roberts, A., Chandler, J., Kim, S., Mosunjac, M., Mosunjac, M., Geller, R., Albizua, I;, Stowell, S., Arthur, C., Anderson, E., Ivanova, A., Ahn, J., Liu, X., Maner-Smith, K., Bowen, T., Paiardini, M., Bosinger, S., **Roback J.D.**, Kulpa, D., Silvestri, G., Lam, W., Ortlund, E., Maier, C.L. (2023) Multiplatform analyses reveal distinct drivers of systemic pathogenesis in adult versus pediatric severe acute COVID-19. *Nature Communications*. 14(1). https://doi.org/10.1038/s41467-023-37269-3

144. Azeem, MI, Nooka, AK, Shanmugasundaram, U, Cheedarla, N, Potdar, S, Manalo, RJ, Moreno, A, Switchenko, JM, Cheedarla, S, Doxie, DB, Radzievski, R, Ellis, ML, Manning, KE, Wali, B, Valanparambil, RM. Maples, KT, Baymon, E, Kaufman, JL, Hofmeister, CC, Joseph, NS, Lonial, S, **Roback, JD**, Sette, A, Ahmed, R, Suthar, MS, Neish, AS, Dhodapkar, MV, Dhodapkar, KM (2023) Impaired SARS-CoV-2 Variant Neutralization and CD8+T-cell Responses Following 3 Doses of mRNA Vaccines in Myeloma: Correlation with Breakthrough Infections. *Blood Cancer Discovery.* 4(2), 106-117. https://doi.org/10.1158/2643-3230.BCD-22-0173

145. Attieh, M, Dent, EA, Happney, L, **Roback, JD**, Alter, DN, Barrette, E, Then, C, Sullivan, HC (2023) Three patients highlighting potential pitfalls in platelet refractory testing. *Transfusion.* 63(4), 888-892. https://doi.org/10.1111/trf.17280

146. Damhorst, GL, Verkerke, HP, Harrington, KRV, McLendon, K, Lu, A, Perez, MA, Hussaini, L., Anderson, EJ, Stowell, SR, **Roback, JD**, Lam, WA, Rostad, CA (2023) SARS-CoV-2 Antigenemia is Associated With Pneumonia in Children But Lacks Sensitivity to Diagnose Acute Infection. *Pediatrics Infectious Diseases Journal*. 42(2), 130-5. https://doi.org/10.1097/INF.0000000000003779

147. Zhang, C, Ayer, T, White, CC, Bodeker, JN, **Roback, JD** (2023) Inventory Sharing for Perishable Products: Application to Platelet Inventory Management in Hospital Blood Banks. *Operations Research.* 71(5), 1756-1776. https://doi.org/10.1287/opre.2022.2410

148. Koepsell, SA, Fitts, EC, **Roback, JD** (2023) Revisiting Ebola: Lessons learned from 2014-2015. *Transfusion.* 63(2), 427-9. https://doi.org/10.1111/trf.17222

149. Cheedarla, N., Verkerke, H.P., Potlapalli, S., McLendon, K.B., Patel, A., Frank, F., O'Sick, Cheedarla, S, Baugh, TJ, Damhorst, GL, Wu, H, Graciaa, D., Hudaib, F., Alter, D.N., Bryksin, J., Ortlund, E.A., Guarner, J., Auld, S., Shah, S., Lam, W., Mattoon, D., Johnson, J.M., Wilson, D.H., Dhodapkar, M.V., Stowell, S.R., Neish, A.S., **Roback, J.D**. (2023) Rapid, high throughput, automated detection of SARS-CoV-2 neutralizing antibodies against Wuhan-WT, Delta and Omicron BA1, BA2 spike trimers. *iScience*. https://doi.org/10.1016/j.isci.2023.108256

