

Leonard D. Shultz, Ph.D.

The Jackson Laboratory, Bar Harbor, ME 04609
Phone: 207-288-6405 • Fax: 207-288-6077
Email: lenny.shultz@jax.org

Curriculum Vitae

EDUCATION

- 1967 B.A., Biology, Northeastern University, Boston, MA
- 1971-1972 Predoctoral Trainee, US Public Health Services, University of Massachusetts, Amherst, MA
- 1972 Ph.D., Medical Microbiology, University of Massachusetts, Amherst, MA
- 1972-1974 Postdoctoral Fellow, The Jackson Laboratory, Bar Harbor, ME

RESEARCH POSITIONS

- 1967-1968 Research Assistant, Tufts University School of Medicine, Boston, MA
- 1968-1970 Graduate Teaching Assistant, University of Massachusetts, Amherst, MA
- 1970-1971 Lecturer, University of Massachusetts, Amherst MA
- 1974-1976 Research Associate, The Jackson Laboratory, Bar Harbor, ME
- 1976-1979 Assistant Professor, The Jackson Laboratory, Bar Harbor, ME
- 1979-1991 Associate Professor, The Jackson Laboratory, Bar Harbor, ME
- 1981 Cooperating Professor in Zoology, University of Maine, Orono, ME
- 1988-present Graduate Faculty Member, School of Biomedical Sciences and Engineering (GSBSE), University of Maine, Orono, ME
- 1991-present Professor, The Jackson Laboratory, Bar Harbor, ME
- 1995-2017 Research Professor, Department of Medicine, School of Medicine, University of Massachusetts Medical School, Worcester, MA
- 2017-present Professor of Medicine, Department of Medicine, School of Medicine, University of Massachusetts Medical School, Worcester, MA
- 1998-present Research Professor, Graduate School of Biomedical Sciences, University of Massachusetts Medical School, Worcester, MA
- 2006-2007 Assistant Clinical Professor, Department of Immunology, University of Connecticut, School of Medicine, Farmington, CT
- 2008 Adjunct Assistant Professor, Department of Immunology, University of Connecticut, School of Medicine, Farmington, CT

RESEARCH INTERESTS

Development and regulation of the immune system in normal and pathologic states: immunodeficiency; autoimmunity; tumor immunology; infectious disease; diabetes; development of humanized mouse models as a preclinical bridge for translational investigations.

PROFESSIONAL ACTIVITIES

Board Membership:

- 1990-2015 In Vivo
- 2003-2008 Experimental Biology and Medicine
- 2004-2016 Stem Cell
- 2008-2014 Beta Cell Biology Consortium (BCBC), Principal Investigator
- 2012-2017 Stem Cell Cobre External Advisory Committee, Maine Medical Research Center

2018 External Advisory Committee, Targeted Sphingolipid Metabolism for AML, University of Virginia Medical Center

Grant Review Panels:

1987 Member, Special NIH Study Section
1992 Member, NIH Ad hoc Study Section
1994 NIH Study Section Mechanisms of Prostate Cancer
1996 Member, NIH Special Study Section on Prostate Carcinoma Invasion and Metastasis Factors
1997 Special NIAID Review Committee on SCID-HIV Animal Models for Evaluating HIV Therapeutics
1998 National Cancer Institute Review Committee Site Visit to the Fox Chase Cancer Institute
1999 National Cancer Institute, Program Projects in Immunology Review Committee
2001 Member, NIH Study Section as the Deut of Novel Aids therapies
2003 NIH Special Review panel on Prostate Carcinoma Program Projects
2004 NIH Study Section Mechanisms of Prostate Cancer
2005 NIH/NAIAD Ad hoc Study Section panel to review applications for Tissue based small animal models for HIV Drug Discovery
2005 Member, Ad Hoc Study Section to review the intramural program of the Dermatology branch of the National Cancer Institute
2005 Ad Hoc Review, NIH Kidney Biological and Hematological Subcommittee
2006 NIH/NAIAD, Ad hoc Study Section Panel to review applications for tissue based small animal models for HIV Drug Discovery
2010 JDRF Grants Review Study Section
2011 Medical Research Council of Canada
2011 The Arthritis Foundation
2011 Swiss National Fund for Scientific Research
2015 US-Israel Bi-National Science Foundation

Ad hoc Manuscript Reviews for Peer Reviewed Journals:

The Journal of Immunology, Proceedings of the National Academy of Sciences, USA, The American Journal of Pathology, The Journal of Gerontology, The Journal of Nutrition, Nature, Science, Nature Genetics, Experimental Hematology, Stem Cell Reports, Trends in Immunology, PLoS ONE, Drug Discovery, The Journal of Autoimmunity, Stem Cells and Development

Institutional Committees:

2004-present Genetic Resources Committee
2004-present RAF Advisory Committee
2005-2015 Human Subjects IRB, Chair
2005-present Research Grants Committee
2006-2007 Cancer Core Grant Committee
2014-present Radiation & Lab Safety, Co-Chair
2017-present Scientific Services PDX Faculty Committee
2018-present Mentor for Gary Ren

PROFESSIONAL SOCIETIES

American Association of Immunologists, American Society for Microbiology, American Diabetes Association, American Association for the Advancement of Science, American Society for Hematology, International Association for Comparative Research on Leukemia and Related Diseases

EXTRAMURAL RESEARCH SUPPORT

Current:

- 2021-2026 Co-Investigator, U24 CA263963-01, *“Pediatric Oncology In Vivo Testing Program Coordinating Center,”* NIH/NCI (8/25/2021-6/30/2026)
- 2021-2026 Co-Investigator, 1 R01 CA251433-01A1, *“Lung Resident Mesenchymal Cells in the Pre-Metastatic Niche Formation,”* NIH/NCI (4/1/2021-3/31/2026)
- 2021-2024 Consortium Principal Investigator, Contract #75N93021C00004 (Yr1), *“Characterizing and Improving Humanized Immune System Mouse Models,”* NIH/NIAID (2/2/2021-2/1/2024)
- 2020-2025 Principal Investigator, JDRF-5-COE-2020-967-M-N-02, *“A Cure for Type 1 Diabetes,”* Juvenile Diabetes Research Foundation Int’l (10/1/2020-9/30/2025)
- 2020-2025 Co-Investigator, 1 R37 CA237307-02, *“The Role of Lung Resident Mesenchymal Stem Cells in Post-Chemotherapy Lung Metastases of Breast Cancer,”* NIH/NCI (2/4/2020-1/31/2025)
- 2020-2025 Project Lead, 2 P30 CA034196-35, *“Cancer Center Support (Core) Grant – Cancer Models Development Shared Resource,”* NIH/NCI (04/01/2020-3/31/2025)
- 2020-2022 Principle Investigator, JAX-DIF-FY20-LDS-Validation, *“Validation of an NSG Humanized Mouse Model for Investigations of Human Mature Neutrophil Development and Function,”* The Jackson Laboratory Director’s Innovation Fund (2/1/2020-10/18/2022)
- 2020-2021 Principle Investigator, JAX-DIF-LDS-CoVID-20, *“Development of a Humanized Mouse Model for SARS-CoV-2 Infection,”* The Jackson Laboratory Director’s Innovation Fund (4/7/2020-11/7/2021)
- 2019-2023 Consortium Principal Investigator, 5 R24 OD026440-03, *“Immunogenicity of Human Stem Cell-Derived Beta Cells and Muscle Cells in Humanized Mice,”* NIH/OD (08/15/2019-07/31/2023)
- 2019-2023 Consortium Principal Investigator, 5 U01 DK104218-04, *“Humanized Mouse Avatars for T1D,”* NIH/NIDDK (09/20/2019/19-05/31/2023)
- 2018-2023 Co-Investigator, 1 U01 CA224013-04, *“CSHL-JAX Patient-Derived Models of Pancreatic Cancer as Systems for Investigating Tumor Heterogeneity,”* NIH/NCI (03/06/2018-02/28/2023)
- 2017-2022 Consortium Principal Investigator, 5 R01 AI132963-05, *“Novel Humanized Mouse Model Developed from Cord Blood CD34 Positive HSC and Autologous iPS Cell Derived Thymus,”* NIH/NIAID (05/01/2017-04/30/2022)

Completed:

- 2020-2020 Consortium Principal Investigator, OSP32191-00, *“Developing Human Pluripotent Stem Cells for Investigation and Treatment of Hypoparathyroidism,”* Trustees of the University of Pennsylvania (1/1/2020-12/31/2020)
- 2018-2020 Principal Investigator, COLLAB-UMASS-LDS-2018, *“Umass/JAX Collaborative Study: To begin the development of a model of diet-induced fatty liver disease leading to non-alcoholic steatohepatitis (NASH) in humanized mice,”* University of Massachusetts Medical School (02/01/2018-01/31/2020)

- 2018-2020 Principal Investigator, Shultz DIF Novel NSG Mice-01, *“Development of Novel Strains of NSG Mice Demonstrating Enhanced Structure and Function of Lymphoid Organs and Heightened Human Immune Function Following Human HSC Engraftment,”* The Jackson Laboratory Director's Innovation Fund (01/09/2018-01/08/2020)
- 2017-2018 Principal Investigator, JAX-DIF-FY17-SAM-MKV-LDS *“A Novel Complement Sufficient NSG Mouse Model to Study Complement-Mediated Modulation of Immune Responses Against Human Cancer,”* The Jackson Laboratory Director's Innovation Fund (11/01/2017-10/31/2018)
- 2017-2018 Principal Investigator, JAX-DIF-FY17-LDS-JGK-MVW *“Development of NSG Mouse to Facilitate Pharmacokinetic Efficacy Testing,”* The Jackson Laboratory Director's Innovation Fund (09/15/2017-09/14/2018)
- 2017-2018 Principal Investigator, JAX-DIF-FY17-LDS-novelcomplement *“A Novel Complement Sufficient NSG Mouse-Model,”* The Jackson Laboratory Director's Innovation Fund (11/01/2017-12/31/2018)
- 2014-2019 Consortium Principal Investigator, 1 UC4 DK104218-01 *“Humanized Mouse Avatars for T1D,”* NIH/NIDDK (9/25/2014-6/30/2019)
- 2013-2019 Principal Investigator, 5 R25 CA174584-05 *“Summer Research Experience in Cancer Biology and Genomics for Undergraduates,”* NIH/NCI (4/1/2013-3/31/2019)
- 2013-2018 Consortium Principal Investigator, 5 P01 CA171983-05 *“Targeted Sphingolipid Metabolism for Treatment of AML,”* NIH/NCI (9/10/2013-8/31/2018)

PATENTS & LICENSING AGREEMENTS

- Shultz LD, Verma MK, Greiner DL, Brehm MA. 2020. Genetically modified non-human animals and methods relating to complement dependent cytotoxicity. U.S Publication No. 20200359609. JUSTIA Patents.
- Shultz LD, Brehm MA, Greiner DL. 2020. Immunodeficient mice expressing human interleukin 15. U.S. Publication No. 20200236916. JUSTIA Patents.
- Shultz LD, Verma MK, Greiner DL, Brehm MA. 2020. Genetically modified non-human animals and methods relating to complement dependent cytotoxicity. U.S. Patent No. 10701911. JUSTIA Patents.
- Brehm MA, Wiles MV, Greiner DL, Shultz LD. 2020 NSG mice lacking MHC Class I and Class II. U.S. Publication No. 20200060245. JUSTIA Patents.
- Shultz LD, Keck JG, Greiner DL, Brehm MA. 2019. Humanized mouse model with improved human innate immune cell development. U.S. Publication No. 20190320633. JUSTIA Patents.
- Shultz LD. 2019. Genetically modified mouse model for human hepatocyte xenotransplantation. U.S. Publication No. 20190274290. JUSTIA Patents.
- Shultz LD, Wiles MV. 2019. Methods and compositions relating to improved human red blood cell survival in genetically modified immunodeficient non-human animals. U.S. Publication No. 20190183101. JUSTIA Patents.
- Wiles MV, Hosur V, Shultz LD. 2018. Compositions and methods relating to tumor analysis. U.S. Publication No. 20180325085. JUSTIA Patents.
- Shultz LD, Greiner DL, Brehm MA. 2018. Genetically modified non-human animals and methods relating to innate immune system response detection. 2018. U.S. Patent No. 10021861. JUSTIA Patents.
- Shultz LD, Verma MK, Greiner DL, Brehm MA. 2018. Genetically modified non-human animals and methods relating to complement dependent cytotoxicity. U.S. Publication No. 20180184629. JUSTIA Patents.
- Hosur V, Shultz LD. 2017. Methods for identifying compounds that alter the activity of irhom polypeptides and use thereof. U.S. Publication No. 20170241986. JUSTIA Patents.

- Shultz LD, Greiner DL, Brehm MA. 2016. Genetically modified non-human animals and methods relating to innate immune system response detection. U.S. Publication No. 20160345548. JUSTIA Patents.
- Shultz LD, Greiner DL, Brehm MA. 2016. Genetically modified non-human animals and methods relating to innate immune system response detection. 2016. U.S. Patent No. 9414576. JUSTIA Patents.
- Ishikawa F, Saito Y, Ohara O, Shultz LD. 2015. Mouse having human leukemic stem cell and leukemic non-stem cell amplified therein, and methods for production thereof. U.S. Patent No. 9125384. JUSTIA Patents.
- Shultz LD, Greiner DL, Brehm MA. 2015. Genetically modified non-human animals and methods relating to innate immune system response detection. U.S. Patent Application No. 20150105288. JUSTIA Patents.
- Ishikawa F, Ohara O, Saito Y, Kitamura H, Hijikata A, Ozawa H, Shultz LD. 2014. Leukemia stem cell markers. U.S. Publication No. 20140274788. JUSTIA Patents.
- Shultz LD, Greiner DL. 2013. Transgenic non-human animal and methods for stem cell engraftment. U.S. Patent No. 8431767. JUSTIA Patents.
- Ishikawa F, Saito Y, Shultz LD. 2012. Agent for preventing recurrence of leukemia. U.S. Publication No. 20120121535. JUSTIA Patents.
- Ishikawa F, Ohara O, Saito Y, Kitamura H, Hijikata A, Ozawa H, Shultz LD. 2012. Leukemia stem cell markers. U.S. Patent Application No. 20120070450. JUSTIA Patents.
- Ishikawa F, Saito Y, Ohara O, Shultz LD. 2011. Mouse having human leukemic stem cell and leukemic non-stem cell amplified therein, and method for production thereof. U.S. Publication No. 20110307964. JUSTIA Patents.
- Shultz LD, Greiner DL. 2011. Transgenic non-human animal and methods for stem cell engraftment. U.S. Publication No. 20110113496. JUSTIA Patents.

INVITED TALKS (2008 – PRESENT)

- Presentation, Emerging Models of Humanized Mice for Biomedical Research, National Cancer Institute, 2021 CIRP Annual Virtual Meeting, June 17, 2021.
- Invited Speaker, Discussion Humanized Mouse Models for PDX Efforts, NCI/FNLRCR, Virtual meeting, June 3, 2021
- Invited Speaker, Emerging humanized mouse models for cancer research, Hematology/Oncology Grand Rounds, Penn State Hershey Cancer Center, Hershey, PA, February 6, 2020.
- Invited Speaker, Emerging humanized mouse models for cancer research, National Cancer Institute, NCI-Immuno-Oncology Models Workshop (Virtual), July 9-10, 2020.
- Invited Speaker, Immune Mechanisms Working Group Meeting of the NIH Immuno-Oncology Translational Network, September 8, 2020.
- Invited Speaker, NIH Virtual Workshop on Validation of Animal Models and Tools for Biomedical Research, December 2020.
- Invited Speaker, Next generation humanized mice for cancer immunotherapy, Cancer Immune Responsiveness Workshop, San Francisco, CA, May 14, 2018
- Invited Speaker, Designing the Patient-Derived Model Platform of the Future, The Jackson Laboratory-Beth Israel Deaconess Medical Center (JAX-BIDMC) Workshop, Farmington, CT, June 12, 2018
- Novartis Pharmaceutical Corp, Cambridge, MA, June 27, 2018
- Invited Speaker, Humanized mouse models for cancer research: challenges and opportunities, The 6th Annual Dr. Stanley G. Nathenson Memorial Lecture, Albert Einstein College of Medicine, Bronx, NY, November 7, 2018

Regeneron's Workshop on Humanized Immune System Mice, Regeneron Auditorium, Regeneron Pharmaceuticals, Tarrytown, NY, November 28-29, 2018

Plenary Speaker, Recent Advances and Opportunities in the Development and Use of Humanized Immune System Mouse Models, National Institutes of Health, Bethesda, MD, December 18, 2018

Invited Speaker, Humanized mice for cancer research, Department of Medicine, Division of Hematology and Oncology, School of Medicine, University of Alabama, Birmingham, AL, January 31-February 2, 2017

Invited Speaker, Generation of improved humanized mouse models for human infectious diseases, Les Pensieres, Foundation Merieux Conference Center, Veyrier du Lac, France, April 27, 2017

Invited Speaker, Humanized mice in Cancer Research, 2nd Annual Advances in Immuno-Oncology Congress, Oxford Global, London, England, May 15-16, 2017

Invited Speaker, Next generation humanized mouse models for cancer research, 2017 Summit for Cancer Immunotherapy, BioCanRx, Gatineau, Quebec, Canada, June 26, 2017

Invited Speaker, Immune interventions in oncology: A think tank on modeling opportunities using mice and human specimens, National Cancer Institute (NCI) Workshop on "Modeling Immunotherapy in Mouse," Rockville, MD, September 17-20, 2017

Invited Speaker, Highlights and perspectives of humanized mice, Humanized mice in biomedical research, EMBO Practical Course, EMBL, Heidelberg, Germany, October 15-20, 2017

Invited Speaker, Next generation humanized mice in biomedical research, 2017 American College of Veterinary Pathologists (ACVP), Vancouver, BC, Canada, November 3-6, 2017

Institute for Neurodegenerative Diseases, Weil Institute for Neurosciences, University of California San Francisco, November 6, 2017

5th International Workshop on Humanized Mice (IWHM5), University of Zurich, Switzerland, Jan 28-30, 2016

Invited Speaker, Humanized mouse models for translational biomedical research, Medimmune, The Jackson Laboratory, Bar Harbor, ME, February 18, 2016

Juvenile Diabetes Research Foundation (JDRF) nPOD 8th Annual Meeting, Miami, FL, Feb 21-24, 2016

National Emerging Infectious Diseases Laboratories Meeting (NEIDL), Boston, MA, April 5-9, 2016

2016 Neuroendocrine Tumor Workshop, Cambridge, MA, May 4-6, 2016

Invited Speaker, Humanized mice in translational immunology, Immunology 2016, American Association of Immunologists Annual Meeting, Washington State Convention Center, Seattle, WA, May 13, 2016

Human Islet Research Network Meeting, Bethesda, MD, May 24-25, 2016

Janssen, Pharmaceutical Companies of Johnson & Johnson, Philadelphia, PA, August 17-20, 2016

Preclinical Models for Immunotherapy Development Scientific Input Engagement, San Francisco, CA, September 26-27, 2016

Faculty Retreat, Point Lookout Conference Center, The Jackson Laboratory, Northport, ME, October 13-14, 2016

AML P01 External Advisory Board Meeting, Penn State Hershey Medical Center, Hershey, PA, October 20-21, 2016

The Jackson Laboratory Faculty Retreat, Portsmouth, NH, Oct 24-26, 2016

9th Annual Beth Israel Deaconess Medical Center (BIDMC) Cancer Symposium, Joseph B. Martin Center, Harvard Medical School, Boston, MA, November 2, 2016

Janssen Pharmaceutical Companies of Johnson & Johnson, Spring House, PA, November 6-7, 2016

The Jackson Laboratory Cancer Center 2016 Winter Retreat, Portland, ME, Dec 7-9, 2016

JAX Cancer Center Retreat, Portland, ME, December 10-11, 2016

The Jackson Laboratory-Beth Israel Deaconess Medical Center (JAX-BIDMC) Immunology Symposium, Boston, MA, December 15-17, 2016

Myelodys Plastic Syndrome Fundraising Meeting, Jerry Hughes/MDS Research Fund-Raising, Bangor, ME, March 7, 2015

Humanized Mouse Workshop, Boston, MA, March 11-12, 2015

Invited Speaker, Of humanized mice and men, Stanford University, San Francisco, CA, March 25-27, 2015

The Jackson Laboratory-Beth Israel Deaconess Medical Center (JAX-BIDMC) Immunology Workshop, JAX-GM, Farmington, CT, March 31-April 2, 2015

HIRN Diabetes Meeting, Bethesda, MD, May 13-15, 2015.