150. Jajosky RP, Patel KR, Allen JWL, Zerra PE, Chonat S, Ayona D, Maier CL, Morais D, Wu SC, Luckey CJ, Eisenbarth SC, **Roback JD**, Fasano RM, Josephson CD, Manis JP, Chai L, Hendrickson JE, Hudson KE, Arthur CM, Stowell SR (2023). Antibody-mediated antigen loss switches augmented immunity to antibody-mediate immunosuppression. *Blood.* 142(12): 1082-1098. https://doi.org/10.1182/blood.2022018591

151. Sobhani K, Cheng S, Binder RA, Mantis NJ, Crawford JM, Okoye N, Braun JG, Joung S, Wang M, Lozanski G, King CL, Roback JD, Granger DA, Boppana SB, Karger AB (2023). Clinical utility of SARS-COV-2 serological testing and defining a correlate of protection. *Vaccines (Basel).* 11(11): 1644. https://doi.org/10.3390/vaccines11111644

152. Faliti CE, Anam FA, Cheedarla N, Woodruff MC, Usman SY, Runnstrom MC, Van TTP, Kyu S, Ahmed H, Morrison-Porter A, Quehl H, Haddad NS, Chen W, Cheedarla S, Neish AS, **Roback JD**, Antia R, Khosroshahi A, Lee FE, Sanz I (2023). Poor immunogenicity upon SARS-CoV-2 mRNA vaccinations in autoimmune SLE patients is associated with pronounced EF-mediated responses and anti-BAFF/Belimumab treatment. *medRxiv*. 12:2023.06.08.23291159. https://doi.org/10.1101/2023.06.08.23291159

153. Horwath M, Tvrdik T, Saxe D, Deeb KK, **Roback JD**, Gebel HM, Bray RA, Sullivan HC (2023). Loss of heterozygosity leading to incorrect HLA typing for platelet-transfusion refractory patient. *Transfusion.* 63(1): 263-268. https://doi.org/10.1111/trf.17189

154. Runnstrom MC, Lamothe PA, Faliti CE, Cheedarla N, Moreno A, Suthar MS, Nahata R, Ravindran M, Haddad NS, Morrison-Porter A, Quehl H, Ramonell RP, Woodruff M, Anam F, Zhang R, Swenson C, Polito C, Neveu W, Patel R, Smirnova N, Nguyen DC, Kim C, Hentenaar I, Kyu S, Usman S, Ngo T, Guo Z, Wu H, Daiss JL, Park J, Manning KE, Wali B, Ellis ML, Sharma S, Holguin F, Cheedarla S, Neish AS, **Roback JD**, Sanz I, Eun-Hyung Lee F (2024). Patients taking benralizumab, dupilumab, or mepolizumab have lower postvaccination SARS-CoV-2 immunity. *J. Allergy Clin Immunol.* 154(2): 435-446. https://doi.org/10.1016/j.jaci.2024.03.029

155. Damhorst GL, McLendon K, Morales E, Solis ZM, Fitts E, Bowers HB, Sabino C, Sullivan J, Greenleaf M, **Roback JD**, Colasanti JA, Sheth AN, Titanji BK, Martin GS, Bassit L, Lam WA, Rao A (2024). Performance of the Xpert™ Mpox PCR assay with oropharyngeal, anorectal, and cutaneous lesion swab specimens. *J. Clin. Virol.* 171:105659. https://doi.org/10.1016/j.jcv.2024.105659

156. Wheeler AP, Snyder EL, Refaai M, Cohn CS, Poisson J, Fontaine M, Sehl M, Nooka AK, Uhl L, Spinella PC, Fenelus M, Liles D, Coyle T, Becker J, Jeng M, Gehrie EA, Spencer BR, Young P, Johnson A, O'Brien JJ, Schiller GJ, **Roback JD**, Malynn E, Jackups R, Avecilla ST, Liu K, Bentow S, Varrone J, Benjamin RJ, Corash LM (2024). Acute pulmonary injury in hematology patients supported with pathogen-reduced and conventional platelet components (2024). *Blood Adv.* 8(9): 2290-2299. https://doi.org/10.1182/bloodadvances.2023012425