Invited Speaker, Of next generation humanized mice and men, AIDS/NIAID/NIH/DHHS-Improvements and Limitations of Humanized Mouse Models for, Rockville, MD, May 14-15, 2015

Invited Speaker, Closing the gap between the mouse and human immune systems, American Gastroenterological Association (AGA)-Digestive Disease Week, Bethesda, MD, May 15-17, 2015

Integrated Translational Science Center Workshop, The Banbury Center, Cold Spring Harbor Laboratory, Long Island, NY, June 18-20, 2015

American Society of Tropical Medicine & Hygiene (ASTMH) 64th Annual Meeting, Philadelphia, PA, October 25-29, 2015

2014 Annual nPOD meeting, Atlantic Beach, FL, February 23-March 1, 2014

Invited Speaker, Humanized mice for biomedical research, American Society of Gene & Cell Therapy 17th Annual Meeting, Washington D.C., May 23, 2014

BIDMC/JAX Workshop, Boston, MA, October 21, 2014

The Jackson Laboratory, Faculty Retreat, Northport, ME, November 3-5, 2014

Invited Speaker, Humanized SCID mouse models for biomedical research, Stem Cell Institute Seminar Series, University of Minnesota Medical School, Minneapolis, MN, November 12, 2014

Invited Speaker, Humanized SCID mouse models for biomedical research, Stem Cell Institute, University of Minnesota, Minneapolis, MN, November 11-13, 2014

EMMC Cancer Care of Maine, Brewer, ME, January 7, 2013

Invited Speaker, Humanized SCID mouse models for cancer research, Hollings Cancer Center 2013 Spring Research Symposium, Models of Human Cancer for Translational Research, Medical University of South Carolina, Charleston, SC, March 15, 2013

Astra Zeneca, Waltham, MA, April 28-30, 2013

Merck Research Laboratories, Boston, MA, April 28-30, 2013

2013 BCBC Investigator Retreat, Biology of the Beta Cell Symposium, Reston, VA, May 6-9, 2013

Bristol Myers Squibb, Philadelphia, PA, August 18-20, 2013

Invited Speaker, Humanized mice as models for cancer growth and therapy, 4th International Workshop on Humanized Mice, "Humanized Mice as Models for Cancer Growth and Therapy," Seoul-Incheon, Korea, October 1, 2013

Invited Speaker, Humanized mouse models in biomedical research, 46th Annual Meeting of the Society for Leukocyte Biology, Humanized Mouse Models in Biomedical Research, Newport, RI, October 20, 2013

Invited Speaker, Animal Models and Personalized Medicine, NIH Symposium "Animal Models and Personalized Medicine," Bethesda, MD, Oct 28, 2013

Invited Speaker, Humanized mice: A bridge to the clinic, University of Rochester Medical Center, Grand Rounds, University of Rochester, Rochester, NY, April 5, 2012

2012 BCBC Investigator Retreat, NIDDK, Chantilly, VA, May 1-4, 2012

Invited Speaker, Humanized Mice: State of the art, 2012 ACLAM Forum for Life, St Petersburg Beach, FL, May 9, 2012

Invited Speaker, Mice in biomedical research: A bridge to the clinic, Indiana University School of Medicine, Department of Microbiology/Immunology, Indianapolis, IN, May 17, 2012

Next Generation Animal Models Targeting Personalized Disease Phenotypes, NIH, Bethesda, MD, September 6-7, 2012

17th International Conference of the Inflammation Research Association, Bolton Landing, NY, September 9-12, 2012

University of Florida College of Medicine, Department of Pathology, Immunology and Laboratory Medicine, Gainesville, FL, February 15, 2011

Invited Speaker, Humanized mouse model, Helmsley Project Meeting, Boston, MA, March 24, 2011

Invited Speaker, Humanized mice in biomedical research, George Mason University, National Center for Biodefense and Infectious Diseases, Manassas, VA, April 22, 2011

Invited Speaker, Humanized mice: A bridge to the clinic, Beckman Research Institute, City of Hope, Duarte, CA; May 24, 2011

Invited Speaker, Bridging the gap with humanized mice, DARPA-USAMRIID Workshop, Washington DC, Fort Detrick, MD, July 29, 2011

Invited Speaker, Overview of humanized mice: Progress, limitations and infectious diseases, Joint Laboratory Retreat, The Jackson Laboratory, Vanderbilt University, USAMRIID, The University of Massachusetts Medical School, Harvard, September 21, 2011

Invited Speaker, Humanized mice in translational biomedical research, The New York Academy of Sciences Conference, Animal Models and Their Value in Predicting Efficacy and Toxicity, New York, NY, September 16, 2011

Third International Workshop on Humanized Mice, Pittsburgh, PA, October 28-31, 2011

JDRF Autoimmunity Center Consortium Retreat, New York, NY, March 1-3, 2010

State University of New York, Buffalo, NY, April 14, 2010

Invited Speaker, The humanized mouse model in translational research, Biogen Inc., Cambridge, MA, May 6-7, 2010

Invited Speaker, Humanized mice in translational research, United Services University of Health Sciences, Washington, DC, May 12, 2010

Workshop on Humanized Mice, Hannover, Germany, June 10, 2010

Humanized Mouse Model Meeting, Washington DC, June 21, 2010

Sanofi Aventis, Bridgewater, NJ, June 29, 2010

Juvenile Diabetes Research Foundation, Diabetic Mouse Models, New York, NY July 14.

Pfizer Inc, Boston, MA July 20, 2010

Animal Models of Diabetic Complications Consortium (AMDCC) Meeting, Baltimore, MD, August 4, 2010

Invited Speaker, State of the art of humanized mice, 8th Annual "Advances in Inflammation Research" Symposium, Brown University, Providence, RI, September 17, 2010

Invited Speaker, Humanized mice in translational research, NIH, Bethesda, MD, October 11-12, 2010

Johnson & Johnson Pharmaceuticals, Spring House, PA, November 9, 2010

Symposium, Executive Summit: Humanized Mouse Models and Preclinical Research, Philadelphia, PA, November 10, 2010

Invited Speaker, Humanized mice: State of the art, Frontier Speaker Series, Eisai, Inc, Andover/Boston, MA, November 19, 2010

Maine Medical Research Institute, Scarborough, ME, Dec. 9, 2010
Invited Speaker, Humanized SCID mice in biomedical research, Vermont Cancer Center Juckett Lecture, University of Vermont, Burlington, VT, January 6, 2009
Sanofi Aventis Web Seminar, Feb. 3, 2009
Invited Speaker, Humanized mouse models for biomedical research, Texas Tech University Health Sciences Center, El Paso, TX, March 18, 2009
2nd International Humanized Mouse Symposium, Amsterdam, The Netherlands, April 4, 2009
Optimization of the immunodeficient mouse recipient, Studying Type 1 Diabetes by Combining Human iPS and Humanized Mouse Technologies, Boston, MA, April 21, 2009
Humanized mouse models, The Jackson Laboratory-West, Sacramento, CA, May 5, 2009
Children's Hospital, Pittsburgh, PA, May 18, 2009
Beta Cell Biology Consortium, Investigator Retreat, Washington, DC, May 27, 2009
Juvenile Diabetes Research Foundation Meeting, Worcester, MA, July 14, 2009
Mound Desert Island Biological Laboratory Stem Cell Symposium, Bar Harbor, ME, August 8, 2009
Cancer Genetics Meeting, Jackson Laboratory, Bar Harbor, ME, August 23, 2009
Next Generation Beta Cell Transplantation, NIH Campus, Bethesda, MD, November 9, 2009
Invited Speaker, Humanized SCID mice in biomedical research, University of Alabama, Birmingham, AL, December 9, 2009
Invited Speaker, Humanized SCID mice in translational biomedical research, Charité Campus Virchow-Klinikum, Universitätsmedizin Berlin, Molecular Basis of Clinical Variability in Mendelian Disorders, Max Planck Institut für Molekulare Genetik, Berlin, Germany, February 5, 2008
Institute of Medical Genetics, Charité Berlin, Humboldt University, Leipzig, Germany, February 6, 2008
Invited Speaker, Humanized SCID mice: A road well-traveled, Department of Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, SC, March 3, 2008
Invited Speaker, Humanized SCID mice: A road well-traveled, 2nd Annual Meeting of Humanized SCID Mouse Models: Stem Cells, Cancer & Viral Pathogenesis, Geneva, NY, May 14, 2008
Invited Speaker, Models for the in vivo functional analysis of mouse and human beta stem and progenitor cells, BCBC Investigator Retreat, Washington DC, May 18, 2008
Invited Speaker, Humanized SCID mice: A road well-traveled, Discovery Strategies Conference: Modeling Human, Autoimmune Diseases in the Laboratory Rodent, The Jackson Laboratory, Bar Harbor, ME, May 28, 2008
Juvenile Diabetes Research Foundation, Sponsored Workshop, New York, NY, June 17, 2008
Invited Speaker, Humanized mouse models, 19th Annual NASA Space Radiation Investigators Workshop, Hyatt Regency Hotel, Penn's Landing, Philadelphia, PA, July 1, 2008
Invited Speaker, Overview of the development of humanized mice and their application in biomedical research, JDRF and Jackson Laboratory Workshop on "Beta Cell Development and Function in Mice Engrafted with Human Immune Systems" Bar Harbor, ME, August 3, 2008
NIAID Dengue Virus Workshop, Washington, DC, Sept.19, 2008
Humanized Mouse Model Meeting, Fort Detrick, MD, October 8, 2008
Invited Speaker, Immunology of humanized mice, Translational Research in Immunology, The 38th Annual Meeting of the Japanese Society for Immunology, Kyoto, Japan, Dec 3, 2008

TEACHING EXPERIENCE

- 1977-2004 Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME
- 1984 Faculty of Bar Harbor Medical Symposium
- 2005 Discovery Strategies: Improving the Predictive Value of Mouse Models in Drug Discovery and Development, The Jackson Laboratory, Bar Harbor, ME
- 2006 Discovery Strategies: The Laboratory Mouse in Translational Cancer Research and Discovery, New York, NY
- 2006-2007 Annual Short Course on Experimental Genetics of the Laboratory Mouse in Cancer Research, The Jackson Laboratory, Bar Harbor, ME
- 2006-2008 Methods in Human Embryonic Stem Cell Research, The Jackson Laboratory, Bar Harbor, ME
- 2007 Discovery Strategies: Modeling Human Metabolic Syndrome and Type 2 Diabetes in Rodents, The Jackson Laboratory, Bar Harbor, ME
- 2007 Annual Workshop on the Pathology of Mouse Models for Human Disease, The Jackson Laboratory, Bar Harbor, ME
- 2007-2020 Annual Short Course on Experimental Models of Human Cancer, The Jackson Laboratory, Bar Harbor, ME
- 2008 Discovery Strategies: Modeling Human Autoimmune Diseases in the Laboratory Rodent, The Jackson Laboratory, Bar Harbor, ME
- 2009 Special Symposium presentation, Grand Opening of The Jackson Laboratory-West, Sacramento, CA
- 2010 Workshop on Animal Models for Human Stem Cell Therapy, The Jackson Laboratory, Bar Harbor, ME
- 2015 Workshop on Techniques in Modeling Human Cancer in Mice, The Jackson Laboratory, Bar Harbor, ME
- 2015 Organizer, Humanized Mice in Translational Research: Cancer, Diabetes and Beyond, The Jackson Laboratory, Bar Harbor, ME
- 2015-2018 Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME
- 2017 -2020 Human and Mammalian Genetics and Genomics: The McKusick Short Course

POST-DOCTORAL FELLOWS

- 1987-1989 Peter A. Schweitzer
- 1989-1991 Jane E. Disney
- 1991-1993 Sandra M. Hayes
- 1993-1996 Stephen C. Pelsue
- 1993-1996 Sean McKenna
- 1997-2000 Syuji Umeda
- 1998-2001 Melissa Relyea
- 1999-2002 Bonnie Lyons
- 2004-2005 Motonobu Ueno
- 2005-2009 Thomas Chase
- 2007-2009 Melissa Cox
- 2010-2014 Vishnu V. Hosur

2013-2016 Mohit Verma

GRADUATE STUDENTS/COLLEGE STUDENTS/SUMMER STUDENTS

1973 Peter J. Horneffer, Summer Student
1974 Susan B. Tarnofsky, Summer Student
1975 Carol J. Wright, Summer Student
1976 Debbie R. Cooper, Summer Student
1976 Cynthia L. Sammis, Summer Student
1977 Mary Ellen McCarthy
1978 Robert Q. Terrill, Summer Student
1980 Rose L. Glynne, Summer Student
1980 Rose Louise Morello, Summer Student
1981 Caroline M. Haas
1982 Kathleen A. Kaiser-Rogers, Summer Student
1983 Kelly K. Petrison
1984 Tracy Elizabeth Giordano, Summer Student
1985 Katherine S. Ullman, Summer Student
1986 Glenn Paradis, Summer Student
1987 Cheryl A. Skinner, Summer Student
1988 David W. Sehy, Summer Student
1988 Jennifer Winslow, Summer Student
1989 Emily Miyashita, Summer Student
1989 Deborah C. Pichler, Summer Student
1990 Alison L. Barth, Summer Student
1990 Philip E. Schaner, Summer Student
1991 Holly Sherburne, Summer Student
1992 Graciana Lapetina, Summer Student
1993 Trac M. Duong
1994 Gillian L. Beamer
1995 Meenakshi H. Rajan
1996 Rachel C. Kidman
2001 Jane Jih
2004 Gina M. MacMannis
2006 Alexander S. Burn
2008 Jennifer M. Wagner
2009 Erica Brown
2010 William Cheng
2011 Deidre Michaud, Summer Student
2012 Noah V. Lupica, Summer Student
2013 Chantal Barksdale, Summer Student
2014 Olivia A. Baranowski, Summer Student
2014 Paul C. Macklis, Summer Student

2015 Julia L. Clemens, Summer Student
2016 Cedric Lozano, Summer Student
2018 Ana Castaner, Summer Student

PUBLICATIONS

1. **Shultz LD**, Wilder MS. 1971. Cytotoxicity of rabbit blood for *Listeria monocytogenes*. *Infect Immun* 4: 703-708. PMID: PMC416377.
2. **Shultz LD**, Wilder MS. 1973. Fate of *Listeria monocytogenes* in normal rabbit serum. *Infect Immun* 7: 289-297. PMID: PMC422672.
3. Green MC, **Shultz LD**. 1975. Motheaten, an immunodeficient mutant of the mouse. I. Genetics and pathology. *J Hered* 66: 250-258.
4. Green MC, **Shultz LD**, Nedzi LA. 1975. Abnormal nuclear morphology of leukocytes in the mouse mutant ichthyosis. *Transplantation* 20: 172-175.
5. **Shultz LD**, Bailey DW. 1975. Genetic control of contact sensitivity in mice: Effect of H-2 and non-H-2 loci. *Immunogenetics* 1: 570-583.
6. **Shultz LD**, Green MC. 1976. Motheaten, an immunodeficient mutant of the mouse. II. Depressed immune competence and elevated serum immunoglobulins. *J Immunol* 116: 936-943.
7. **Shultz LD**, Heiniger HJ, Eicher EM. 1978. Immunopathology of streaker mice, a remutation to nude in the AKR/J strain. In: *Comparative and Developmental Aspects of Immunity and Disease*, Gershwin ME, Cooper EL (eds). New York, Pergamon Press, pp. 211-222.
8. **Shultz LD**, Sidman CL, Unanue ER. 1978. Immunologic dysfunction in "motheaten" mice: Immunodeficiency, autoimmunity and hyperimmunoglobulinemia in a short-lived mutant. In: *Animal Models of Comparative and Developmental Aspects of Immunity and Disease*, Gershwin ME, Cooper EL (eds). New York, Pergamon Press, pp. 260-269.
9. **Shultz LD**, Zurier RB. 1978. "Motheaten": A single gene model for stem cell dysfunction and early onset autoimmunity. In: *Genetic Control of Autoimmune Disease*, Rose NR, Bigazzi P, Warner N (eds). New York, Elsevier, pp. 229-240.
10. Sidman CL, **Shultz LD**, Unanue ER. 1978. The mouse mutant "motheaten." II. Functional studies of the immune system. *J Immunol* 121: 2399-2404.
11. Sidman CL, **Shultz LD**, Unanue ER. 1978. The mouse mutant "motheaten". I. Development of lymphocyte populations. *J Immunol* 121: 2392-2398.
12. Bedigian HG, **Shultz LD**, Meier H. 1979. Expression of endogenous murine leukemia viruses in AKR/J streaker mice. *Nature* 279: 434-436.
13. **Shultz LD**. 1979. Mutant mouse genes affecting development of the immune system. In: *Inbred and Genetically Defined Strains of Laboratory Animals*, Altman PL, Katz DD (eds). Baltimore, MD, Federation of American Societies for Experimental Biology, pp. 67-70.
14. Clark EA, **Shultz LD**, Pollack SB. 1981. Mutations in mice that influence natural killer (NK) cell activity. *Immunogenetics* 12: 601-613.
15. Grzanna R, **Shultz LD**. 1982. The contribution of mast cells to the histamine content of the central nervous system: a regional analysis. *Life Sci* 30: 1959-1964.
16. Johnson DA, **Shultz LD**, Bedigian HG. 1982. Immunodeficiency and reticulum cell sarcoma in mice segregating for HRS/J and SJL/J genes. *Leuk Res* 6: 711-720.
17. **Shultz LD**, Bedigian HG, Heiniger HJ, Eicher EM. 1982. The congenitally athymic streaker mouse. In: *Proceedings of the Third International Workshop on Nude Mice*, Reed ND (ed). New York, Fischer Verlag, pp. 33-39.