157. Yee MEM, Zerra PE, McCoy JW, Covington ML, Stowell SR, Joiner CH, Lough CM, Delvadia BB, Josephson CD, **Roback JD**, Fasano RM. Post-transfusion biotin-labeled red blood cell survival studies in pediatric sickle cell disease with antibodies of uncertain significance (2024). *Transfusion.* 64(5): 800-807. https://doi.org/10.1111/trf.17800

158. Damhorst GL, Lin J, Frediani JK, Sullivan JA, Westbrook A, McLendon K, Baugh TJ, O'Sick WH, **Roback JD**, Piantadosi AL, Waggoner JJ, Bassit L, Rao A, Greenleaf M, O'Neal JW, Swanson S, Pollock NR, Martin GS, Lam WA, Levy JM (2024). Comparison of RT-PCR and antigen test sensitivity across nasopharyngeal, nares, and oropharyngeal swab, and saliva sample types during the SARS-CoV-2 omicron variant. *Heliyon.* 10(6):e27188. https://doi.org/10.1016/j.heliyon.2024.e27188

159. Haddad NS, Morrison-Porter A, Quehl H, Capric V, Lamothe PA, Anam F, Runnstrom MC, Truong AD, Dixit AN, Woodruff MC, Chen A, Park J, Nguyen DC, Hentenaar I, Kim CY, Kyu S, Stewart B, Wagman E, Geoffroy H, Sanz D, Cashman KS, Ramonell RP, Cabrera-Mora M, Alter DN, **Roback**

JD, Horwath MC, O'Keefe JB, Dretler AW, Gripaldo R, Yeligar SM, Natoli T, Betin V, Patel R, Vela K, Hernandez MR, Usman S, Varghese J, Jalal A, Lee S, Le SN, Amoss RT, Daiss JL, Sanz I, Lee FE (2004). Mensa, a media enriched with newly synthesized antibodies, to identify SARS-CoV-2 persistence and latent viral reactivation in long-COVID. *medRxiv.* 2024 Jul 7. https://doi.org/10.1101/2024.07.05.24310017

160. Javanbakht A, Stringer S, Anderson H, Hamilton E, Philip A, Waller EK, Langston AA, Joseph N, **Roback JD**, Schneider T, Sullivan HC, Hendrickson JE (2004). Optimizing autologous stem cell collections for patients with multiple myeloma receiving G-CSF and plerixafor: a single center project. *J. Clin. Apher.* 39(3): e22127. https://doi.org/10.1002/jca.22127

161. Yee MEM, Covington ML, Zerra PE, McCoy JW, Easley KA, Joiner CH, Bryksin J, Francis RO, Lough CM, Patel N, Kutlar A, Josephson CD, **Roback JD**, Stowell SR, Fasano RM (2024). Survival of transfused red blood cells from a donor with alpha-thalassemia trait in a recipient with sickle cell disease. *Transfusion.* 64(6): 1109-1115. https://doi.org/10.1111/trf.17857

b. Review Articles and Editorials:

1. **Roback, J.D.**, Palfrey, H.C., and Wainer, B.H. (1992) Nerve growth factor and the neurotrophin family: evolving roles in the central nervous system. *Comm. Devel. Neurobiol.* 1, 311-339.
2. Hillyer, C.D., Lankford, K.V., **Roback, J.D.**, Gillespie, T.W., and Silberstein, L.E. (1999) Transfusion of the HIV seropositive patient: Immunomodulation, viral reactivation, and limiting exposure to EBV (HHV-4), CMV (HHV-5), and HHV-6, 7, and 8. *Transf. Med. Rev*. 13, 1-17.
3. **Roback, J.D.** (2002) CMV and blood transfusions. *Revs. Med. Virology* 12, 211-219.
4. Schuetz, A., and **Roback, J.D.** (2003) Toward prevention of transfusion-transmitted infectious diseases. *Exp. Rev. Anti-Infect. Ther.* 1(2), 267-274.
5. Jordan, C.T., and **Roback, J.D.** (2004) Separating antiviral and GvHD activities of donor T-cells prior to bone marrow transplantation. *Immunologic Research.* 29, 209-218.
6. Schuetz, A.N., Hillyer, K.L., **Roback, J.D.**, Hillyer, C.D. (2004) Leukoreduction filtration of blood with sickle cell trait. *Transf. Med. Rev.* 18(3), 168-176.
7. Mintz, P., **Roback, J.D.**, (2005) Editorial: The National Blood Foundation: 20 years of supporting pioneering transfusion medicine research. *Transfusion*. 45(8S), i.
8. Sheppard, C.A., **Roback, J.D.,** and Hillyer, C.D. (2005) Transfusion-transmitted cytomegalovirus infection: Consideration toward an optimal plan for its mitigation. *Blood. Ther. Med.* 5(1), 6–14.
9. **Roback, J.D.**, Conlan, M., Drew, W.L., Ljungman, P., Nichols, W.G., and Preiksaitis, J.K. (2006) The role of photochemical treatment with amotosalen and UV-A light in the prevention of transfusion-transmitted cytomegalovirus infections. *Transf. Med. Rev.* 20(1), 45-56.
10. **Roback, J.D.**, Su, L., Zimring, J.C., and Hillyer, C.D. (2007) TT-CMV: Lessons from a murine model. *Transf. Med. Rev.* 21(1), 26-36.
11. **Roback, J.D.** (2006) Vaccine-enhanced donor lymphocyte infusion (veDLI). *Hematology.* 513, 486-91.
12. Drew, W.L., **Roback, J.D.**, (2007) Editorial: Prevention of TT-CMV: Reactivation of the Debate? *Transfusion*. 47(11), 1955-8.
13. Alter, H., Bianco, C., Biswas, R., Busch, M.P., Cable, R., Debrabant, A., Delwart, E., DeMaria, A., Dodd, R.Y., Galel, S.A., Germain, M., Gregory, K.R., Guidino, M.D., Herwaldt, B.L., Hollinger, F.B., Jain, P., Katz, L.M., Kuehnert, M.J., Leiby, D.A., Levy, G.J., Mattoch, A.C., Metzel, P.S.,

Murphy, E., Nakhasi, H.L., Norris, P., **Roback, J.D.,** Shadomy, S., Stramer, S.L., Tegtmeier, G.E., Wendel, S., contributors (2009) Emerging Infectious Disease Agents and their Potential Threat to Transfusion Safety: A Supplement to Transfusion. *Transfusion*. 49(2S)