18. **Shultz LD**, Sweet HO, Davisson MT, Coman DR. 1982. 'Wasted', a new mutant of the mouse with abnormalities characteristic to ataxia telangiectasia. *Nature* 297: 402-404.
19. Leiter EH, Beamer WG, **Shultz LD**. 1983. The effect of immunosuppression on streptozotocin-induced diabetes in C57BL/KsJ mice. *Diabetes* 32: 148-155.
20. **Shultz LD**, Bailey CL, Coman DR. 1983. Hematopoietic stem cell function in motheaten mice. *Exp Hematol* 11: 667-680.
21. **Shultz LD**, Bedigian HG, Carlson GA, Coman DR. 1983. Effect of congenital athymia on expression of preleukemic cells. In: *Leukemia Reviews International, Advances in Comparative Leukemia Research*, Yohn DS (ed). New York, Marcel Dekker, pp. 225-226.
22. Nordeen SK, Schaefer VG, Edgell MH, Hutchison CA, 3rd, **Shultz LD**, Swift M. 1984. Evaluations of wasted mouse fibroblasts and SV-40 transformed human fibroblasts as models of ataxia telangiectasia in vitro. *Mutat Res* 140: 219-222.
23. **Shultz LD**, Bailey CL, Carlson GA, Coman DR, Evans R, Outzen HC. 1984. Potential of "viable motheaten" mice for the growth of tumor xenografts. In: *Immune-Deficient Animals*, Sordat B (ed). Basel, Karger, pp. 224-229.
24. **Shultz LD**, Coman DR, Bailey CL, Beamer WG, Sidman CL. 1984. "Viable motheaten," a new allele at the motheaten locus. I. Pathology. *Am J Pathol* 116:(2) 179-192. PMC1900532.
25. Sidman CL, Marshall JD, Masiello NC, Roths JB, **Shultz LD**. 1984. Novel B-cell maturation factor from spontaneously autoimmune viable motheaten mice. *Proc Natl Acad Sci U S A* 81: 7199-7202. PMC392105.
26. Sidman CL, Marshall JD, **Shultz LD**, Gray PW, Johnson HM. 1984. γ -interferon is one of several direct B cell-maturing lymphokines. *Nature* 309: 801-804.
27. Gershwin ME, **Shultz L**. 1985. Mechanisms of genetically determined immune dysfunction. *Immunol Today* 6: 36-37.
28. Outzen HC, Corrow D, **Shultz LD**. 1985. Attenuation of exogenous murine mammary tumor virus virulence in the C3H/HeJ mouse substrain bearing the Lps mutation. *J Natl Cancer Inst* 75: 917-923.
29. Sidman CL, **Shultz LD**, Evans R. 1985. A serum-derived molecule from autoimmune viable motheaten mice potentiates the action of a B cell maturation factor. *J Immunol* 135: 870-872.
30. Greiner DL, Goldschneider I, Komschlies KL, Medlock ES, Bollum FJ, **Shultz LD**. 1986. Defective lymphopoiesis in the bone marrow of "motheaten" (*me/me*) and "viable motheaten" (*me^v/ve^v*) mutant mice. I. Analysis of the development of prothymocytes, early B lineage cells, and terminal deoxynucleotidyl transferase-positive cells. *J Exp Med* 164: 1129-1144.
31. Hagiya M, Davis DD, **Shultz LD**, Sakano H. 1986. Non-germ-line elements (NGE) are present in the T cell receptor β -chain genes isolated from the mutant mouse, motheaten (*me/me*). *J Immunol* 136: 2697-2700.
32. Inoue T, Aikawa K, Tezuka H, Kada T, **Shultz LD**. 1986. Effect of DNA-damaging agents on isolated spleen cells and lung fibroblasts from the mouse mutant "wasted," a putative animal model for ataxia-telangiectasia. *Cancer Res* 46: 3979-3982.
33. Inoue T, Tezuka H, Kada T, Aikawa K, **Shultz LD**. 1986. The mouse mutant "wasted": an animal model for ataxia-telangiectasia. *Basic Life Sci* 39: 323-335.
34. Leiter EH, Prochazka M, Coleman DL, Serreze DV, **Shultz LD**. 1986. Genetic factors predisposing to diabetes susceptibility in mice. In: *Immunology in Diabetes*, Mollnar GD, Jaworski MA (eds). New York, Elsevier, pp. 28-38.
35. Sidman CL, **Shultz LD**, Hardy RR, Hayakawa K, Herzenberg LA. 1986. Production of immunoglobulin isotypes by Ly-1⁺ B cells in viable motheaten and normal mice. *Science* 232: 1423-1425.

36. Tezuka H, Inoue T, Noguti T, Kada T, **Shultz LD**. 1986. Evaluation of the mouse mutant "wasted" as an animal model for ataxia telangiectasia. I. Age-dependent and tissue-specific effects. *Mutat Res* 161: 83-90.
37. Komschlies KL, Greiner DL, **Shultz L**, Goldschneider I. 1987. Defective lymphopoiesis in the bone marrow of motheaten (*me/me*) and viable motheaten (*me^v/me^v*) mutant mice. III. Normal mouse bone marrow cells enable *me^v/me^v* prothymocytes to generate thymocytes after intravenous transfer. *J Exp Med* 166: 1162-1167.
38. Leiter EH, Beamer WG, **Shultz LD**, Barker JE, Lane PW. 1987. Mouse models of genetic diseases. *Birth Defects Orig Artic Ser* 23: 221-257.
39. Leiter EH, Prochazka M, **Shultz LD**. 1987. Effect of immunodeficiency on diabetogenesis in genetically diabetic (*db/db*) mice. *J Immunol* 138: 3224-3229.
40. Medlock ES, Goldschneider I, Greiner DL, **Shultz L**. 1987. Defective lymphopoiesis in the bone marrow of motheaten (*me/me*) and viable motheaten (*me^v/me^v*) mutant mice. II. Description of a microenvironmental defect for the generation of terminal deoxynucleotidyl transferase-positive bone marrow cells in vitro. *J Immunol* 138: 3590-3597.
41. **Shultz LD**. 1987. Pleiotropic mutations causing abnormalities in the murine immune system and the skin. *Curr Probl Dermatol* 17: 236-250.
42. **Shultz LD**, Coman DR, Lyons BL, Sidman CL, Taylor S. 1987. Development of plasmacytoid cells with Russell bodies in autoimmune "viable motheaten" mice. *Am J Pathol* 127: 38-50. PMID: PMC1899601.
43. **Shultz LD**, Roths JS. 1987. Euthymic murine models for immunologic dysfunction. In: *Immune Deficient Animals for Biomedical Research*, Rygaard J, Brunner N, Graem N (eds). New York, Karger, pp. 1-14.
44. **Shultz LD**, Sidman CL. 1987. Genetically determined murine models of immunodeficiency. *Annu Rev Immunol* 5: 367-403.
45. Willis EH, Carson DA, **Shultz LD**. 1987. Adenosine deaminase activity in recipients of bone marrow from immunodeficient mice homozygous for the wasted mutation. *Biochem Biophys Res Commun* 145: 581-585.
46. Beamer WG, Tennent BJ, Shultz KL, Nadeau JH, **Shultz LD**, Skow LC. 1988. Gene for ovarian granulosa cell tumor susceptibility, *Gct*, in SWXJ recombinant inbred strains of mice revealed by dehydroepiandrosterone. *Cancer Res* 48: 5092-5095.
47. Evans R, Duffy TM, **Shultz LD**. 1988. The immunological mouse mutants nude (*nu*) and rhino (*hr^{rh}*) generate cytotoxic effector cells following adoptive immunotherapy but fail to reject a transplanted tumor. *Cancer Immunol Immunother* 26: 35-42.
48. Hayashi S, Witte PL, **Shultz LD**, Kincade PW. 1988. Lymphohemopoiesis in culture is prevented by interaction with adherent bone marrow cells from mutant viable motheaten mice. *J Immunol* 140: 2139-2147.
49. McCune JM, Namikawa R, Kaneshima H, **Shultz LD**, Lieberman M, Weissman IL. 1988. The SCID-hu mouse: murine model for the analysis of human hematolymphoid differentiation and function. *Science* 241: 1632-1639.
50. Schweitzer PA, **Shultz LD**. 1988. Characterization of Mott cell hybridomas from autoimmune "viable motheaten" mutant mice. *Curr Top Microbiol Immunol* 137: 223-226.
51. Serreze DV, Leiter EH, Worthen SM, **Shultz LD**. 1988. NOD marrow stem cells adoptively transfer diabetes to resistant (NOD x NON)F1 mice. *Diabetes* 37: 252-255.
52. **Shultz LD**. 1988. Pleiotropic effects of deleterious alleles at the "motheaten" locus. *Curr Top Microbiol Immunol* 137: 216-222.

53. Bosma GC, Davisson MT, Ruetsch NR, Sweet HO, **Shultz LD**, Bosma MJ. 1989. The mouse mutation severe combined immune deficiency (scid) is on chromosome 16. *Immunogenetics* 29: 54-57.
54. Haar JL, Popp JD, **Shultz LD**. 1989. Defective in vitro migratory capacity of bone marrow cells from viable motheaten mice in response to normal thymus culture supernatants. *Exp Hematol* 17: 21-24.
55. Quimby FW, Bosma MJ, Good RA, Hansen CT, Myers DD, Richter CB, Roths JB, Wortis HH, Briles DE, Davisson MT, Fernandes G, Green MC, Guberski DL, Haddada H, Hedrich HJ, Kyogoku M, Lane PW, Lasky JL, Leiter EH, Roderick TH, **Shultz LD**, Thorbecke GJ. 1989. *Immunodeficient Rodents: A Guide to their Immunology, Husbandry, and Use*. National Academy Press.
56. Reed ND, Hall-Stoodley LH, **Shultz LD**. 1989. Mast cell production by *scid/scid* mice: in vivo and in vitro studies. In: 6th International Workshop on Immune Deficient Animals in Biomedical Research, Wu B-Q, Zheng J (eds). pp. 63-67.
57. **Shultz LD**. 1989. Single gene models of immunodeficiency diseases. In: 6th International Workshop on Immune Deficient Animals in Biomedical Research, Wu B-Q, Zheng J (eds). pp. 19-26.
58. **Shultz LD**, Schweitzer PA, Hall EJ, Sundberg JP, Taylor S, Walzer PD. 1989. *Pneumocystis carinii* pneumonia in *scid/scid* mice. *Curr Top Microbiol Immunol* 152: 243-249.
59. Sundberg JP, Burnstein T, **Shultz LD**, Bedigian H. 1989. Identification of *Pneumocystis carinii* in immunodeficient mice. *Lab Anim Sci* 39: 213-218.
60. Tennent BJ, Beamer WG, **Shultz LD**, Adamson ED. 1989. Epidermal growth factor receptors in spontaneous ovarian granulosa cell tumors of SWR-derived mice. *Int J Cancer* 44: 477-482.
61. Van Zant G, **Shultz L**. 1989. Hematologic abnormalities of the immunodeficient mouse mutant, viable motheaten (*me^v*). *Exp Hematol* 17: 81-87.
62. Walzer PD, Kim CK, Linke MJ, Pogue CL, Huerkamp MJ, Chrisp CE, Lerro AV, Wixson SK, Hall E, **Shultz LD**. 1989. Outbreaks of *Pneumocystis carinii* pneumonia in colonies of immunodeficient mice. *Infect Immun* 57: 62-70. PMID: PMC313041.
63. Willis EH, Carson DA, **Shultz LD**. 1989. Adenosine deaminase activity in recipients of bone marrow from immunodeficient mice homozygous for the wasted mutation. *Adv Exp Med Biol* 253B: 209-212.
64. Croitoru K, Stead RH, Bienenstock J, Fulop G, Harnish DG, **Shultz LD**, Jeffery PK, Ernst PB. 1990. Presence of intestinal intraepithelial lymphocytes in mice with severe combined immunodeficiency disease. *Eur J Immunol* 20: 645-651.
65. Serreze DV, Leiter EH, **Shultz LD**. 1990. Transplantation analysis of B cell destruction in (NOD x CBA)F1 mouse bone marrow chimeras. *Diabetologia* 33: 84-92.
66. Sprecher E, Becker Y, Kraal G, Hall E, Harrison D, **Shultz LD**. 1990. Effect of aging on epidermal dendritic cell populations in C57BL/6J mice. *J Invest Dermatol* 94: 247-253.
67. Sprecher E, Becker Y, Kraal G, Hall E, **Shultz LD**. 1990. Effect of genetically determined immunodeficiency on epidermal dendritic cell populations in C57BL/6J mice. *Arch Dermatol Res* 282: 188-193.
68. Sundberg JP, Beamer WG, **Shultz LD**, Dunstan RW. 1990. Inherited mouse mutations as models of human adnexal, cornification, and papulosquamous dermatoses. *J Invest Dermatol* 95: 62S-63S.
69. Yoshida H, Hayashi S, Kunisada T, Ogawa M, Nishikawa S, Okamura H, Sudo T, **Shultz LD**, Nishikawa S. 1990. The murine mutation osteopetrosis is in the coding region of the macrophage colony stimulating factor gene. *Nature* 345: 442-444.
70. Chakraborty NG, Okino T, Stabach P, Padula S, Yamase Y, Morse E, Shaafi R, Twardzik DR, **Shultz LD**, Mukherji B. 1991. Adoptive transfer of activated autologous macrophages results in regression of transplanted human melanoma cells in SCID mice. *In Vivo* 5: 609-614.

71. Croitoru K, Stead RH, Bienenstock J, **Shultz LD**, Ernst PB. 1991. T cell receptor expression is not required for the localization and differentiation of intraepithelial lymphocytes. *Immunol Res* 10: 293-295.
72. Davies TF, Kimura H, Fong P, Kendler D, **Shultz LD**, Thung S, Martin A. 1991. The SCID-hu mouse and thyroid autoimmunity: characterization of human thyroid autoantibody secretion. *Clin Immunol Immunopathol* 60: 319-330.
73. Greiner DL, **Shultz LD**, Rossini AA, Mordes JP, Handler ES, Rajan TV. 1991. Recapitulation of normal and abnormal BB rat immune system development in *scid* mouse/rat lymphohemopoietic chimeras. *J Clin Invest* 88: 717-719. PMID: PMC295424.
74. Kolber DL, **Shultz LD**, Rothstein TL. 1991. Phorbol ester responsiveness of murine Ly-1-lineage B cells from normal and viable motheaten mutant mice. *Eur J Immunol* 21: 721-729.
75. Koo GC, Manyak CL, Dasch J, Ellingsworth L, **Shultz LD**. 1991. Suppressive effects of monocytic cells and transforming growth factor- β on natural killer cell differentiation in autoimmune viable motheaten mutant mice. *J Immunol* 147: 1194-1200.
76. McCune JM, Kaneshima H, Krowka J, Namikawa R, Outzen H, Peault B, Rabin L, Shih C, Yee E, Lieberman M, Weissman IL, **Shultz LD**. 1991. The SCID-hu mouse: A small animal model for HIV infection and pathogenesis. *Ann Rev Immunol* 9: 399-429.
77. Naito M, Hayashi S, Yoshida H, Nishikawa S, **Shultz LD**, Takahashi K. 1991. Abnormal differentiation of tissue macrophage populations in 'osteopetrosis' (op) mice defective in the production of macrophage colony-stimulating factor. *Am J Pathol* 139: 657-667. PMID: PMC1886220.
78. Nelson FK, Greiner DL, **Shultz LD**, Rajan TV. 1991. The immunodeficient scid mouse as a model for human lymphatic filariasis. *J Exp Med* 173: 659-663.
79. Schweitzer PA, Taylor SE, **Shultz LD**. 1991. Synthesis of abnormal immunoglobulins by hybridomas from autoimmune "viable motheaten" mutant mice. *J Cell Biol* 114: 35-43.
80. **Shultz LD**. 1991. Hematopoiesis and models of immunodeficiency. *Semin Immunol* 3: 397-408.
81. **Shultz LD**. 1991. Immunological mutants of the mouse. *Am J Anat* 191: 303-311.
82. **Shultz LD**, Lane PW, Coman DR, Taylor S, Hall E, Lyons B, Wood BG, Schlager G. 1991. Hairpatches, a single gene mutation characterized by progressive renal disease and alopecia in the mouse. A potential model for a newly described heritable human disorder. *Lab Invest* 65: 588-600.
83. Sprecher E, **Shultz LD**, Becker Y. 1991. Epidermal dendritic cells in immunodeficient mice. In: *Skin Langerhans (Dendritic) Cells in Virus Infections and AIDS*, Becker Y (ed). Kluwer Academic Publishers, pp. 59-75.
84. Sprecher E, **Shultz LD**, Becker Y. 1991. Epidermal dendritic cells in aged C57BL/6J mice. In: *Skin Langerhans (Dendritic) Cells in Virus Infections and AIDS*, Becker Y (ed). Kluwer Academic Publishers, pp. 99-117.
85. Sundberg JP, **Shultz LD**. 1991. Inherited mouse mutations: Models for the study of alopecia. *J Invest Dermatol* 91: 95S-96S.
86. Disney JE, Barth AL, **Shultz LD**. 1992. Defective repair of radiation-induced chromosomal damage in *scid/scid* mice. *Cytogenet Cell Genet* 59: 39-44.
87. Greiner DL, Rajan TV, **Shultz LD**. 1992. Animal models for immunodeficiency diseases. *Immunol Today* 13: 116-117.
88. Hayes SM, **Shultz LD**, Greiner DL. 1992. Thymic involution in viable motheaten (*me^v*) mice is associated with a loss of intrathymic precursor activity. *Dev Immunol* 2: 191-205. PMID: PMC2275861

89. Martin A, Kimura H, Thung S, Fong P, **Shultz LD**, Davies TF. 1992. Characteristics of long-term human thyroid peroxidase autoantibody secretion in scid mice transplanted with lymphocytes from patients with autoimmune thyroiditis. *Int Arch Allergy Immunol* 98: 317-323.
90. Naito M, Honda Y, Umeda S, **Shultz LD**, Takahashi K. 1992. Glucan-induced granuloma formation in the liver of osteopetrosis (op) and nude (nu) mutant mice. *Proceedings of the Sixth International Symposium on Cells of the Hepatic Sinusoid*.
91. Ohara A, Anklesaria P, **Shultz L**, Greenberger JS. 1992. Isolation of permanent clonal bone marrow stromal cell lines derived from "viable moth-eaten" and "severe combined immunodeficiency" mutant mice. *Int J Cell Cloning* 10: 33-46.
92. Prochazka M, Gaskins HR, **Shultz LD**, Leiter EH. 1992. The nonobese diabetic *scid* mouse: model for spontaneous thymomagenesis associated with immunodeficiency. *Proc Natl Acad Sci U S A* 89: 3290-3294. PMID: PMC48852.
93. Rajan TV, Nelson FK, Cupp E, **Shultz LD**, Greiner DL. 1992. Survival of *Onchocerca volvulus* in nodules implanted in immunodeficient rodents. *J Parasitol* 78: 160-163.
94. Rajan TV, Nelson FK, **Shultz LD**, Koller BH, Greiner DL. 1992. CD8⁺ T lymphocytes are not required for murine resistance to human filarial parasites. *J Parasitol* 78: 744-746.
95. Rajan TV, **Shultz LD**, Greiner DL. 1992. Lack of peripherally induced tolerance to established skin allografts in immunologically reconstituted *scid* mice. *Dev Immunol* 3: 45-50. PMID: PMC2275903
96. Takahashi K, Naito M, **Shultz LD**. 1992. Differentiation of epidermal Langerhans cells in macrophage colony-stimulating-factor-deficient mice homozygous for the osteopetrosis (op) mutation. *J Invest Dermatol* 99: 46S-47S.
97. Takahashi K, Naito M, **Shultz LD**. 1992. Glucan-induced granuloma formation in the liver of osteopetrosis (op) mice lacking macrophage colony-stimulating activity. *Sarcoidosis* 9: 293-294.
98. Beamer WG, Shultz KL, Tennent BJ, **Shultz LD**. 1993. Granulosa cell tumorigenesis in genetically hypogonadal-immunodeficient mice grafted with ovaries from tumor-susceptible donors. *Cancer Res* 53: 3741-3746.
99. Christianson SW, **Shultz LD**, Leiter EH. 1993. Adoptive transfer of diabetes into immunodeficient NOD-*scid/scid* mice. Relative contributions of CD4⁺ and CD8⁺ T-cells from diabetic versus prediabetic NOD.NON-*Thy-1^a* donors. *Diabetes* 42: 44-55.
100. Kapasi ZF, Burton GF, **Shultz LD**, Tew JG, Szakal AK. 1993. Induction of functional follicular dendritic cell development in severe combined immunodeficiency mice. Influence of B and T cells. *J Immunol* 150: 2648-2658.
101. Kapasi ZF, Burton GF, **Shultz LD**, Tew JG, Szakal AK. 1993. Cellular requirements for functional reconstitution of follicular dendritic cells in SCID mice. *Adv Exp Med Biol* 329: 383-386.
102. Katoh S, Bendig MM, Kanai Y, **Shultz LD**, Hitoshi Y, Takatsu K, Tominaga A. 1993. Maintenance of CD5⁺ B cells at an early developmental stage by interleukin-5: evidence from immunoglobulin gene usage in interleukin-5 transgenic mice. *DNA Cell Biol* 12: 481-491.
103. Koo GC, Rosen H, Sirotna A, Ma XD, **Shultz LD**. 1993. Anti-CD11b antibody prevents immunopathologic changes in viable moth-eaten bone marrow chimeric mice. *J Immunol* 151: 6733-6741.
104. Martin A, Valentine M, Unger P, Lichtenstein C, Schwartz AE, Friedman EW, **Shultz LD**, Davies TF. 1993. Preservation of functioning human thyroid organoids in the scid mouse: 1. System characterization. *J Clin Endocrinol Metab* 77: 305-310.
105. Matsuoka N, Martin A, Concepcion ES, Unger P, **Shultz LD**, Davies TF. 1993. Preservation of functioning human thyroid organoids in the *scid* mouse: II. Biased use of intrathyroidal T cell receptor V genes. *J Clin Endocrinol Metab* 77: 311-315.