14. Levy, J.H., Freiberger, D.J., **Roback, J.D.** (2010) Hereditary angioedema: current and emerging treatment options. *Anesthesia-Analgesia*. 111(5), 1271-1280.
15. **Roback, J.D.,** Murad, M.H., Djulbegovic, B. (2010) Appropriate evidence-based practice guidelines for plasma transfusion would include high ratio of plasma to red blood cells based on available data (reply). *Transfusion*. 50 (12) 2763-2764.
16. Josephson, C.D., Castillejo, M.I., Caliendo, A., Waller, E.K., Zimring, J., Easley, K.A., Kutner, M., Hillyer, C.D., and **Roback, J.D.** (2011) Prevention of transfusion-transmitted cytomegalovirus in low-birth weight infants (≤1500 g) using cytomegalovirus-seronegative and leukoreduced transfusions. *Transf. Med. Rev.* 25(2), 125-32.
17. **Roback, J.D.** (2011) Vascular effects of the red cell storage lesion. *Hematology.* 2011: 475-9.
18. **Roback, J.D. (**2012) Evidence-based guidelines for blood Transfusion. *Journal of Infusion Nursing.* 35(3): 187-90.
19. **Roback, J.D.,** Josephson, CD. (2013) New insights for preventing transfusion-transmitted CMV and other WBC-associated viral infections. *Transfusion*. 53(10): 2112-6.
20. **Roback, J.D.** (2015). In Memoriam: Lyle T. Sinor, PhD (May 24, 1957 – January 12, 2015). *Transfusion*. 55(5): 1135. doi: 10.1111/trf.13094
21. Hayek, S.S., Neuman, R., Ashraf, K., Sher, S., Newman, J.L., Karatela, S., **Roback, J.D.**, Quyyumi, A.A. (2015). Letter to the Editor: Effect of storage-aged RBC transfusions on endothelial function in healthy subjects. *Transfusion*. 55(11): 2768-2770.
22. Fasano, RM, Sullivan, HC, Bray, R, Gebel, H, Meyer, EK, Winkler, AM, Josephson, CD, Stowell, SR, **Roback, JD** (2017). Genotyping applications for transplantation and transfusion management: The Emory experience. *Archives of Pathology and Laboratory Medicine.* 141(3): 329-340. doi: 10.5858/arpa.2016-0277-sa
23. Parslow, T, Adsay, V, and **Roback, JD** (2017). Impacts of new concepts and technologies on the practice of diagnostic pathology: An Emory University perspective. *Archives of Pathology and Laboratory Medicine.* 141(3): 325-8. doi: 10.5858/arpa.2016-0357-ed
24. Gniadek, T.J., Bachowski, G., Gorlin, D., **Roback, J.D.,** and Ness, P.M. (2017). Cytomegalovirus-safe blood: The unclear effect of sickle hemoglobin. *Transfusion.* 57(6): 1582-3. doi: 10.1111/trf.14138
24. Koepsell, S.A., Winkler, A.M., and **Roback, J.D.** (2017). The role of the laboratory and transfusion service in the management of Ebola Virus disease. *Transfusion Medicine Reviews.* 31(3): 149-153. Doi: 10.1016/j.tmrv.2016.11.002
25. Cushing, M.M., Kelley, J., Klapper, E., Friedman, D.F., Goel, R., Heddle, N.M., Hopkins, C.K., Karp, J.K., Pagano, M.B., Perumbeti, A., Ramsey, G., **Roback, J.D.,** Schwartz, J., Shaz, B.H., Spinella, P.C., Cohn, C.S., for the AABB Clinical Transfusion Medicine Committee (2018). Critical developments of 2017: a review of the literature from selected topics in transfusion. A committee report from the AABB Clinical Transfusion Medicine Committee. *Transfusion.* 58(4); 1065-1075. doi: 10.1111/trf.14520
26. Dean, C., Wade, J., and **Roback, J.D.** (2018) Transfusion-Transmitted Infections: An Update on Product Screening, Diagnostic Techniques, And the Path Ahead. *Journal of Clinical Microbiology.* 56(7): doi: 10.1128/JCM.00352-18

27. Jackson, B., Fasano, R, and **Roback, J.D.** (2018) Current Evidence for the Use of Prophylactic Transfusion to Treat Sickle Cell Disease During Pregnancy. *Transfusion Medicine Reviews.* 32(4): 220-224. doi: 10.1016/j.tmrv.2018.06.001

28. Cable, C.A., Razavi, S.A., **Roback, J.D.**, Murphy, D.J. (2019) Red Blood Cell Transfusion Strategies in the ICU: A Concise Review. *Critical Care Medicine.* 47(11); 1637-44.

29. Sullivan, H.C., **Roback, J.D.** (2019) The Pillars of Patient Blood Management: Key to Successful Implementation. *Transfusion.* 59(9); 2763-7. doi:10.1111/trf.15464

30. Wagner, S.J., Leiby, D.A., **Roback, J.D.** (2019) Existing and Emerging Blood-Borne pathogens: Impact on the Safety of Blood Transfusion for the Hematology/Oncology Patient. *Hematol Oncol Clin North Am.* 33(5): 739-48.