106. **Shultz LD**. 1993. Mouse models of immunodeficiency diseases. *Immunol News*.
107. **Shultz LD**, Schweitzer PA, Rajan TV, Yi T, Ihle JN, Matthews RJ, Thomas ML, Beier DR. 1993. Mutations at the murine motheaten locus are within the hematopoietic cell protein-tyrosine phosphatase (*Hcph*) gene. *Cell* 73: 1445-1454.
108. Sundberg JP, Boggess D, Sundberg BA, Beamer WG, **Shultz LD**. 1993. Epidermal dendritic cell populations in the flaky skin mutant mouse. *Immunol Invest* 22: 389-401.
109. Sundberg, LP, **Shultz LD**. 1993. Severe combined immunodeficiency. *Comp Pathol Bull* 25: 3-4.
110. Takahashi K, Naito M, Morioka Y, **Shultz LD**. 1993. Immunophenotypic and ultrastructural differentiation and maturation of nonlymphoid dendritic cells in osteopetrotic (*op*) mice with the total absence of macrophage colony stimulating factor. *Adv Exp Med Biol* 329: 293-297.
111. Takahashi K, Naito M, **Shultz LD**, Hayashi S, Nishikawa S. 1993. Differentiation of dendritic cell populations in macrophage colony-stimulating factor-deficient mice homozygous for the osteopetrosis (*op*) mutation. *J Leukoc Biol* 53: 19-28.
112. Yeoman H, Gress RE, Bare CV, Leary AG, Boyse EA, Bard J, **Shultz LD**, Harris DT, DeLuca D. 1993. Human bone marrow and umbilical cord blood cells generate CD4⁺ and CD8⁺ single-positive T cells in murine fetal thymus organ culture. *Proc Natl Acad Sci U S A* 90: 10778-10782. PMID: PMC47861
113. De Riu S, Martin A, Valentine M, Concepcion ES, **Shultz LD**, Davies TF. 1994. Graves' disease thyroid tissue transplants in scid mice: persistent selectivity in hTcR Va gene family use. *Autoimmunity* 19: 271-277.
114. Gerling IC, Friedman H, Greiner DL, **Shultz LD**, Leiter EH. 1994. Multiple low-dose streptozocin-induced diabetes in NOD-*scid/scid* mice in the absence of functional lymphocytes. *Diabetes* 43: 433-440.
115. Hayes SM, **Shultz LD**, Greiner DL. 1994. Localization of prothymocytes from wild-type and viable motheaten mice following intravenous injection into irradiated adoptive recipients. *Cell Immunol* 153: 344-355.
116. Kapasi ZF, Kosco-Vilbois MH, **Shultz LD**, Tew JG, Szakal AK. 1994. Cellular origin of follicular dendritic cells. *Adv Exp Med Biol* 355: 231-235.
117. Martin A, Valentine M, Unger P, Yeung SW, **Shultz LD**, Davies TF. 1994. Engraftment of human lymphocytes and thyroid tissue into scid and rag2-deficient mice: absent progression of lymphocytic infiltration. *J Clin Endocrinol Metab* 79: 716-723.
118. Rajan TV, Bailis JM, Yates JA, **Shultz LD**, Greiner DL, Nelson FK. 1994. Maternal influence on susceptibility of offspring to *Brugia malayi* infection in a murine model of filariasis. *Acta Trop* 58: 283-289.
119. Rajan TV, Nelson FK, Killeen N, **Shultz LD**, Yates JA, Bailis JM, Littman DR, Greiner DL. 1994. CD4⁺ T-lymphocytes are not required for murine resistance to the human filarial parasite, *Brugia malayi*. *Exp Parasitol* 78: 352-360.
120. Rajan TV, Nelson FK, **Shultz LD**, Shultz KL, Beamer WG, Yates J, Greiner DL. 1994. Influence of gonadal steroids on susceptibility to *Brugia malayi* in scid mice. *Acta Trop* 56: 307-314.
121. Smithson G, Beamer WG, Shultz KL, Christianson SW, **Shultz LD**, Kincade PW. 1994. Increased B lymphopoiesis in genetically sex steroid-deficient hypogonadal (*hpg*) mice. *J Exp Med* 180: 717-720.
122. Szomolanyi-Tsuda E, Dundon PL, Joris I, **Shultz LD**, Woda BA, Welsh RM. 1994. Acute, lethal, natural killer cell-resistant myeloproliferative disease induced by polyomavirus in severe combined immunodeficient mice. *Am J Pathol* 144: 359-371. PMID: PMC1887132.
123. Takahashi K, Naito M, Umeda S, **Shultz LD**. 1994. The role of macrophage colony-stimulating factor in hepatic glucan-induced granuloma formation in the osteopetrosis mutant mouse defective in the

- production of macrophage colony-stimulating factor. *Am J Pathol* 144: 1381-1392. PMID: PMC1887478.
124. Takahashi K, Umeda S, **Shultz LD**, Hayashi S, Nishikawa S. 1994. Effects of macrophage colony-stimulating factor (M-CSF) on the development, differentiation, and maturation of marginal metallophilic macrophages and marginal zone macrophages in the spleen of osteopetrosis (*op*) mutant mice lacking functional M-CSF activity. *J Leukoc Biol* 55: 581-588.
 125. Usuda H, Naito M, Umeda S, Takahashi K, **Shultz LD**. 1994. Ultrastructure of macrophages and dendritic cells in osteopetrosis (*op*) mutant mice lacking macrophage colony-stimulating factor (M-CSF/CSF-1) activity. *J Submicrosc Cytol Pathol* 26: 111-119.
 126. Valentine M, Martin A, Unger P, Katz N, **Shultz LD**, Davies TF. 1994. Preservation of functioning human thyroid "organoids" in the severe combined immunodeficient mouse. III. Thyrotropin independence of thyroid follicle formation. *Endocrinology* 134: 1225-1230.
 127. Welsh RM, O'Donnell CL, **Shultz LD**. 1994. Antiviral activity of NK 1.1+ natural killer cells in C57BL/6 *scid* mice infected with murine cytomegalovirus. *Nat Immun* 13: 239-245.
 128. Beamer WG, Pelsue SC, **Shultz LD**, Sundberg JP, Barker JE. 1995. The flaky skin (*fsn*) mutation in mice: map location and description of the anemia. *Blood* 86: 3220-3226.
 129. Blazar BR, Brennan CA, Broxmeyer HE, **Shultz LD**, Vallera DA. 1995. Transgenic mice expressing either bovine growth hormone (bGH) or human GH releasing hormone (hGRH) have increased splenic progenitor cell colony formation and DNA synthesis in vitro and in vivo. *Exp Hematol* 23: 1397-1406.
 130. Buhlmann JE, Foy TM, Aruffo A, Crassi KM, Ledbetter JA, Green WR, Xu JC, **Shultz LD**, Roopenian D, Flavell RA, et al. 1995. In the absence of a CD40 signal, B cells are tolerogenic. *Immunity* 2: 645-653.
 131. DeLuca D, Bluestone JA, **Shultz LD**, Sharrow SO, Tatsumi Y. 1995. Programmed differentiation of murine thymocytes during fetal thymus organ culture. *J Immunol Methods* 178: 13-29.
 132. Greiner DL, **Shultz LD**, Yates J, Appel MC, Perdrizet G, Hesselton RM, Schweitzer I, Beamer WG, Shultz KL, Pelsue SC, et al. 1995. Improved engraftment of human spleen cells in NOD/LtSz-*scid/scid* mice as compared with C.B-17-*scid/scid* mice. *Am J Pathol* 146: 888-902. PMID: PMC1869266.
 133. Hesselton RM, Greiner DL, Mordes JP, Rajan TV, Sullivan JL, **Shultz LD**. 1995. High levels of human peripheral blood mononuclear cell engraftment and enhanced susceptibility to human immunodeficiency virus type 1 infection in NOD/LtSz-*scid/scid* mice. *J Infect Dis* 172: 974-982.
 134. Larochelle A, Vormoor J, Lapidot T, Sher G, Furukawa T, Li Q, **Shultz LD**, Olivieri NF, Stamatoyannopoulos G, Dick JE. 1995. Engraftment of immune-deficient mice with primitive hematopoietic cells from β -thalassemia and sickle cell anemia patients: implications for evaluating human gene therapy protocols. *Hum Mol Genet* 4: 163-172.
 135. Lubaroff DM, **Shultz LD**, Beamer WG. 1995. Survival of human prostate tissues and IL-2 activated lymphocytes in *scid* mice. *Prostate* 27: 32-41.
 136. Moore JM, Kumar N, **Shultz LD**, Rajan TV. 1995. Maintenance of the human malarial parasite, *Plasmodium falciparum*, in *scid* mice and transmission of gametocytes to mosquitoes. *J Exp Med* 181: 2265-2270.
 137. Pelsue SC, Schweitzer PA, Beamer WG, **Shultz LD**. 1995. Mapping of the flaky skin (*fsn*) mutation on distal mouse chromosome 17. *Mamm Genome* 6: 758.
 138. Rajan TV, **Shultz LD**, Yates J, Greiner DL. 1995. B lymphocytes are not required for murine resistance to the human filarial parasite, *Brugia malayi*. *J Parasitol* 81: 490-493.
 139. Rohane PW, Shimada A, Kim DT, Edwards CT, Charlton B, **Shultz LD**, Fathman CG. 1995. Islet-infiltrating lymphocytes from prediabetic NOD mice rapidly transfer diabetes to NOD-*scid/scid* mice. *Diabetes* 44: 550-554.

140. Serreze DV, Leiter EH, Hanson MS, Christianson SW, **Shultz LD**, Hesselton RM, Greiner DL. 1995. *Emv30^{null}* NOD-*scid* mice. An improved host for adoptive transfer of autoimmune diabetes and growth of human lymphohematopoietic cells. *Diabetes* 44: 1392-1398.
141. **Shultz LD**, Schweitzer PA, Christianson SW, Gott B, Schweitzer IB, Tennent B, McKenna S, Mobraaten L, Rajan TV, Greiner DL, et al. 1995. Multiple defects in innate and adaptive immunologic function in NOD/LtSz-*scid* mice. *J Immunol* 154: 180-191.
142. Takeoka Y, Whitmer KJ, Chen SY, Ansari AA, Boyd RL, **Shultz LD**, Suehiro S, Gershwin ME. 1995. Thymic epithelial cell abnormalities in (NZB x H-2^u)F1 mice. *Clin Immunol Immunopathol* 76: 297-307.
143. Araki M, Fukumatsu Y, Katabuchi H, **Shultz LD**, Takahashi K, Okamura H. 1996. Follicular development and ovulation in macrophage colony-stimulating factor-deficient mice homozygous for the osteopetrosis (*op*) mutation. *Biol Reprod* 54: 478-484.
144. Christianson SW, Greiner DL, Schweitzer IB, Gott B, Beamer GL, Schweitzer PA, Hesselton RM, **Shultz LD**. 1996. Role of natural killer cells on engraftment of human lymphoid cells and on metastasis of human T-lymphoblastoid leukemia cells in C57BL/6J-*scid* mice and in C57BL/6J-*scid* bg mice. *Cell Immunol* 171: 186-199.
145. Greiner DL, **Shultz LD**, Deluca D, Leif JH, Christianson SW, Hesselton RM. 1996. HIV-1 infectivity of human T cells in a human/murine chimeric fetal thymic organ culture system. *In Vivo* 10: 33-37.
146. Heine D, Passmore HC, Patel V, **Shultz LD**, Ward-Bailey P, Cook SA, Davisson MT. 1996. Effect of the mouse *scid* mutation on meiotic recombination. *Mamm Genome* 7: 497-500.
147. Kunisada T, Yoshida H, Ogawa M, **Shultz LD**, Nishikawa S-1. 1996. Characterization and isolation of melanocyte progenitors from mouse embryos. *Dev Growth Differ* 38: 87-97.
148. Lowry PA, **Shultz LD**, Greiner DL, Hesselton RM, Kittler EL, Tiarks CY, Rao SS, Reilly J, Leif JH, Ramshaw H, Stewart FM, Quesenberry PJ. 1996. Improved engraftment of human cord blood stem cells in NOD/LtSz-*scid/scid* mice after irradiation or multiple-day injections into unirradiated recipients. *Biol Blood Marrow Transplant* 2: 15-23.
149. Naito M, Umeda S, Takahashi K, Takatsuka H, Usuda H, Ito S, Umezumi H, **Shultz LD**. 1996. Osteopetrotic (*op/op*) mice: An animal model for investigating the biology of colony stimulating factor-1 (CSF-1/M-CSF). *Acta Med Biol* 44: 1-11.
150. Naito M, Umeda S, Yamamoto T, Moriyama H, Umezumi H, Hasegawa G, Usuda H, **Shultz LD**, Takahashi K. 1996. Development, differentiation, and phenotypic heterogeneity of murine tissue macrophages. *J Leukoc Biol* 59: 133-138.
151. Noben-Trauth N, Schweitzer PA, Johnson KR, Wolf SF, Knowles BB, **Shultz LD**. 1996. The interleukin-12 beta subunit (p40) maps to mouse chromosome 11. *Mamm Genome* 7: 392.
152. Pflumio F, Izac B, Katz A, **Shultz LD**, Vainchenker W, Coulombel L. 1996. Phenotype and function of human hematopoietic cells engrafting immune-deficient CB17-severe combined immunodeficiency mice and nonobese diabetic-severe combined immunodeficiency mice after transplantation of human cord blood mononuclear cells. *Blood* 88: 3731-3740.
153. Phillips JA, Romball CG, Hobbs MV, Ernst DN, **Shultz L**, Weigle WO. 1996. CD4⁺ T cell activation and tolerance induction in B cell knockout mice. *J Exp Med* 183: 1339-1344.
154. Rajan TV, Greiner DL, Yates JA, **Shultz LD**. 1996. Growth of the human filarial parasite *Brugia malayi* in mice lacking major histocompatibility complex class II antigen expression. *Acta Trop* 61: 267-271.
155. Rajan TV, Moore JM, **Shultz LD**. 1996. Immunodeficient mice as hosts for hemoparasitic infections. *Parasitol Today* 12: 479-485.
156. Rajan TV, Porte P, Yates JA, Keefer L, **Shultz LD**. 1996. Role of nitric oxide in host defense against an extracellular, metazoan parasite, *Brugia malayi*. *Infect Immun* 64: 3351-3353. PMID: PMC174228

157. Schweitzer PA, Noben-Trauth N, Pelsue SC, Johnson KR, Wolf SF, **Shultz LD**. 1996. Genetic mapping of the IL-12 alpha chain gene (*Il12a*) on mouse chromosome 3. *Mamm Genome* 7: 394-395.
158. Serreze DV, Chapman HD, Varnum DS, Hanson MS, Reifsnyder PC, Richard SD, Fleming SA, Leiter EH, **Shultz LD**. 1996. B lymphocytes are essential for the initiation of T cell-mediated autoimmune diabetes: analysis of a new "speed congenic" stock of NOD.Igμ^{null} mice. *J Exp Med* 184: 2049-2053.
159. **Shultz LD**. 1996. Single gene models of immunodeficiency and autoimmune disease. In: Weir's Handbook of Experimental Immunology, 5th Ed. Blackwell Science Inc., 4: 1-150.
160. Takeoka Y, Chen SY, Yago H, Boyd R, Suehiro S, **Shultz LD**, Ansari AA, Gershwin ME. 1996. The murine thymic microenvironment: changes with age. *Int Arch Allergy Immunol* 111: 5-12.
161. Umeda S, Takahashi K, Naito M, **Shultz LD**, Takagi K. 1996. Neonatal changes of osteoclasts in osteopetrosis (*op/op*) mice defective in production of functional macrophage colony-stimulating factor (M-CSF) protein and effects of M-CSF on osteoclast development and differentiation. *J Submicrosc Cytol Pathol* 28: 13-26.
162. Umeda S, Takahashi K, **Shultz LD**, Naito M, Takagi K. 1996. Effects of macrophage colony-stimulating factor on macrophages and their related cell populations in the osteopetrosis mouse defective in production of functional macrophage colony-stimulating factor protein. *Am J Pathol* 149: 559-574. PMID: PMC1865316.
163. Vella AT, Scherer MT, **Shultz LD**, Kappler JW, Marrack P. 1996. B cells are not essential for peripheral T cell tolerance. *Proc Natl Acad Sci USA* 93: 951-955.
164. Yoshida H, Hayashi S, **Shultz LD**, Yamamura K, Nishikawa S, Nishikawa S, Kunisada T. 1996. Neural and skin cell-specific expression pattern conferred by steel factor regulatory sequence in transgenic mice. *Dev Dyn* 207: 222-232.
165. Zhong RK, Donnenberg AD, **Shultz LD**, Swerdlow SH, Lee E, Rubin J, Kozii R, Chen J, Griffin DL, Wilson J, Ball ED. 1996. Evaluation of monoclonal antibody-mediated anti-acute myeloid leukemia immunotherapy in a SCID/hu model. *Leuk Res* 20: 581-589.
166. Allay JA, Dennis JE, Haynesworth SE, Majumdar MK, Clapp DW, **Shultz LD**, Caplan AI, Gerson SL. 1997. LacZ and interleukin-3 expression *In Vivo* after retroviral transduction of marrow-derived human osteogenic mesenchymal progenitors. *Hum Gene Ther* 8: 1417-1427.
167. Cashman JD, Lapidot T, Wang JC, Doedens M, **Shultz LD**, Lansdorp P, Dick JE, Eaves CJ. 1997. Kinetic evidence of the regeneration of multilineage hematopoiesis from primitive cells in normal human bone marrow transplanted into immunodeficient mice. *Blood* 89: 4307-4316.
168. Christianson SW, Greiner DL, Hesselton RA, Leif JH, Wagar EJ, Schweitzer IB, Rajan TV, Gott B, Roopenian DC, **Shultz LD**. 1997. Enhanced human CD4⁺ T cell engraftment in β₂-microglobulin-deficient NOD-*scid* mice. *J Immunol* 158: 3578-3586.
169. Hogan CJ, Shpall EJ, McNulty O, McNiece I, Dick JE, **Shultz LD**, Keller G. 1997. Engraftment and development of human CD34⁺-enriched cells from umbilical cord blood in NOD/LtSz-*scid/scid* mice. *Blood* 90: 85-96.
170. Jiao H, Yang W, Berrada K, Tabrizi M, **Shultz L**, Yi T. 1997. Macrophages from motheaten and viable motheaten mutant mice show increased proliferative responses to GM-CSF: detection of potential HCP substrates in GM-CSF signal transduction. *Exp Hematol* 25: 592-600.
171. Koch PJ, Mahoney MG, Ishikawa H, Pulkkinen L, Uitto J, **Shultz L**, Murphy GF, Whitaker-Menezes D, Stanley JR. 1997. Targeted disruption of the pemphigus vulgaris antigen (desmoglein 3) gene in mice causes loss of keratinocyte cell adhesion with a phenotype similar to pemphigus vulgaris. *J Cell Biol* 137: 1091-1102.

172. Markees TG, Phillips NE, Noelle RJ, **Shultz LD**, Mordes JP, Greiner DL, Rossini AA. 1997. Prolonged survival of mouse skin allografts in recipients treated with donor splenocytes and antibody to CD40 ligand. *Transplantation* 64: 329-335.
173. Martin A, Matsuoka N, Zhang J, Zhou A, Nakashima M, Unger P, Schwartz AE, Friedman EW, **Shultz LD**, Davies TF. 1997. Preservation of functioning human thyroid "organoids" in the *scid* mouse. IV. *In Vivo* selection of an intrathyroidal T cell receptor repertoire. *Endocrinology* 138: 4868-4875.
174. Naito M, Umeda S, Takahashi K, **Shultz LD**. 1997. Macrophage differentiation and granulomatous inflammation in osteopetrotic mice (*op/op*) defective in the production of CSF-1. *Mol Reprod Dev* 46: 85-91.
175. Nakamura MC, Niemi EC, Fisher MJ, **Shultz LD**, Seaman WE, Ryan JC. 1997. Mouse Ly-49A interrupts early signaling events in natural killer cell cytotoxicity and functionally associates with the SHP-1 tyrosine phosphatase. *J Exp Med* 185: 673-684. PMID: PMC2196152.
176. Nakayama K, Takahashi K, **Shultz LD**, Miyakawa K, Tomita K. 1997. Abnormal development and differentiation of macrophages and dendritic cells in viable motheaten mutant mice deficient in haematopoietic cell phosphatase. *Int J Exp Pathol* 78: 245-257.
177. Noben-Trauth N, **Shultz LD**, Brombacher F, Urban JF, Jr., Gu H, Paul WE. 1997. An interleukin 4 (IL-4)-independent pathway for CD4⁺ T cell IL-4 production is revealed in IL-4 receptor-deficient mice. *Proc Natl Acad Sci U S A* 94: 10838-10843. PMID: PMC23501.
178. Serreze DV, Chapman HD, Varnum DS, Gerling I, Leiter EH, **Shultz LD**. 1997. Initiation of autoimmune diabetes in NOD/Lt mice is MHC class I-dependent. *J Immunol* 158: 3978-3986.
179. **Shultz LD**, Rajan TV, Greiner DL. 1997. Severe defects in immunity and hematopoiesis caused by SHP-1 protein-tyrosine-phosphatase deficiency. *Trends Biotechnol* 15: 302-307.
180. Sundberg JP, France M, Boggess D, Sundberg BA, Jenson AB, Beamer WG, **Shultz LD**. 1997. Development and progression of psoriasiform dermatitis and systemic lesions in the flaky skin (*fsn*) mouse mutant. *Pathobiology* 65: 271-286.
181. Takeda K, Hamelmann E, Joetham A, **Shultz LD**, Larsen GL, Irvin CG, Gelfand EW. 1997. Development of eosinophilic airway inflammation and airway hyperresponsiveness in mast cell-deficient mice. *J Exp Med* 186: 449-454. PMID: PMC2198995.
182. Takeoka Y, Chen SY, Boyd RL, Tsuneyama K, Taguchi N, Morita S, Yago H, Suehiro S, Ansari AA, **Shultz LD**, Gershwin ME. 1997. A comparative analysis of the murine thymic microenvironment in normal, autoimmune, and immunodeficiency states. *Dev Immunol* 5: 79-89. PMID: PMC2275982.
183. Tapley P, Shevde NK, Schweitzer PA, Gallina M, Christianson SW, Lin IL, Stein RB, **Shultz LD**, Rosen J, Lamb P. 1997. Increased G-CSF responsiveness of bone marrow cells from hematopoietic cell phosphatase deficient viable motheaten mice. *Exp Hematol* 25: 122-131.
184. Thrall RS, Vogel SN, Evans R, **Shultz LD**. 1997. Role of tumor necrosis factor-alpha in the spontaneous development of pulmonary fibrosis in viable motheaten mutant mice. *Am J Pathol* 151: 1303-1310. PMID: PMC1858072.
185. Westhoff CM, Whittier A, Kathol S, McHugh J, Zajicek C, **Shultz LD**, Wylie DE. 1997. DNA-binding antibodies from viable motheaten mutant mice: Implications for B cell tolerance. *J Immunol* 159: 3024-3033.
186. Zhu H, Naito M, Umezu H, Moriyama H, Takatsuka H, Takahashi K, **Shultz LD**. 1997. Macrophage differentiation and expression of macrophage colony-stimulating factor in murine milky spots and momentum after macrophage elimination. *J Leukoc Biol* 61: 436-444.
187. Babu S, Porte P, Klei TR, **Shultz LD**, Rajan TV. 1998. Host NK cells are required for the growth of the human filarial parasite *Brugia malayi* in mice. *J Immunol* 161: 1428-1432.

188. Brown BA II, Li Y, Brown JC, Hardin CC, Roberts JF, Pelsue SC, **Shultz LD**. 1998. Isolation and characterization of a monoclonal anti-quadruplex DNA antibody from autoimmune "viable motheaten" mice. *Biochemistry* 37: 16325-16337.
189. Evans R, **Shultz LD**, Dranoff G, Fuller JA, Kamdar SJ. 1998. CSF-1 regulation of *Il6* gene expression by murine macrophages: a pivotal role for GM-CSF. *J Leukoc Biol* 64: 810-816.
190. Foy TM, McIlraith M, Masters SR, Dunn JJ, Rossini AA, **Shultz LD**, Hesselton RA, Wagar EJ, Lipsky PE, Noelle RJ, Greiner DL. 1998. Blockade of CD40-CD154 interferes with human T cell engraftment in scid mice. *Cell Transplant* 7: 25-35.
191. Gordon EJ, Markees TG, Phillips NE, Noelle RJ, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 1998. Prolonged survival of rat islet and skin xenografts in mice treated with donor splenocytes and anti-CD154 monoclonal antibody. *Diabetes* 47: 1199-1206.
192. Greiner DL, Hesselton RA, **Shultz LD**. 1998. SCID mouse models of human stem cell engraftment. *Stem Cells* 16: 166-177.
193. Greiner DL, **Shultz LD**. 1998. Use of NOD/LtSz-*scid/scid* mice in biomedical research. In: *NOD Mice and Related Strains: Research Applications in Diabetes, AIDS, Cancer, and other Diseases*, Leiter EH, Atkinson MA (eds). Landes Publishing, pp. 173-203.
194. Herbst LH, Sundberg JP, **Shultz LD**, Gray BA, Klein PA. 1998. Tumorigenicity of green turtle fibropapilloma-derived fibroblast lines in immunodeficient mice. *Lab Anim Sci* 48: 162-167.
195. Kapasi ZF, Qin D, Kerr WG, Kosco-Vilbois MH, **Shultz LD**, Tew JG, Szakal AK. 1998. Follicular dendritic cell (FDC) precursors in primary lymphoid tissues. *J Immunol* 160: 1078-1084.
196. Kunisada T, Yoshida H, Yamazaki H, Miyamoto A, Hemmi H, Nishimura E, **Shultz LD**, Nishikawa S, Hayashi S. 1998. Transgene expression of steel factor in the basal layer of epidermis promotes survival, proliferation, differentiation and migration of melanocyte precursors. *Development* 125: 2915-2923.
197. Markees TG, Phillips NE, Gordon EJ, Noelle RJ, **Shultz LD**, Mordes JP, Greiner DL, Rossini AA. 1998. Long-term survival of skin allografts induced by donor splenocytes and anti-CD154 antibody in thymectomized mice requires CD4⁺ T cells, interferon-gamma, and CTLA4. *J Clin Invest* 101: 2446-2455. PMID: PMC508834.
198. Miyamoto A, Kunisada T, Yamazaki H, Miyake K, Nishikawa SI, Sudo T, **Shultz LD**, Hayashi SI. 1998. Establishment and characterization of pro-B cell lines from motheaten mutant mouse defective in SHP-1 protein tyrosine phosphatase. *Immunol Lett* 63: 75-82.
199. Nguyen VT, Lee TX, Ndoye A, **Shultz LD**, Pittelkow MR, Dahl MV, Lynch PL, Grando SA. 1998. The pathophysiological significance of nondesmoglein targets of pemphigus autoimmunity. Development of antibodies against keratinocyte cholinergic receptors in patients with pemphigus vulgaris and pemphigus foliaceus. *Arch Dermatol* 134: 971-980.
200. Pelsue SC, Schweitzer PA, Schweitzer IB, Christianson SW, Gott B, Sundberg JP, Beamer WG, **Shultz LD**. 1998. Lymphadenopathy, elevated serum IgE levels, autoimmunity, and mast cell accumulation in flaky skin mutant mice. *Eur J Immunol* 28: 1379-1388.
201. Rajan TV, **Shultz LD**, Babu S, Doukas J, Greiner D, Porte P. 1998. Diethylcarbamazine (DEC) does not induce nitric oxide (NO) synthesis. *Exp Parasitol* 88: 217-222.
202. Ramirez M, Rottman GA, **Shultz LD**, Civin CI. 1998. Mature human hematopoietic cells in donor bone marrow complicate interpretation of stem/progenitor cell assays in xenogeneic hematopoietic chimeras. *Exp Hematol* 26: 332-344.
203. Sundberg JP, **Shultz LD**, King LE, Montagutelli X. 1998. Mouse models for pemphigus vulgaris. *Comp Path Bull* 30: 3-4.

204. Takahashi K, Miyakawa K, Wynn AA, Nakayama K, Myint YY, Naito M, **Shultz LD**, Tominaga A, Takatsu K. 1998. Effects of granulocyte/macrophage colony-stimulating factor on the development and differentiation of CD5-positive macrophages and their potential derivation from a CD5-positive B-cell lineage in mice. *Am J Pathol* 152: 445-456. PMID: PMC1857972.
205. Takatsuka H, Umezu H, Hasegawa G, Usuda H, Ebe Y, Naito M, **Shultz LD**. 1998. Bone remodeling and macrophage differentiation in osteopetrosis (*op*) mutant mice defective in the production of macrophage colony-stimulating factor. *J Submicrosc Cytol Pathol* 30: 239-247.
206. Vu TN, Lee TX, Ndoye A, **Shultz LD**, Pittelkow MR, Dahl MV, Lynch PJ, Grando SA. 1998. The pathophysiological significance of nondesmoglein targets of pemphigus autoimmunity. Development of antibodies against keratinocyte cholinergic receptors in patients with pemphigus vulgaris and pemphigus foliaceus. *Arch Dermatol* 134: 971-980.
207. Yamada G, Nakamura S, Haraguchi R, Sakai M, Suzuki K, Miyado K, Hasuwa H, Ogino Y, Minami T, Tohno Y, Blum M, **Shultz LD**. 1998. Aberrant regulation of bone trace elements in motheaten and osteopetrosis mutant mice. *Cell Mol Biol (Noisy-le-grand)* 44: 315-319.
208. Yang W, McKenna SD, Jiao H, Tabrizi M, Lynes MA, **Shultz LD**, Yi T. 1998. SHP-1 deficiency in B-lineage cells is associated with heightened lyn protein expression and increased lyn kinase activity. *Exp Hematol* 26: 1126-1132.
209. Zhong R-K, **Shultz LD**, Swerdlow SH, Lee E, Chen J, Jiang B, Elder E, Whiteside TL, Ball ED. 1998. Bi-specific antibody therapy of human AML in a SCID mouse model. *Can Res Ther Con* 5: 67-76.
210. Babu S, **Shultz LD**, Klei TR, Rajan TV. 1999. Immunity in experimental murine filariasis: roles of T and B cells revisited. *Infect Immun* 67: 3166-3167. PMID: PMC96639.
211. Babu S, **Shultz LD**, Rajan TV. 1999. T cells facilitate *Brugia malayi* development in TCR α^{null} mice. *Exp Parasitol* 93: 55-57.
212. Ito S, Naito M, Kobayashi Y, Takatsuka H, Jiang S, Usuda H, Umezu H, Hasegawa G, Arakawa M, **Shultz LD**, Elomaa O, Tryggvason K. 1999. Roles of a macrophage receptor with collagenous structure (MARCO) in host defense and heterogeneity of splenic marginal zone macrophages. *Arch Histol Cytol* 62: 83-95.
213. Kollet O, Aviram R, Chebath J, ben-Hur H, Nagler A, **Shultz L**, Revel M, Lapidot T. 1999. The soluble interleukin-6 (IL-6) receptor/IL-6 fusion protein enhances in vitro maintenance and proliferation of human CD34⁺CD38^{-/low} cells capable of repopulating severe combined immunodeficiency mice. *Blood* 94: 923-931.
214. Lynes MA, Richardson CA, McCabe R, Crowthers KC, Lee JC, Youn J, Schweitzer IB, **Shultz LD**. 1999. Metallothionein-mediated alterations in autoimmune disease processes. In: *Metallothionein IV*, Klassen C (ed). Birkhauser Verlag Basel, pp. 437-444.
215. Markees TG, Serreze DV, Phillips NE, Sorli CH, Gordon EJ, **Shultz LD**, Noelle RJ, Woda BA, Greiner DL, Mordes JP, Rossini AA. 1999. NOD mice have a generalized defect in their response to transplantation tolerance induction. *Diabetes* 48: 967-974.
216. Myint YY, Miyakawa K, Naito M, **Shultz LD**, Oike Y, Yamamura K, Takahashi K. 1999. Granulocyte/macrophage colony-stimulating factor and interleukin-3 correct osteopetrosis in mice with osteopetrosis mutation. *Am J Pathol* 154: 553-566. PMID: PMC1850013.
217. Peled A, Petit I, Kollet O, Magid M, Ponomaryov T, Byk T, Nagler A, Ben-Hur H, Many A, **Shultz L**, Lider O, Alon R, Zipori D, Lapidot T. 1999. Dependence of human stem cell engraftment and repopulation of NOD/SCID mice on CXCR4. *Science* 283: 845-848.
218. Saito H, **Shultz LD**, Sinha M, Papaconstantinou J. 1999. Induction of the α_1 -antichymotrypsin gene in the brain associated with TGF- β 1 deficiency or systemic administration of endotoxin. *Biochem Biophys Res Commun* 263: 270-275.

219. Schwarze J, Cieslewicz G, Hamelmann E, Joetham A, **Shultz LD**, Lamers MC, Gelfand EW. 1999. IL-5 and eosinophils are essential for the development of airway hyperresponsiveness following acute respiratory syncytial virus infection. *J Immunol* 162: 2997-3004.
220. Taguchi N, Hashimoto Y, Naiki M, Farr AG, Boyd RL, Ansari AA, **Shultz LD**, Kotzin BL, Dorshkind K, Ikehara S, Gershwin ME. 1999. Abnormal thymic expression of epithelial cell adhesion molecule (EPCAM) in New Zealand Black (NZB) mice. *J Autoimmun* 13: 393-404.
221. Takeoka Y, Taguchi N, Kotzin BL, Bennett S, Vyse TJ, Boyd RL, Naiki M, Konishi J, Ansari AA, **Shultz LD**, Gershwin ME. 1999. Thymic microenvironment and NZB mice: the abnormal thymic microenvironment of New Zealand mice correlates with immunopathology. *Clin Immunol* 90: 388-398.
222. Takeoka Y, Taguchi N, **Shultz L**, Boyd RL, Naiki M, Ansari AA, Gershwin ME. 1999. Apoptosis and the thymic microenvironment in murine lupus. *J Autoimmun* 13: 325-334.
223. Turgeon NA, Iwakoshi N, Meyers WC, **Shultz L**, Greiner DL, Mordes JP, Rossini AA. 1999. Analysis of human immune responses to human allografts in small animal models. *Surg Forum* 50: 393-395.
224. Umeda S, Beamer WG, Takagi K, Naito M, Hayashi S, Yonemitsu H, Yi T, **Shultz LD**. 1999. Deficiency of SHP-1 protein-tyrosine phosphatase activity results in heightened osteoclast function and decreased bone density. *Am J Pathol* 155: 223-233. PMID: PMC1866654.
225. Babu S, Ganley LM, Klei TR, **Shultz LD**, Rajan TV. 2000. Role of gamma interferon and interleukin-4 in host defense against the human filarial parasite *Brugia malayi*. *Infect Immun* 68: 3034-3035. PMID: PMC97525.
226. Ballen K, Becker PS, Greiner D, Valinski H, Shearin D, Berrios V, Dooner G, Hsieh CC, Wu J, **Shultz L**, Cerny J, Leif J, Stewart FM, Quesenberry P. 2000. Effect of *ex vivo* cytokine treatment on human cord blood engraftment in NOD-*scid* mice. *Br J Haematol* 108: 629-640.
227. Hamelmann E, Takeda K, Haczku A, Cieslewicz G, **Shultz L**, Hamid Q, Xing Z, Gauldie J, Gelfand EW. 2000. Interleukin (IL)-5 but not immunoglobulin E reconstitutes airway inflammation and airway hyperresponsiveness in IL-4-deficient mice. *Am J Respir Cell Mol Biol* 23: 327-334.
228. Hashimoto Y, Dorshkind K, Montecino-Rodriguez E, Taguchi N, **Shultz L**, Gershwin ME. 2000. NZB mice exhibit a primary T cell defect in fetal thymic organ culture. *J Immunol* 164: 1569-1575.
229. Jiang S, Naito M, Kaizu C, Kuwata K, Hasegawa G, Mukaida N, **Shultz LD**. 2000. Lipopolysaccharide-induced cytokine and receptor expression and neutrophil infiltration in the liver of osteopetrosis (*op/op*) mutant mice. *Liver* 20: 465-474.
230. Kollet O, Moore JG, Aviram R, Ben-Hur H, Liu BL, Nagler A, **Shultz L**, Feldman M, Lapidot T. 2000. The plant lectin FRIL supports prolonged *in vitro* maintenance of quiescent human cord blood CD34⁺CD38^{-/low}/SCID repopulating stem cells. *Exp Hematol* 28: 726-736.
231. Kollet O, Peled A, Byk T, Ben-Hur H, Greiner D, **Shultz L**, Lapidot T. 2000. β 2 microglobulin-deficient (B2m^{null}) NOD/SCID mice are excellent recipients for studying human stem cell function. *Blood* 95: 3102-3105.
232. Nguyen VT, Ndoye A, **Shultz LD**, Pittelkow MR, Grando SA. 2000. Antibodies against keratinocyte antigens other than desmogleins 1 and 3 can induce pemphigus vulgaris-like lesions. *J Clin Invest* 106: 1467-1479. PMID: PMC387253.
233. Paciorowski N, Porte P, **Shultz LD**, Rajan TV. 2000. B1 B lymphocytes play a critical role in host protection against lymphatic filarial parasites. *J Exp Med* 191: 731-736. PMID: PMC2195839.
234. Sasaki A, Yokoo H, Naito M, Kaizu C, **Shultz LD**, Nakazato Y. 2000. Effects of macrophage-colony-stimulating factor deficiency on the maturation of microglia and brain macrophages and on their expression of scavenger receptor. *Neuropathology* 20: 134-142.