31. Arthur, C.M., Chonat, S., Fasano, R., Yee, MEM, Josephson, C.D., **Roback, J.D.**, Stowell, S.R. (2019) Examining the Role of Complement in Predicting, Preventing, and Treating Hemolytic Transfusion Reactions. *Transfusion Medicine Reviews*. 33(4): 217-224.

32. Miller, M.J., Kendelhardt, J. Lima, J.L.O., **Roback, J.D.** (2019) The Making of a Grans Fan. *Transfusion.* 59(10), 3288-3289.

33. Chonat, S., Arthur, C.M., Zerra, P.E., Maier, C.L., Jajosky, R.P., Yee, M.E.M., Miller, M.J., Josephson, C.D., **Roback, J.D.**, Fasano, R., Stowell, S.R. (2019) Challenges in Preventing and Treating Hemolytic Complications Associated with Red Blood Cell Transfusion. *Transfus. Clin. Biol.* 26(2): 130-4. https://doi:10.1016/j.tracli.2019.03.002

34. Sullivan, H.C., **Roback, J.D.** (2020) Convalescent plasma: therapeutic hope of hopeless strategy in the SARS-CoV-2 pandemic. *Transfusion Medicine Reviews*. https://doi.org/10.1016/j.tmrv.2020.04.001

35. **Roback, J.D.,** Guarner, J. (2020) Convalescent plasma to treat COVID-19: possibilities and challenges. *JAMA*. 323(16), 1561-1562. https://doi:10.1001/jama.2020.4940

36. Moosavi, M.M., Duncan, A., Stowell, S.R., **Roback, J.D.,** Sullivan, H.C. (2020) Passenger Lymphocyte Syndrome; a Review of the Diagnosis, Treatment, and Proposed Detection Protocol. *Transfus Med Rev.* 34(3): 178-187. https://doi.org/10.1016/j.tmrv.2020.06.004

37. Ejaz K., **Roback J.D.**, Stowell S.R., Sullivan H.C. (2021). Daratumumab: Beyond multiple myeloma. *Transfus Med Rev*. 35(3):36-43. https://doi.org/10.1016/j.tmrv.2021.06.002

38. **Roback, J.D.**, Tyburski, E.A., Alter, D., Asakrah, S., Chahroudi, A., Esper, A., Farmer, S., Figueroa, J., Frediani, J.K. Gonzalez, M.D., Gottfried, D.S., Guarner, J., Gupta, N.A., Heilman, S.S., Hill, C.E., Jerris, R., Kempker, R.R., Ingersoll, J., Levy, J.M., Mavigner, M., Moreno, C.S., Morris, C.R., Nehl, E.J., Neish, A.S., Peker, D., Saakadze, N., Rebolledo, P.A., Rostad, C.A., Schoof, N., Suessmith, A., Sullivan, J., Wang, Y.F., Wood, A., Vos, M.B., Brand, O., Martin, G.S., Lam, W.A. (2021). The need for new test verification and regulatory support for innovative diagnostics. *Nature Biotechnology* 39: 1060-2. https://doi.org/10.1038/s41587-021-01047-7

39. Stubbs, JR, Shaz, BH, Vassallo, RR, **Roback, JD** (2023) Expanding the platelet inventory to mitigate the impact of severe shortages. *Hematology – ASH Education Program.* https://doi.org/10.1182/hematology.2022000379

c. Symposium Contributions:

Roback, J.D. (2001) CMV in blood donors. 8th International CMV Workshop, Monterrey, CA.

e. Book Chapters:

1. Wainer, B.H., Lee, H.J., **Roback, J.D.**, and Hammond, D.N. (1989) The use of reaggregating cell cultures and immortalized central nervous system cells to study cholinergic trophic mechanisms. In:

Novel Approaches to the Treatment of Alzheimer's Disease. E.M. Meyer, J.W. Simpkins, and J. Yamamoto, eds., Plenum Press, New York.