235. Schwarze J, Cieslewicz G, Joetham A, Ikemura T, Makela MJ, Dakhama A, **Shultz LD**, Lamers MC, Gelfand EW. 2000. Critical roles for interleukin-4 and interleukin-5 during respiratory syncytial virus infection in the development of airway hyperresponsiveness after airway sensitization. *Am J Respir Crit Care Med* 162: 380-386.
236. Shimada-Hiratsuka M, Naito M, Kaizu C, Shuying J, Hasegawa G, **Shultz LD**. 2000. Defective macrophage recruitment and clearance of apoptotic cells in the uterus of osteopetrotic mutant mice lacking macrophage colony-stimulating factor (M-CSF). *J Submicrosc Cytol Pathol* 32: 297-307.
237. **Shultz LD**, Lang PA, Christianson SW, Gott B, Lyons B, Umeda S, Leiter E, Hesselton R, Wagar EJ, Leif JH, Kollet O, Lapidot T, Greiner DL. 2000. NOD/LtSz-Rag1^{null} mice: an immunodeficient and radioresistant model for engraftment of human hematolymphoid cells, HIV infection, and adoptive transfer of NOD mouse diabetogenic T cells. *J Immunol* 164: 2496-2507.
238. Sundberg JP, Boggess D, Bascom C, Limberg BJ, **Shultz LD**, Sundberg BA, King LE, Jr., Montagutelli X. 2000. Lanceolate hair-J (*lah*): a mouse model for human hair disorders. *Exp Dermatol* 9: 206-218.
239. Sundberg JP, Boggess D, **Shultz LD**, Fijneman RJA, Demant P, Hogenesch H, Cox GA. 2000. The chronic proliferative dermatitis mouse mutation (*cpdm*): mapping of the mutant gene locus. *J Exp Anim Sci* 41: 101-108.
240. Tagaya H, Kunisada T, Yamazaki H, Yamane T, Tokuhisa T, Wagner EF, Sudo T, **Shultz LD**, Hayashi SI. 2000. Intramedullary and extramedullary B lymphopoiesis in osteopetrotic mice. *Blood* 95: 3363-3370.
241. Turgeon NA, Iwakoshi NN, Meyers WC, Dahl DM, **Shultz LD**, Greiner DL, Rossini AA. 2000. Human skin allograft rejection in a small animal model. *Surg Forum* 41: 348-350.
242. Wagar EJ, Cromwell MA, **Shultz LD**, Woda BA, Sullivan JL, Hesselton RM, Greiner DL. 2000. Regulation of human cell engraftment and development of EBV-related lymphoproliferative disorders in Hu-PBL-scid mice. *J Immunol* 165: 518-527.
243. Ballen KK, Valinski H, Greiner D, **Shultz LD**, Becker PS, Hsieh CC, Stewart FM, Quesenberry PJ. 2001. Variables to predict engraftment of umbilical cord blood into immunodeficient mice: usefulness of the non-obese diabetic--severe combined immunodeficient assay. *Br J Haematol* 114: 211-218.
244. Banuelos SJ, Turgeon N, **Shultz LD**, Harland RC, Lyons B, Rossini AA, Greiner DL, Appel MC. 2001. Human lymphocyte reconstituted NOD-scid B2Mnull mice reject human DR4 transgenic NOD-scid mouse skin. *Surg Forum* 52: 325-327.
245. Duez C, Tomkinson A, **Shultz LD**, Bratton DL, Gelfand EW. 2001. Fas deficiency delays the resolution of airway hyperresponsiveness after allergen sensitization and challenge. *J Allergy Clin Immunol* 108: 547-556.
246. Glimm H, Eisterer W, Lee K, Cashman J, Holyoake TL, Nicolini F, **Shultz LD**, von Kalle C, Eaves CJ. 2001. Previously undetected human hematopoietic cell populations with short-term repopulating activity selectively engraft NOD/SCID- β 2 microglobulin-null mice. *J Clin Invest* 107: 199-206. PMID: PMC199177.
247. Gordon EJ, Woda BA, **Shultz LD**, Rossini AA, Greiner DL, Mordes JP. 2001. Rat xenograft survival in mice treated with donor-specific transfusion and anti-CD154 antibody is enhanced by elimination of host CD4⁺ cells. *Transplantation* 71: 319-327.
248. Grando SA, Pittelkow MR, **Shultz LD**, Dmochowski M, Nguyen VT. 2001. Pemphigus: an unfolding story. *J Invest Dermatol* 117: 990-995.
249. Hsu HC, **Shultz LD**, Su X, Shi J, Yang PA, Relyea MJ, Zhang HG, Mountz JD. 2001. Mutation of the hematopoietic cell phosphatase (*Hcph*) gene is associated with resistance to γ -irradiation-induced apoptosis in Src homology protein tyrosine phosphatase (SHP)-1-deficient "motheaten" mutant mice. *J Immunol* 166: 772-780.

250. Joliat MJ, **Shultz LD**. 2001. The molecular bases of spontaneous immunological mutations in the mouse and their homologous human diseases. *Clin Immunol* 101: 113-129.
251. Nguyen VT, Ndoye A, Bassler KD, **Shultz LD**, Shields MC, Ruben BS, Webber RJ, Pittelkow MR, Lynch PJ, Grando SA. 2001. Classification, clinical manifestations, and immunopathological mechanisms of the epithelial variant of paraneoplastic autoimmune multiorgan syndrome: a reappraisal of paraneoplastic pemphigus. *Arch Dermatol* 137: 193-206.
252. Nystuen A, Legare ME, **Shultz LD**, Frankel WN. 2001. A null mutation in inositol polyphosphate 4-phosphatase type I causes selective neuronal loss in weeble mutant mice. *Neuron* 32: 203-212.
253. Rossi MI, Medina KL, Garrett K, Kolar G, Comp PC, **Shultz LD**, Capra JD, Wilson P, Schipul A, Kincade PW. 2001. Relatively normal human lymphopoiesis but rapid turnover of newly formed B cells in transplanted nonobese diabetic/SCID mice. *J Immunol* 167: 3033-3042.
254. Spencer L, **Shultz L**, Rajan TV. 2001. Interleukin-4 receptor-Stat6 signaling in murine infections with a tissue-dwelling nematode parasite. *Infect Immun* 69: 7743-7752.
255. Taguchi N, Ansari A, Hsu T, Hashimoto Y, Dorshkind K, **Shultz L**, Naiki M, Gershwin ME. 2001. Increased expression of mXBP-1 (TREB-5) in thymic B cells in New Zealand mice. *J Autoimmun* 16: 401-410.
256. Taguchi N, Hashimoto Y, Hsu T, Ansari AA, **Shultz L**, Dorshkind K, Ikehara S, Naiki M, Gershwin ME. 2001. B cells are selectively associated with thymic cortical but not medullary pathology in NZB mice. *J Autoimmun* 16: 393-400.
257. Zhong RK, van de Winkel JGJ, Thepen T, **Shultz LD**, Ball ED. 2001. Cytotoxicity of anti-CD64-ricin: A chain immunotoxin against human acute myeloid leukemia cells in vitro and in SCID mice. *J Hematother Stem Cell Res* 10: 95-105.
258. Christianson SW, Greiner DL, Deluca D, Leif J, Phillips NE, Hayes SM, Hayashi S, Joliat MJ, Lyons BL, **Shultz LD**. 2002. T cell developmental defects in 'viable motheaten' mice deficient in SHP-1 protein-tyrosine phosphatase. Developmental defects are corrected *in vitro* in the presence of normal hematopoietic-origin stromal cells and *in vivo* by exogenous IL-7. *J Autoimmun* 18: 119-130.
259. Dell'Agnola C, Rabascio C, Mancuso P, Capillo M, Pruneri G, Gobbi A, Minucci S, Ronzoni S, Volorio S, Calabrese L, Tradati N, Martinelli G, **Shultz L**, Bertolini F. 2002. In vitro and in vivo hematopoietic potential of human stem cells residing in muscle tissue. *Exp Hematol* 30: 905-914.
260. Hoffmann K, Dreger CK, Olins AL, Olins DE, **Shultz LD**, Lucke B, Karl H, Kaps R, Muller D, Vaya A, Aznar J, Ware RE, Sotelo Cruz N, Lindner TH, Herrmann H, Reis A, Sperling K. 2002. Mutations in the gene encoding the lamin B receptor produce an altered nuclear morphology in granulocytes (Pelger-Huët anomaly). *Nat Genet* 31: 410-414.
261. Joliat MJ, Lang PA, Lyons BL, Burzenski L, Lynes MA, Yi T, Sundberg JP, **Shultz LD**. 2002. Absence of CD5 dramatically reduces progression of pulmonary inflammatory lesions in SHP-1 protein-tyrosine phosphatase-deficient 'viable motheaten' mice. *J Autoimmun* 18: 105-117.
262. Joliat MJ, Umeda S, Lyons BL, Lynes MA, **Shultz LD**. 2002. Establishment and characterization of a new osteogenic cell line (MOS-J) from a spontaneous C57BL/6J mouse osteosarcoma. *In Vivo* 16: 223-228.
263. Khanna KV, Whaley KJ, Zeitlin L, Moench TR, Mehrazar K, Cone RA, Liao Z, Hildreth JE, Hoen TE, **Shultz L**, Markham RB. 2002. Vaginal transmission of cell-associated HIV-1 in the mouse is blocked by a topical, membrane-modifying agent. *J Clin Invest* 109: 205-211.
264. Lian ZX, Kita H, Okada T, Hsu T, **Shultz LD**, Dorshkind K, Ansari AA, Ikehara S, Naiki M, Gershwin ME. 2002. Increased frequency of pre-pro B cells in the bone marrow of New Zealand Black (NZB) mice: implications for a developmental block in B cell differentiation. *Dev Immunol* 9: 35-45. PMID: PMC2276087.

265. Lian ZX, Okada T, Kita H, Hsu T, **Shultz LD**, Dorshkind K, Ansari AA, Naiki M, Ikehara S, Gershwin ME. 2002. Age-related alterations in the lymphohematopoietic and B-lineage precursor populations in NZB mice. *Stem Cells* 20: 293-300.
266. Rajan TV, Ganley L, Paciorkowski N, Spencer L, Klei TR, **Shultz LD**. 2002. Brugian infections in the peritoneal cavities of laboratory mice: kinetics of infection and cellular responses. *Exp Parasitol* 100: 235-247.
267. Sasaki M, Long SA, Van De Water J, He XS, **Shultz L**, Coppel RL, Ansari A, Nakanuma Y, Gershwin ME. 2002. The SJL/J mouse is not a model for PBC. *Hepatology* 35: 1284-1286.
268. Capillo M, Mancuso P, Gobbi A, Monestiroli S, Pruneri G, Dell'Agnola C, Martinelli G, **Shultz L**, Bertolini F. 2003. Continuous infusion of endostatin inhibits differentiation, mobilization, and clonogenic potential of endothelial cell progenitors. *Clin Cancer Res* 9: 377-382.
269. Hayashi S, Yamada T, Tsuneto M, Yamane T, Takahashi M, **Shultz LD**, Yamazaki H. 2003. Distinct osteoclast precursors in the bone marrow and extramedullary organs characterized by responsiveness to Toll-like receptor ligands and TNF- α . *J Immunol* 171: 5130-5139.
270. Johnson KR, Lane PW, Cook SA, Harris BS, Ward-Bailey PF, Bronson RT, Lyons BL, **Shultz LD**, Davisson MT. 2003. Curly bare (*cub*), a new mouse mutation on chromosome 11 causing skin and hair abnormalities, and a modifier gene (*mcub*) on chromosome 5. *Genomics* 81: 6-14.
271. Kikuchi K, Lian ZX, He XS, Ansari AA, Ishibashi M, Miyakawa H, **Shultz LD**, Ikehara S, Gershwin ME. 2003. Appearance of human plasma cells following differentiation of human B cells in NOD/SCID mouse spleen. *Clin Dev Immunol* 10: 197-202. PMID: PMC2485411.
272. Lyons BL, Lynes MA, Burzenski L, Joliat MJ, Hadjout N, **Shultz LD**. 2003. Mechanisms of anemia in SHP-1 protein tyrosine phosphatase-deficient "viable motheaten" mice. *Exp Hematol* 31: 234-243.
273. Paciorkowski N, **Shultz LD**, Rajan TV. 2003. Primed peritoneal B lymphocytes are sufficient to transfer protection against *Brugia pahangi* infection in mice. *Infect Immun* 71: 1370-1378. PMID: PMC148870.
274. Pearson T, Markees TG, Serreze DV, Pierce MA, Marron MP, Wicker LS, Peterson LB, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 2003. Genetic disassociation of autoimmunity and resistance to costimulation blockade-induced transplantation tolerance in nonobese diabetic mice. *J Immunol* 171: 185-195.
275. Pearson T, Markees TG, Serreze DV, Pierce MA, Wicker LS, Peterson LB, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 2003. Islet cell autoimmunity and transplantation tolerance: two distinct mechanisms? *Ann N Y Acad Sci* 1005: 148-156.
276. Pearson T, Markees TG, Serreze DV, Pierce MA, Wicker LS, Peterson LB, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 2003. Genetic separation of the transplantation tolerance and autoimmune phenotypes in NOD mice. *Rev Endocr Metab Disord* 4: 255-261.
277. **Shultz LD**, Banuelos S, Lyons B, Samuels R, Burzenski L, Gott B, Lang P, Leif J, Appel M, Rossini A, Greiner DL. 2003. NOD/LtSz-*Rag1^{null}Pfp^{null}* mice: a new model system with increased levels of human peripheral leukocyte and hematopoietic stem-cell engraftment. *Transplantation* 76: 1036-1042.
278. **Shultz LD**, Banuelos SJ, Leif J, Appel MC, Cunningham M, Ballen K, Burzenski L, Greiner DL. 2003. Regulation of human short-term repopulating cell (STRC) engraftment in NOD/SCID mice by host CD122⁺ cells. *Exp Hematol* 31: 551-558.
279. **Shultz LD**, Lyons BL, Burzenski LM, Gott B, Samuels R, Schweitzer PA, Dreger C, Herrmann H, Kalscheuer V, Olins AL, Olins DE, Sperling K, Hoffmann K. 2003. Mutations at the mouse ichthyosis locus are within the lamin B receptor gene: a single gene model for human Pelger-Huët anomaly. *Hum Mol Genet* 12: 61-69.

280. Spencer L, **Shultz L**, Rajan TV. 2003. T cells are required for host protection against *Brugia malayi* but need not produce or respond to interleukin-4. *Infect Immun* 71: 3097-3106.
281. Turgeon NA, Banuelos SJ, **Shultz LD**, Lyons BL, Iwakoshi N, Greiner DL, Mordes JP, Rossini AA, Appel MC. 2003. Alloimmune injury and rejection of human skin grafts on human peripheral blood lymphocyte-reconstituted non-obese diabetic severe combined immunodeficient beta2-microglobulin-null mice. *Exp Biol Med (Maywood)* 228: 1096-1104.
282. Zhou J, Chen J, Mokotoff M, Zhong R, **Shultz LD**, Ball ED. 2003. Bombesin/gastrin-releasing peptide receptor: a potential target for antibody-mediated therapy of small cell lung cancer. *Clin Cancer Res* 9: 4953-4960.
283. Appel MC, Banuelos SJ, Greiner DL, **Shultz LD**, Mordes JP, Rossini AA. 2004. Prolonged survival of neonatal porcine islet xenografts in mice treated with a donor-specific transfusion and anti-CD154 antibody. *Transplantation* 77: 1341-1349.
284. Banuelos SJ, Markees TG, Phillips NE, Appel MC, Cuthbert A, Leif J, Mordes JP, **Shultz LD**, Rossini AA, Greiner DL. 2004. Regulation of skin and islet allograft survival in mice treated with costimulation blockade is mediated by different CD4⁺ cell subsets and different mechanisms. *Transplantation* 78: 660-667.
285. Banuelos SJ, **Shultz LD**, Greiner DL, Burzenski LM, Gott B, Lyons BL, Rossini AA, Appel MC. 2004. Rejection of human islets and human HLA-A2.1 transgenic mouse islets by alloreactive human lymphocytes in immunodeficient NOD-*scid* and NOD-*Rag1^{null}Prf1^{null}* mice. *Clin Immunol* 112: 273-283.
286. Hayashi S, Tsuneto M, Yamada T, Nose M, Yoshino M, **Shultz LD**, Yamazaki H. 2004. Lipopolysaccharide-induced osteoclastogenesis in Src homology 2-domain phosphatase-1-deficient viable motheaten mice. *Endocrinology* 145: 2721-2729.
287. Ishikawa F, Yasukawa M, Yoshida S, Nakamura K, Nagatoshi Y, Kanemaru T, Shimoda K, Shimoda S, Miyamoto T, Okamura J, **Shultz LD**, Harada M. 2004. Human cord blood- and bone marrow-derived CD34⁺ cells regenerate gastrointestinal epithelial cells. *Faseb J* 18: 1958-1960.
288. Kuzin, II, Ugine GD, Barth RK, **Shultz LD**, Nahm MH, Young FM, Bottaro A. 2004. A new murine model of humoral immuno-deficiency specifically affects class switching to T-independent antigens. *Eur J Immunol* 34: 1807-1816.
289. Makatsori D, Kourmouli N, Polioudaki H, **Shultz LD**, McLean K, Theodoropoulos PA, Singh PB, Georgatos SD. 2004. The inner nuclear membrane protein lamin B receptor forms distinct microdomains and links epigenetically marked chromatin to the nuclear envelope. *J Biol Chem* 279: 25567-25573.
290. Markees TG, Pearson T, Cuthbert A, Pearson AL, **Shultz LD**, Leif J, Phillips NE, Mordes JP, Greiner DL, Rossini AA. 2004. Evaluation of donor-specific transfusion sources: unique failure of bone marrow cells to induce prolonged skin allograft survival with anti-CD154 monoclonal antibody. *Transplantation* 78: 1601-1608.
291. Park JW, Taube C, Joetham A, Takeda K, Kodama T, Dakhama A, McConville G, Allen CB, Sfyroera G, **Shultz LD**, Lambris JD, Giclas PC, Holers VM, Gelfand EW. 2004. Complement activation is critical to airway hyperresponsiveness after acute ozone exposure. *Am J Respir Crit Care Med* 169: 726-732.
292. Pearson T, Weiser P, Markees TG, Serreze DV, Wicker LS, Peterson LB, Cumisky AM, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 2004. Islet allograft survival induced by costimulation blockade in NOD mice is controlled by allelic variants of *Idd3*. *Diabetes* 53: 1972-1978.
293. Taube C, Wei X, Swasey CH, Joetham A, Zarini S, Lively T, Takeda K, Loader J, Miyahara N, Kodama T, **Shultz LD**, Donaldson DD, Hamelmann EH, Dakhama A, Gelfand EW. 2004. Mast cells, FcεRI, and IL-13 are required for development of airway hyperresponsiveness after aerosolized allergen exposure in the absence of adjuvant. *J Immunol* 172: 6398-6406.

294. Gordon EJ, Wicker LS, Peterson LB, Serreze DV, Markees TG, **Shultz LD**, Rossini AA, Greiner DL, Mordes JP. 2005. Autoimmune diabetes and resistance to xenograft transplantation tolerance in NOD mice. *Diabetes* 54: 107-115.
295. Helms C, Pelsue S, Cao L, Lamb E, Loffredo B, Taillon-Miller P, Herrin B, Burzenski LM, Gott B, Lyons BL, Keppler D, **Shultz LD**, Bowcock AM. 2005. The Tetratricopeptide repeat domain 7 gene is mutated in flaky skin mice: a model for psoriasis, autoimmunity, and anemia. *Exp Biol Med (Maywood)* 230: 659-667.
296. Huang Z, Coleman JM, Su Y, Mann M, Ryan J, **Shultz LD**, Huang H. 2005. SHP-1 regulates STAT6 phosphorylation and IL-4-mediated function in a cell type-specific manner. *Cytokine* 29: 118-124.
297. Ishikawa F, Yasukawa M, Lyons B, Yoshida S, Miyamoto T, Yoshimoto G, Watanabe T, Akashi K, **Shultz LD**, Harada M. 2005. Development of functional human blood and immune systems in NOD/SCID/IL2 receptor γ chain^{null} mice. *Blood* 106: 1565-1573. PMID: PMC1895228.
298. Jaeschke A, Rincon M, Doran B, Reilly J, Neuberg D, Greiner DL, **Shultz LD**, Rossini AA, Flavell RA, Davis RJ. 2005. Disruption of the *Jnk2 (Mapk9)* gene reduces destructive insulinitis and diabetes in a mouse model of type I diabetes. *Proc Natl Acad Sci U S A* 102: 6931-6935. PMID: PMC1100789.
299. Kawano N, Ishikawa F, Shimoda K, Yasukawa M, Nagafuji K, Miyamoto T, Baba E, Tanaka T, Yamasaki S, Gondo H, Otsuka T, Ohshima K, **Shultz LD**, Akashi K, Harada M. 2005. Efficient engraftment of primary adult T-cell leukemia cells in newborn NOD/SCID/ β -microglobulin^{null} mice. *Leukemia* 19: 1384-1390.
300. Macchiarini F, Manz MG, Palucka AK, **Shultz LD**. 2005. Humanized mice: are we there yet? *J Exp Med* 202: 1307-1311. PMID: PMC2212979.
301. Minamiguchi H, Wingard JR, Laver JH, Mainali ES, **Shultz LD**, Ogawa M. 2005. An assay for human hematopoietic stem cells based on transplantation into nonobese diabetic recombination activating gene-null perforin-null mice. *Biol Blood Marrow Transplant* 11: 487-494.
302. Park IK, **Shultz LD**, Letterio JJ, Gorham JD. 2005. TGF- β 1 inhibits T-bet induction by IFN- γ in murine CD4⁺ T cells through the protein tyrosine phosphatase Src homology region 2 domain-containing phosphatase-1. *J Immunol* 175: 5666-5674.
303. **Shultz LD**, Lyons BL, Burzenski LM, Gott B, Chen X, Chaleff S, Kotb M, Gillies SD, King M, Mangada J, Greiner DL, Handgretinger R. 2005. Human lymphoid and myeloid cell development in NOD/LtSz-*scid* IL2R γ ^{null} mice engrafted with mobilized human hemopoietic stem cells. *J Immunol* 174: 6477-6489.
304. Ueno M, Lyons BL, Burzenski LM, Gott B, Shaffer DJ, Roopenian DC, **Shultz LD**. 2005. Accelerated wound healing of alkali-burned corneas in MRL mice is associated with a reduced inflammatory signature. *Invest Ophthalmol Vis Sci* 46: 4097-4106.
305. Yoshida S, Ishikawa F, Kawano N, Shimoda K, Nagafuchi S, Shimoda S, Yasukawa M, Kanemaru T, Ishibashi H, **Shultz LD**, Harada M. 2005. Human cord blood--derived cells generate insulin-producing cells in vivo. *Stem Cells* 23: 1409-1416.
306. Adachi Y, Oyaizu H, Taketani S, Minamino K, Yamaguchi K, **Shultz LD**, Iwasaki M, Tomita M, Suzuki Y, Nakano K, Koike Y, Yasumizu R, Sata M, Hirama N, Kubota I, Fukuhara S, Ikehara S. 2006. Treatment and transfer of emphysema by a new bone marrow transplantation method from normal mice to Tsk mice and vice versa. *Stem Cells* 24: 2071-2077.
307. Ishikawa F, Shimazu H, **Shultz LD**, Fukata M, Nakamura R, Lyons B, Shimoda K, Shimoda S, Kanemaru T, Nakamura K, Ito H, Kaji Y, Perry AC, Harada M. 2006. Purified human hematopoietic stem cells contribute to the generation of cardiomyocytes through cell fusion. *Faseb J* 20: 950-952.
308. Lyons BL, Smith RS, Hurd RE, Hawes NL, Burzenski LM, Nusinowitz S, Hasham MG, Chang B, **Shultz LD**. 2006. Deficiency of SHP-1 protein-tyrosine phosphatase in "viable motheaten" mice results in retinal degeneration. *Invest Ophthalmol Vis Sci* 47: 1201-1209.

309. Masaki H, Appel MC, Leahy L, Leif J, Paquin L, **Shultz LD**, Mordes JP, Greiner DL, Rossini AA. 2006. Anti-mouse CD154 antibody treatment facilitates generation of mixed xenogeneic rat hematopoietic chimerism, prevents wasting disease and prolongs xenograft survival in mice. *Xenotransplantation* 13: 224-232.
310. Mikaelian I, Hovick M, Silva KA, Burzenski LM, **Shultz LD**, Ackert-Bicknell CL, Cox GA, Sundberg JP. 2006. Expression of terminal differentiation proteins defines stages of mouse mammary gland development. *Vet Pathol* 43: 36-49.
311. Taube C, Miyahara N, Ott V, Swanson B, Takeda K, Loader J, **Shultz LD**, Tager AM, Luster AD, Dakhama A, Gelfand EW. 2006. The leukotriene B4 receptor (BLT1) is required for effector CD8⁺ T cell-mediated, mast cell-dependent airway hyperresponsiveness. *J Immunol* 176: 3157-3164.
312. Thornley TB, Brehm MA, Markees TG, **Shultz LD**, Mordes JP, Welsh RM, Rossini AA, Greiner DL. 2006. TLR agonists abrogate costimulation blockade-induced prolongation of skin allografts. *J Immunol* 176: 1561-1570.
313. Yoshino M, Yamazaki H, **Shultz LD**, Hayashi S. 2006. Constant rate of steady-state self-antigen trafficking from skin to regional lymph nodes. *Int Immunol* 18: 1541-1548.
314. Zhou J, Chen J, Zhong R, Mokotoff M, **Shultz LD**, Ball ED. 2006. Targeting gastrin-releasing peptide receptors on small cell lung cancer cells with a bispecific molecule that activates polyclonal T lymphocytes. *Clin Cancer Res* 12: 2224-2231.
315. Dash Y, Ramesh M, Greiner D, **Shultz LD**, Klei TR, Rajan TV. 2007. Determinants of memory in experimental filarial infections in mice. *Parasite Immunol* 29: 567-574.
316. Ishikawa F, Niuro H, Iino T, Yoshida S, Saito N, Onohara S, Miyamoto T, Minagawa H, Fujii S, **Shultz LD**, Harada M, Akashi K. 2007. The developmental program of human dendritic cells is operated independently of conventional myeloid and lymphoid pathways. *Blood* 110: 3591-3660. PMID: PMC2077309.
317. Ishikawa F, Yoshida S, Saito Y, Hijikata A, Kitamura H, Tanaka S, Nakamura R, Tanaka T, Tomiyama H, Saito N, Fukata M, Miyamoto T, Lyons B, Ohshima K, Uchida N, Taniguchi S, Ohara O, Akashi K, Harada M, **Shultz LD**. 2007. Chemotherapy-resistant human AML stem cells home to and engraft within the bone-marrow endosteal region. *Nat Biotechnol* 25: 1315-1321.
318. King M, Pearson T, **Shultz LD**, Leif J, Bottino R, Trucco M, Atkinson M, Wasserfall C, Herold K, Mordes JP, Rossini AA, Greiner DL. 2007. Development of new-generation HU-PBMC-NOD/SCID mice to study human islet alloreactivity. *Ann N Y Acad Sci* 1103: 90-93.
319. Meyerrose TE, De Ugarte DA, Hofling AA, Herrbrich PE, Cordonnier TD, **Shultz LD**, Eagon JC, Wirthlin L, Sands MS, Hedrick MA, Nolta JA. 2007. In vivo distribution of human adipose-derived mesenchymal stem cells in novel xenotransplantation models. *Stem Cells* 25: 220-227.
320. Ramesh M, Paciorkowski N, Dash Y, **Shultz L**, Rajan TV. 2007. Acute but not chronic macrophage recruitment in filarial infections in mice is dependent on C-C chemokine ligand 2. *Parasite Immunol* 29: 395-404.
321. Seymour RE, Hasham MG, Cox GA, **Shultz LD**, Hogenesch H, Roopenian DC, Sundberg JP. 2007. Spontaneous mutations in the mouse Sharpin gene result in multiorgan inflammation, immune system dysregulation and dermatitis. *Genes Immun* 8: 416-421.
322. **Shultz LD**, Ishikawa F, Greiner DL. 2007. Humanized mice in translational biomedical research. *Nat Rev Immunol* 7: 118-130.
323. **Shultz LD**, Pearson T, King M, Giassi L, Carney L, Gott B, Lyons B, Rossini AA, Greiner DL. 2007. Humanized NOD/LtSz-*scid* IL2 receptor common gamma chain knockout mice in diabetes research. *Ann N Y Acad Sci* 1103: 77-89.

324. Thornley TB, Phillips NE, Beaudette-Zlatanova BC, Markees TG, Bahl K, Brehm MA, **Shultz LD**, Kurt-Jones EA, Mordes JP, Welsh RM, Rossini AA, Greiner DL. 2007. Type 1 IFN mediates cross-talk between innate and adaptive immunity that abrogates transplantation tolerance. *J Immunol* 179: 6620-6629.
325. Yamazaki M, Pearson T, Brehm MA, Miller DM, Mangada JA, Markees TG, **Shultz LD**, Mordes JP, Rossini AA, Greiner DL. 2007. Different mechanisms control peripheral and central tolerance in hematopoietic chimeric mice. *Am J Transplant* 7: 1710-1721.
326. Ishikawa F, Saito Y, Yoshida S, Harada M, **Shultz LD**. 2008. The differentiative and regenerative properties of human hematopoietic stem/progenitor cells in NOD-SCID/IL2rg γ^{null} mice. *Curr Top Microbiol Immunol* 324: 87-94.
327. King M, Pearson T, **Shultz LD**, Leif J, Bottino R, Trucco M, Atkinson MA, Wasserfall C, Herold KC, Woodland RT, Schmidt MR, Woda BA, Thompson MJ, Rossini AA, Greiner DL. 2008. A new Hu-PBL model for the study of human islet alloreactivity based on NOD-*scid* mice bearing a targeted mutation in the IL-2 receptor gamma chain gene. *Clin Immunol* 126: 303-314.
328. Kong Y, Yoshida S, Saito Y, Doi T, Nagatoshi Y, Fukata M, Saito N, Yang SM, Iwamoto C, Okamura J, Liu KY, Huang XJ, Lu DP, **Shultz LD**, Harada M, Ishikawa F. 2008. CD34+CD38+CD19+ as well as CD34+CD38-CD19+ cells are leukemia-initiating cells with self-renewal capacity in human B-precursor ALL. *Leukemia* 22: 1207-1213.
329. Pearson T, Greiner DL, **Shultz LD**. 2008. Creation of "humanized" mice to study human immunity. *Curr Protoc Immunol* Chapter 15: Unit 15 21.
330. Pearson T, Greiner DL, **Shultz LD**. 2008. Humanized SCID mouse models for biomedical research. *Curr Top Microbiol Immunol* 324: 25-51.
331. Simpson-Abelson MR, Sonnenberg GF, Takita H, Yokota SJ, Conway TF, Jr., Kelleher RJ, Jr., **Shultz LD**, Barcos M, Bankert RB. 2008. Long-term engraftment and expansion of tumor-derived memory T cells following the implantation of non-disrupted pieces of human lung tumor into NOD-*scid* IL2R γ^{null} Mice. *J Immunol* 180: 7009-7018.
332. Yamamoto T, Kaizu C, Kawasaki T, Hasegawa G, Umezu H, Ohashi R, Sakurada J, Jiang S, **Shultz L**, Naito M. 2008. Macrophage colony-stimulating factor is indispensable for repopulation and differentiation of Kupffer cells but not for splenic red pulp macrophages in osteopetrotic (*op/op*) mice after macrophage depletion. *Cell Tissue Res* 332: 245-256.
333. Gaines P, Tien CW, Olins AL, Olins DE, **Shultz LD**, Carney L, Berliner N. 2008. Mouse neutrophils lacking lamin B-receptor expression exhibit aberrant development and lack critical functional responses. *Exp Hematol* 36: 965-976. PMID: PMC2543941.
334. le Viseur C, Hotfilder M, Bomken S, Wilson K, Rottgers S, Schrauder A, Rosemann A, Irving J, Stam RW, **Shultz LD**, Harbott J, Jurgens H, Schrappe M, Pieters R, Vormoor J. 2008. In childhood acute lymphoblastic leukemia, blasts at different stages of immunophenotypic maturation have stem cell properties. *Cancer Cell* 14: 47-58. PMID: PMC2572185.
335. Pearson T, **Shultz LD**, Lief J, Burzenski L, Gott B, Chase T, Foreman O, Rossini AA, Bottino R, Trucco M, Greiner DL. 2008. A new immunodeficient hyperglycaemic mouse model based on the *Ins2^{Akita}* mutation for analyses of human islet and beta stem and progenitor cell function. *Diabetologia* 51: 1449-1456. PMID: PMC2719841.
336. Giassi LJ, Pearson T, **Shultz LD**, Laning J, Biber K, Kraus M, Woda BA, Schmidt MR, Woodland RT, Rossini AA, Greiner DL. 2008. Expanded CD34+ human umbilical cord blood cells generate multiple lymphohematopoietic lineages in NOD-*scid* IL2r γ^{null} mice. *Exp Biol Med (Maywood)* 233: 997-1012. PMID: PMC2757278.
337. King M, Pearson T, Rossini AA, **Shultz LD**, Greiner DL. 2008. Humanized mice for the study of type 1 diabetes and beta cell function. *Ann N Y Acad Sci* 1150: 46-53. PMID: PMC2620029.

338. Pearson T, **Shultz LD**, Miller D, King M, Laning J, Fodor W, Cuthbert A, Burzenski L, Gott B, Lyons B, Foreman O, Rossini AA, Greiner DL. 2008. Non-obese diabetic-recombination activating gene-1 (NOD-*Rag1 null*) interleukin (IL)-2 receptor common gamma chain (IL2 γ ^{null}) null mice: a radioresistant model for human lymphohaematopoietic engraftment. *Clin Exp Immunol* 154: 270-284. PMID: PMC2612717.
339. Agliano A, Martin-Padura I, Mancuso P, Marighetti P, Rabascio C, Pruneri G, **Shultz LD**, Bertolini F. 2008. Human acute leukemia cells injected in NOD/LtSz-*scid*/IL-2 γ null mice generate a faster and more efficient disease compared to other NOD/*scid*-related strains. *Int J Cancer* 123: 2222-2227.
340. Kumar P, Ban HS, Kim SS, Wu H, Pearson T, Greiner DL, Laouar A, Yao J, Haridas V, Habiro K, Yang YG, Jeong JH, Lee KY, Kim YH, Kim SW, Peipp M, Fey GH, Manjunath N, **Shultz LD**, Lee SK, Shankar P. 2008. T cell-specific siRNA delivery suppresses HIV-1 infection in humanized mice. *Cell* 134: 577-586. PMID: PMC2943428.
341. Ishikawa F, Saito Y, **Shultz LD**. 2008. Modeling human leukemia using immune-compromised mice. In: *Mouse Models of Human Blood Cancers.*, Li, S. (Ed). Springer Press, New York.
342. Croker BA, Lawson BR, Rutschmann S, Berger M, Eidenschenk C, Blasius AL, Moresco EM, Sovath S, Cengia L, **Shultz LD**, Theofilopoulos AN, Pettersson S, Beutler BA. 2008. Inflammation and autoimmunity caused by a SHP1 mutation depend on IL-1, MyD88, and a microbial trigger. *Proc Natl Acad Sci U S A* 105: 15028-15033. PMID: PMC2567487.
343. Harris MA, Yang H, Low BE, Mukherjee J, Guha A, Bronson RT, **Shultz LD**, Israel MA, Yun K. 2008. Cancer stem cells are enriched in the side population cells in a mouse model of glioma. *Cancer Res* 68: 10051-10059. PMID: PMC2841432.
344. Mori K, Blanchard F, Charrier C, Battaglia S, Ando K, Duplomb L, **Shultz LD**, Redini F, Heymann D. 2008. Conditioned media from mouse osteosarcoma cells promote MC3T3-E1 cell proliferation using JAKs and PI3-K/Akt signal crosstalk. *Cancer Sci* 99: 2170-2176.
345. Mangada J, Pearson T, Brehm MA, Wicker LS, Peterson LB, **Shultz LD**, Serreze DV, Rossini AA, Greiner DL. 2009. *Idd* loci synergize to prolong islet allograft survival induced by costimulation blockade in NOD mice. *Diabetes* 58: 165-173. PMID: PMC2606867.
346. Schmidt MR, Appel MC, Giassi LJ, Greiner DL, **Shultz LD**, Woodland RT. 2008. Human BlyS facilitates engraftment of human PBL derived B cells in immunodeficient mice. *PLoS One* 3: e3192. PMID: PMC2527131.
347. Chopra P, Dijorio P, Pino SC, Wilson SB, Phillips NE, Mordes JP, Rossini AA, Greiner DL, **Shultz LD**, Bortell R. 2009. Failure of α -galactosylceramide to prevent diabetes in virus-inducible models of type 1 diabetes in the rat. *In Vivo* 23: 195-201. PMID: PMC2718559.
348. King MA, Covassin L, Brehm MA, Racki W, Pearson T, Leif J, Laning J, Fodor W, Foreman O, Burzenski L, Chase TH, Gott B, Rossini AA, Bortell R, **Shultz LD**, Greiner DL. 2009. Human peripheral blood leucocyte non-obese diabetic-severe combined immunodeficiency interleukin-2 receptor gamma chain gene mouse model of xenogeneic graft-versus-host-like disease and the role of host major histocompatibility complex. *Clin Exp Immunol* 157: 104-118. PMID: PMC2710598.
349. Miller DM, Thornley TB, Pearson T, Kruger AJ, Yamazaki M, **Shultz LD**, Welsh RM, Brehm MA, Rossini AA, Greiner DL. 2009. TLR agonists prevent the establishment of allogeneic hematopoietic chimerism in mice treated with costimulation blockade. *J Immunol* 182: 5547-5559. PMID: PMC2721273.
350. Jaiswal S, Pearson T, Friberg H, **Shultz LD**, Greiner DL, Rothman AL, Mathew A. 2009. Dengue virus infection and virus-specific HLA-A2 restricted immune responses in humanized NOD-*scid* IL2 γ ^{null} mice. *PLoS One* 4: e7251. PMID: PMC2749937.
351. Unsinger J, McDonough JS, **Shultz LD**, Ferguson TA, Hotchkiss RS. 2009. Sepsis-induced human lymphocyte apoptosis and cytokine production in "humanized" mice. *J Leukoc Biol* 86: 219-227. PMID: PMC2726769.