2. Wainer, B.H., Lee, H.J., **Roback, J.D.**, and Hammond, D.N. (1991) *In vitro* cell cultures as a model of the basal forebrain. In: The Basal Forebrain: Anatomy to Function. T.C. Napier, *et al*, eds., Plenum Press, New York.
3. Wainer, B.H., Hammond, D.N., Lee, H.J., **Roback, J.D.**, Choi, H.K., Won, L., and Heller, A. (1992) Establishment of clonal cell lines for the study of neural function and dysfunction. In: Gene Transfer and Therapy in the Nervous System. F.H. Gage and Y. Christen , eds., Springer-Verlag, Berlin and Heidelberg.
4. Wainer, B.H., Steininger, T.L., **Roback, J.D.**, Burke-Watson, M.A., Mufson, E.J., and Kordower, J. (1993) Ascending cholinergic pathways: functional organization and implications for disease models. In: Progress in Brain Research (98): CNS Cholinergic Function and Dysfunction. A.C. Cuello, ed., Elsevier, Cambridge UK.
5. **Roback, J.D.**, and Hillyer, C.D. (1998) Platelet transfusion: Pathogenesis, treatment, and prevention of adverse reactions. In: Cellular Support for the Oncology Patient, pp. 75-90, Barrett, J., ed., Baxter Press, Deerfield, IL.
6. **Roback, J.D.** and Hillyer, C.D. (1999) Therapeutic use of blood components. In: Conn's Current Therapy 1999, pp. 446-451, R.E. Rakel, ed., WB Saunders, Philadelphia, PA.
7. Bucur, S.Z., **Roback, J.D.** and Hillyer, C.D. (1999) Hematopoietic growth factors. In: Scientific Basis of Transfusion Medicine - Implications for Clinical Practice, 2nd Edition, pp. 45-58, Anderson, K.C. and Ness, P.M., eds., WB Saunders, Philadelphia, PA.
8. **Roback, J.D.**, and Hillyer, C.D. (1999) Adverse reactions to platelet transfusions. In: Current Issues in Platelet Transfusion Therapy and Platelet Alloimmunity, pp. 247-285, Kickler, T. and Herman, J., eds., AABB Press, Bethesda, MD.
9. **Roback, J.D.** and Hillyer, C.D. (1999) The Role of Leukocyte Reduction in Minimizing the Risk of Transfusion-Transmission of Cell-Associated Infectious Agents and Immunomodulation. In: The Safety of the Blood Supply: Current Status of Technological Advancements from Leukoreduction to Pathogen Inactivation, pp. 28-45, Hillyer, C.D., ed., Baxter Press, Deerfield, IL.
10. Hillyer, C.D., Lankford, K.V., and **Roback, J.D.** (2000) Cellular Risks of Blood Transfusion: Cancer and Cell-Associated Infections. In: Blood Safety in the New Millennium. Stramer, S., ed., AABB Press, Bethesda, MD.
11. **Roback, J.D.**, and Hillyer, C.D. (2001) Platelets and Related Products. In: Handbook of Transfusion Medicine, pp. 53-61, Hillyer, C.D., Hillyer, K.L., Strobl, F.J., Jeffries, L.C., and Silberstein, L.E., eds., Academic Press, San Diego, CA.
12. **Roback, J.D.** (2001) CMV and Other Herpesviruses. In: Handbook of Transfusion Medicine, pp. 285-292, Hillyer, C.D., Hillyer, K.L., Strobl, F.J., Jeffries, L.C., and Silberstein, L.E., eds., Academic Press, San Diego, CA.
13. **Roback, J.D.** (2001) CMV and Other Virus "Safe" Products. In: Handbook of Transfusion Medicine, pp. 129-135, Hillyer, C.D., Hillyer, K.L., Strobl, F.J., Jeffries, L.C., and Silberstein, L.E., eds., Academic Press, San Diego, CA.
14. **Roback, J.D.** (2003) Human Herpesvirus Infections. In: Blood Banking and Transfusion Medicine, pp. 465-485, Hillyer, C.D., Silberstein, L.E., Ness, P.M., and Anderson, K.C., eds., Churchill Livingstone, New York, NY.

15. **Roback, J.D.** (2004) Preparation of Blood Components to Reduce CMV and Other Infectious Risks. In: Handbook of Pediatric Transfusion Medicine, pp. 93-99, Hillyer, C.D., Strauss, R., and Luban, N.L.C., eds., Academic Press, San Diego, CA.
16. **Roback, J.D.** (2006) Human Herpesvirus Infections. In: Blood Banking and Transfusion Medicine (2nd Edition), pp. 618-638, Hillyer, C.D., Silberstein, L.E., Ness, P.M., Anderson, K.C., and Roback, J.D., eds., Churchill Livingstone, New York, NY.
17. Shaz, B.H. and **Roback, J.D.** (2009) MNS and Duffy Blood Group Systems. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 133-138, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
18. **Roback, J.D.** (2009) CMV-safe Blood Products. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 219-222, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
19. Hendrickson, J.E. and **Roback, J.D.** (2009) Transfusion of Patients Undergoing HPC and Solid-organ Transplantation. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 269-274, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
20. Hendrickson, J.E. and **Roback, J.D.** (2009) Transfusion of HIV-positive Patients. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 275-278, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
21. Hendrickson, J.E. and **Roback, J.D.** (2009) Management of Patients Who Refuse Blood Transfusion. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 279-282, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
22. Hendrickson, J.E. and **Roback, J.D.** (2009) Platelet Transfusion Refractory Patients. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 283-286, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
23. Darrow, M., Hendrickson, J.E., and **Roback, J.D.** (2009) Extracorporeal Photopheresis. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 407-410, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
24. **Roback, J.D.** and Hamilton, E.S. (2009) HPC Products. In: Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, pp. 417-426, Hillyer, C.D., Shaz, B., Zimring, J.C. and Abshire, T.C., eds., Elsevier, New York, NY.
25. Sikora, J., and **Roback, J.D.** (2022). Transfusion Medicine for Obstetrics. In: Rossi's Principles of Transfusion Medicine (6th Edition), Simon, T.L, McCullough, J., **Roback, J.D.**, Gehri, E., and Snyder, E.L., eds. Wiley Blackwell, New York, NY.

e. Books Edited and Written:

1. Blood Banking and Transfusion Medicine (2nd Edition), Hillyer, C.D., Silberstein, L.E., Ness, P.M., Anderson, K.C., and **Roback, J.D.**, eds., Churchill Livingstone, New York, NY (2006).
2. AABB Technical Manual (16th Edition; primary technical and resource publication for the AABB), **Roback, J.D.**, ed. AABB Press, Bethesda, MD (2008).
3. AABB Core Principles in Cellular Therapy (1st Edition), **Roback, J.D.**, ed. AABB Press, Bethesda, MD (2008).
4. AABB Technical Manual (17th Edition; primary technical and resource publication for the AABB), **Roback, J.D.**, ed. AABB Press, Bethesda, MD (2011).
5. Rossi's Principles of Transfusion Medicine (6th Edition), Simon, T.L, McCullough, J., **Roback, J.D.**, Gehri, E., and Snyder, E.L., eds. Wiley Blackwell, New York, NY (2022).

f. Book Reviews:

1. **Roback, J.D.** (2003) Cellular Therapy: New Frontiers in Transfusion Medicine. *Immunohematology* 19(2), 62.
2. **Roback, J.D.** (2009) Transfusion Microbiology. *New England Journal of Medicine* 360(7), 739-40.

g. Manuals, Videos, Computer Programs, and Other Teaching Aids

1. **Roback, J.D.**, and Smith, G. (2014) "trddx: A web application for diagnosing transfusion reactions". Available at www.trddx.com
2. **Roback, J.D.** (2014) Assorted video lectures, tutorials, and quizzes covering topics in blood banking and transfusion medicine. Available at www.bbtm-academy.org

h. Abstracts Accepted for National/International, Regional, and Institutional Conferences (>200)