352. Andersson A, Brosel S, Knosalla C, **Shultz LD**, Egger D, Volk HD, Schmitt-Knosalla I. 2010. Analysis of the lymphoid system in NOD/LtSz-scid IL2R γ^{null} mice engrafted with purified cord blood derived stem cells. *Journal of stem cells & regenerative medicine* 6(2): 91-92.
353. Jimenez-Diaz MB, Mulet T, Viera S, Gomez V, Garuti H, Ibanez J, Alvarez-Doval A, **Shultz LD**, Martinez A, Gargallo-Viola D, Angulo-Barturen I. 2009. Improved murine model of malaria using *plasmodium falciparum* competent strains and non-myelodepleted NOD-scid IL2R γ^{null} mice engrafted with human erythrocytes. *Antimicrob Agents Chemother* 53: 4533-4536. PMID: PMC2764183.
354. Tian X, Hexum MK, Penchev VR, Taylor RJ, **Shultz LD**, Kaufman DS. 2009. Bioluminescent imaging demonstrates that transplanted human embryonic stem cell-derived CD34⁺ cells preferentially develop into endothelial cells. *Stem Cells* 27: 2675-2685. PMID: PMC2857550.
355. Chase TH, Cox GA, Burzenski L, Foreman O, **Shultz LD**. 2009. Dysferlin deficiency and the development of cardiomyopathy in a mouse model of limb-girdle muscular dystrophy 2B. *Am J Pathol* 175: 2299-2308. PMID: PMC2789639.
356. Chase TH, Lyons BL, Bronson RT, Foreman O, Donahue LR, Burzenski LM, Gott B, Lane P, Harris B, Ceglarek U, Thiery J, Wittenburg H, Thon JN, Italiano JE, Jr., Johnson KR, **Shultz LD**. 2010. The mouse mutation "thrombocytopenia and cardiomyopathy" (*trac*) disrupts *Abcg5*: a spontaneous single gene model for human hereditary phytosterolemia/sitosterolemia. *Blood*. 115: 1267-1276. PMID: PMC2826237.
357. Bernstein JM, Brooks SP, Lehman HK, Pope L, Sands A, **Shultz LD**, Bankert RB. 2009. Human nasal polyp microenvironments maintained in a viable and functional state as xenografts in NOD-scid IL2 γ^{null} mice. *Ann Otol Rhinol Laryngol*. 118: 866-875. PMID: PMC3005296.
358. Subramanya S, Kim SS, Abraham S, Yao J, Kumar M, Kumar P, Haridas V, Lee SK, **Shultz L**, Greiner D, Shankar MN, Shankar P. 2010. Targeted delivery of siRNA to human dendritic cells to suppress Dengue viral infection and associated proinflammatory cytokine production. *J Virology*. 84: 2490-2501. PMID: PMC2820933.
359. Gori JL, Tian X, Swanson D, Gunther R, **Shultz LD**, McIvor RS, Kaufman DS. 2010. In vivo selection of human embryonic stem cell-derived cells expressing methotrexate-resistant dihydrofolate reductase. *Gene Ther*. 17: 238-249. PMID: PMC2820606.
360. Pino S, Brehm MA, Covassin-Barberis L, Chase T, Wagner Jm Burzenski L, Foreman O, Greiner DL, **Shultz LD**. 2010. Development of novel major histocompatibility complex class I and class II-deficient NOD-SCID IL2 gamma chain knockout mice for modeling human xenogeneic graft-versus-host disease. *Methods Mol Biol*. 602: 105-17.
361. Brehm M, Cuthbert A, Yang C, Miller DM, Dilorio P, Laning J, Burzenski L, Foreman O, Kavirayani A, Herlihy M, Rossini AA, **Shultz LD**, Greiner DL. 2010. Parameters for establishing humanized mouse models to study human immunity: Analysis of human hematopoietic stem cell engraftment in three immunodeficient strains of mice bearing the *IL2r γ^{null}* mutation. *Clin Immunol*. 135: 84-98. PMID: PMC2835837.
362. Racki WJ, Covassin L, Brehm M, Pino S, Ignatz R, Dunn R, Laning J, Graves SK, Rossini AA, **Shultz LD**, Greiner DL. 2010. NOD-scid IL2r γ^{null} mouse model of human skin transplantation and allograft rejection. *Transplantation*. 89: 527-536. PMID: PMC2901915.
363. Brehm MA, **Shultz LD**, Greiner DL. 2010. Humanized mouse models to study human diseases. *Curr Opin Endocrinol Diabetes*. 17: 120-125. PMID: PMC2892284.
364. Saito Y, Uchida N, Tanaka S, Suzuki N, Tomizawa-Murasawa M, Sone A, Najima Y, Takagi S, Aoki Y, Wake A, Taniguchi S, **Shultz LD**, Ishikawa F. 2010. Induction of cell cycle entry eliminates human leukemia stem cells in a mouse model of AML. *Nat Biotechnol*. 28: 275-280.

365. Saito Y, Kitamura H, Hijikata A, Tomizawa-Murasawa M, Tanaka S, Takagi S, Uchida N, Suzuki N, Sone A, Najima Y, Ozawa H, Wake A, Taniguchi S, **Shultz LD**, Ohara O, Ishikawa F. 2010. Identification of therapeutic targets for quiescent, chemotherapy-resistant human leukemia stem cells. *Sci Transl Med* 2: 17ra9. PMID: PMC3005290.
366. Zhang B, Strauss A, Chu S, Min L, Ho Y, Shiang KD, Snyder DS, Huettner CS, **Shultz LD**, Holyoake T, Bhatia R. 2010. Effective targeting of quiescent chronic myelogenous leukemia stem cells by histone deacetylase inhibitors in combination with imatinib mesylate. *Cancer Cell* 17: 427-442. PMID: PMC2873971.
367. **Shultz LD**, Saito Y, Najima Y, Tanaka S, Ochi T, Tomizawa M, Doi T, Sone A, Suzuki N, Fujiwara H, Yasukawa M, Ishikawa F. 2010. Generation of functional human T-cell subsets with HLA-restricted immune responses in HLA class I expressing NOD/SCID/IL2 γ ^{null} humanized mice. *Proc Natl Acad Sci U S A* 107: 13022-13027. PMID: PMC2919921.
368. Brehm MA, Bortell R, Diiorio P, Leif J, Laning J, Cuthbert A, Yang C, Herlihy M, Burzenski L, Gott B, Foreman O, Powers AC, Greiner DL, **Shultz LD**. 2010. Human immune system development and rejection of human islet allografts in spontaneously diabetic NOD-*Rag1*^{null} IL2 γ ^{null} *Ins2*^{Akita} mice. *Diabetes* 59: 2265-2270. PMID: PMC2927949.
369. Morisot S, Wayne AS, Bohana-Kashtan OB, Kaplan IM, Hildreth R, Gocke CD, Stetler-Stevenson M, Meltzer PS, Wheelan SJ, Brown P, **Shultz LD**, Civin CI. 2010. High frequencies of leukemia stem cells in poor outcome childhood precursor B acute Lymphoblastic leukemias. *Leukemia* 24: 1859-66. PMID: PMC3035974.
370. Libby SJ, Brehm MA, Greiner DL, **Shultz LD**, McClelland M, Smith KD, Cookson BT, Karlinsey JE, Kinkel TL, Porwollik S, Canals R, Cummings LA, Fang FC. 2010. Humanized nonobese diabetic-*scid* IL2 γ ^{null} mice are susceptible to lethal *Salmonella* Typhi infection. *Proc Natl Acad Sci U S A* 107: 15589-15594. PMID: PMC2932584.
371. Foreman O, Kavirayani AM, Griffey SM, Reader R, **Shultz LD**. 2011. Opportunistic bacterial infections in breeding colonies of the NSG mouse strain. *Vet Pathol* 48: 495-499. PMID: PMC3101569.
372. Dorrell C, Grompe MT, Pan FC, Zhong Y, Canaday PS, **Shultz LD**, Greiner DL, Wright CV, Streeter PR, Grompe M. 2011. Isolation of mouse pancreatic alpha, beta, duct and acinar populations with cell surface markers. *Mol Cell Endocrinol* 339: 144-150. PMID: PMC3112273.
373. Robinson SN, Simmons PJ, Thomas MW, Brouard N, Javni JA, Trilok S, Shim JS, Yang H, Steiner D, Decker WK, Xing D, **Shultz LD**, Savoldo B, Dotti G, Bollard CM, Miller L, Champlin RE, Shpall EJ, Zweidler-McKay PA. 2012. Ex vivo fucosylation improves human cord blood engraftment in NOD-SCID IL-2R γ ^{null} mice. *Exp Hematol* 40(6): 445-456. PMID: PMC3352960.
374. Diiorio P, Jurczyk A, Yang C, Racki WJ, Brehm MA, Atkinson MA, Powers AC, **Shultz LD**, Greiner DL, Bortell R. 2011. Hyperglycemia-Induced Proliferation of Adult Human Beta Cells Engrafted Into Spontaneously Diabetic Immunodeficient NOD-*Rag1*^{null} IL2 γ ^{null} *Ins2*^{Akita} Mice. *Pancreas* 40: 1147-1149. PMID: PMC3176417.
375. Dash Y, Ramesh M, Kalyanasundaram R, Munirathinam G, **Shultz LD**, Rajan TV. 2011. Granuloma formation around Filarial Larvae triggered by host responses to an Excretory/Secretory antigen. *Infect Immun* 79: 838-845. PMID: PMC3028858.
376. Moriceau G, Ory B, Mitrofan L, Riganti C, Blanchard F, Brion R, Charrier C, Battaglia S, Pilet P, Denis M, **Shultz LD**, Monkkonen J, Redini F, Heymann D. 2010. Zoledronic acid potentiates mTOR inhibition and abolishes the resistance of osteosarcoma cells to RAD001 (Everolimus): pivotal role of the prenylation process. *Cancer Res* 70: 10329-10339. PMID: PMC3097388.
377. Covassin L, Laning J, Abdi R, Langevin DL, Phillips NE, **Shultz LD**, and Brehm MA. 2011. Human peripheral blood CD4 T cell-engrafted NOD-*scid* IL2 γ ^{null} *Ab1*^{tm1Gru} Tg (human leucocyte antigen D-

- related 4) mice: A mouse model of human allogeneic graft-versus-host disease. *Clin Exp Immunol* 166: 269-280. PMID: PMC3219902.
378. Liu G, Dou S, Cheng D, Leif J, Rusckowski M, Streeter PR, **Shultz LD**, Hnatowich DJ, Greiner DL. 2011. Human islet cell MORF/cMORF pretargeting in a xenogeneic murine transplant model. *Mol Pharm* 8: 767-773. PMID: PMC3109173.
379. Whitfield-Larry F, Young EF, Talmage G, Fudge E, Azam A, Patel S, Largay J, Byrd W, Buse J, Calikoglu AS, **Shultz LD**, Frelinger JA. 2011. HLA-A2-matched peripheral blood mononuclear cells from Type 1 Diabetic patients, but not nondiabetic donors, transfer insulinitis to NOD-*scid*/ γ c^{null}/HLA-A2 transgenic mice concurrent with the expansion of islet-specific CD8+ T cells. *Diabetes* 60: 1726-1733. PMID: PMC3114397.
380. Zhao L, Spassieva SD, Jucius TJ, **Shultz LD**, Shick HE, Macklin WB, Hannun YA, Obeid LM, Ackerman SL. 2011. A deficiency of ceramide biosynthesis causes cerebellar purkinje cell neurodegeneration and lipofuscin accumulation. *PLoS Genet* 7: e1002063. PMID: PMC3098191.
381. Bankert RB, Balu-Iyer SV, Odunsi K, **Shultz LD**, Kelleher RJ, Jr., Barnas JL, Simpson-Abelson M, Parsons R, Yokota SJ. 2011. Humanized mouse model of ovarian cancer recapitulates patient solid tumor progression, ascites formation, and metastasis. *PLoS One* 6: e24420. PMID: PMC3174163.
382. Schleifman EB, Bindra R, Leif J, Del Campo J, Rogers FA, Uchil P, Kutsch O, **Shultz LD**, Kumar P, Greiner DL, Glazer PM. 2011. Targeted Disruption of the CCR5 Gene in Human Hematopoietic Stem Cells Stimulated by Peptide Nucleic Acids. *Chem Biol* 18: 1189-1198. PMID: PMC3183429.
383. Liu G, Dou S, Akalin A, Rusckowski M, Streeter PR, **Shultz LD**, Greiner DL. 2012. Pretargeting vs. direct targeting of human betalox5 islet cells subcutaneously implanted in mice using an anti-human islet cell antibody. *Nucl Med Biol* 39: 645-651. PMID: PMC3361517.
384. Zhang B, Li M, McDonald T, Holyoake TL, Moon RT, Campana D, **Shultz L**, Bhatia R. 2013. Microenvironmental protection of CML stem and progenitor cells from tyrosine kinase inhibitors through N-cadherin and Wnt- β -catenin signaling. *Blood* 121(10): 1824-1838. PMID: PMC3591802
385. **Shultz LD**, Brehm MA, Bavari S, Greiner DL. 2011. Humanized mice as a preclinical tool for infectious disease and biomedical research. *Ann N Y Acad Sci* 1245: 50-54.
386. Greiner DL, Brehm MA, Hosur V, Harlan DM, Powers AC, **Shultz LD**. 2011. Humanized mice for the study of type 1 and type 2 diabetes. *Ann N Y Acad Sci* 1245: 55-58. PMID: PMC3384500
387. Jaiswal S, Pazoles P, Woda M, **Shultz LD**, Greiner DL, Brehm MA, Mathew A. 2012. Enhanced humoral and HLA-A2-restricted dengue virus-specific T cell responses in humanized BLT NSG mice. *Immunology* 136(3): 334-343. PMID: PMC3385033.
388. Duyne RV, Narayanan A, Kehn-Hall K, Saifuddin M, **Shultz L**, Kashanchi F. 2011. Humanized mouse models of HIV-1 latency. *Curr HIV Res* 9: 595-605. Review.
389. Brehm MA, Racki WJ, Leif J, Burzenski L, Hosur V, Wetmore A, Gott B, Herlihy M, Ignatz R, Dunn R, **Shultz LD**, Greiner DL. 2012. Engraftment of human HSC in non-irradiated newborn NOD-*scid* *IL2ry*^{null} mice is enhanced by transgenic expression of membrane-bound human SCF. *Blood* 119: 2778-2788. PMID: PMC3327456.
390. Takagi S, Saito Y, Hijikata A, Tanaka S, Watanabe T, Hasegawa T, Mochizuki S, Kunisawa J, Kiyono H, Koseki H, Ohara O, Saito T, Taniguchi S, **Shultz LD**, Ishikawa F. 2012. Membrane-bound human SCF/KL promotes in vivo human hematopoietic engraftment and myeloid differentiation. *Blood* 119(12): 2768-2777. PMID: PMC3327455.
391. Brehm MA, **Shultz LD**. 2012. Human allograft rejection in humanized mice: a historical perspective. *Cell Mol Immunol* 9(3): 225-231. Review.

392. Brehm MA, Powers AC, **Shultz LD**, Greiner DL. 2012. Advancing animal models of human type 1 diabetes by engraftment of functional human tissues in immunodeficient mice. *Cold Spring Harb Perspect Med* 2(5): a007757. PMID: PMC3331686.
393. Li M, Zhou M, Gong M, Ma J, Pei F, Beamer WG, **Shultz LD**, Hock JM, Yu X. 2012. A novel animal model for bone metastasis in human lung cancer. *Oncology Letters* 3(4): 802-806. PMID: PMC3362336.
394. Robinson SN, Simmons PJ, Thomas MW, Brouard N, Javni JA, Trilok S, Shim JS, Yang H, Steiner D, Decker WK, Xing D, **Shultz LD**, Savoldo B, Dotti G, Bollard CM, Miller L, Champlin RE, Shpall EJ, Zweidler-McKay PA. 2012. Ex vivo fucosylation improves human cord blood engraftment in NOD-SCID IL-2R γ^{null} mice. *Exp Hematol*;40(6): 445-56. PMID: PMC3352960.
395. Ippolito GC, Hoi KH, Reddy ST, Carroll SM, Ge X, Rogosch T, Zemlin M, **Shultz LD**, Ellington AD, Vandenberg CL, Georgiou G. 2012. Antibody repertoires in humanized NOD-scid-IL2R γ^{null} mice and human B cells reveals human-like diversification and tolerance checkpoints in the mouse. *PLoS One* 7: e35497. PMID: PMC3338711.
396. Tanaka S, Saito Y, Kunisawa J, Kurashima Y, Wake T, Suzuki N, **Shultz LD**, Kiyono H, Ishikawa F. 2012. Development of mature and functional human myeloid subsets in hematopoietic stem cell-engrafted NOD/SCID/IL2r γ KO mice. *J Immunol* 188(12): 6145-6155. PMID: PMC3370073.
397. Hosur V, Kavirayani A, Riefler J, Carney LMB, Lyons B, Gott B, Cox GA, **Shultz LD**. 2012. Dystrophin and dysferlin double mutant mice: a novel model for rhabdomyosarcoma. *Cancer Genetics* 205(5): 232-241. PMID: PMC3372852.
398. Bernstein JM, Lehman H, Lis M, Sands A, Wilding GE, **Shultz L**, Bankert R, Bobek L. 2012. Humanized mouse model used to monitor MUC gene expression in nasal polyps and to preclinically evaluate the efficacy of montelukast in reducing mucus production. *Ann Otol Rhinol Laryngol* 121(5): 307-316. PMID: PMC3621975.
399. Hosur V, Cox ML, Burzenski LM, Riding RL, Alley L, Lyons BL, Kavirayani A, Martin KA, Cox GA, Johnson KR, **Shultz LD**. 2013. Retrotransposon insertion in the T-cell acute lymphocytic leukemia 1 (*Tal1*) gene is associated with severe renal disease and patchy alopecia in hairpatches (*Hpt*) mice. *PLoS One* 8(1): e53426. PMID: PMC3534690.
400. Saito Y, Yuki H, Kuratani M, Hashizume Y, Takagi S, Honma T, Tanaka A, Shirouzu M, Mikuni J, Handa N, Ogahara I, Sone A, Najima Y, Tomabechei Y, Wakiyama M, Uchida N, Tomizawa-Murasawa M, Kaneko A, Tanaka S, Suzuki N, Kajita H, Aoki Y, Ohara O, **Shultz LD**, Fukami T, Goto T, Taniguchi S, Yokoyama S, Ishikawa F. 2013. A Pyrrolo-Pyrimidine Derivative Targets Human Primary AML Stem Cells in Vivo. *Sci Transl Med* 5(181): 181ra152.
401. Tanaka T, Fujita Y, Ueno M, **Shultz LD**, Yamashita T. 2013. Suppression of SHP-1 promotes corticospinal tract sprouting and functional recovery after brain injury. *Cell Death Dis* 4: e567. PMID: PMC3641325.
402. Unger WW, Pearson T, Abreu JR, Laban S, van der Slik AR, der Kracht SM, Kester MG, Serreze DV, **Shultz LD**, Griffioen M, Drijfhout JW, Greiner DL, Roep BO. 2012. Islet-specific CTL cloned from a type 1 diabetes patient cause beta-cell destruction after engraftment into HLA-A2 transgenic NOD/SCID/IL2RG null mice. *PLoS One* 7: (11) e49213. PMID: PMC3498321.
403. Guendel I, Iordanskiy S, Van Duyne R, Kehn-Hall K, Saifuddin M, Das R, Jaworski E, Sampey GC, Senina S, **Shultz L**, Narayanan A, Chen H, Lepene B, Zeng C, Kashanchi F. 2014. Novel Neuroprotective GSK-3 β Inhibitor Restricts Tat-Mediated HIV-1 Replication. *J Virol* 88(2): 1189-1208. PMID: PMC3911635.
404. **Shultz LD**, Brehm MA, Garcia-Martinez JV, Greiner DL. 2012. Humanized mice for immune system investigation: progress, promise and challenges. *Nat Rev Immunol* 12(11): 786-798. PMID: PMC3749872.

405. Jimenez-Diaz MB, Viera S, Ibanez J, Mulet T, Magan-Marchal N, Garuti H, Gomez V, Cortes-Gil L, Martinez A, Ferrer S, Fraile MT, Calderon F, Fernandez E, **Shultz LD**, Leroy D, Wilson DM, Garcia-Bustos JF, Gamo FJ, Angulo-Barturen I. 2013. A new *in vivo* screening paradigm to accelerate antimalarial drug discovery. *PLoS One* 8(6): e66967. PMID: PMC3692522.
406. Wilson DW, Oslund KL, Lyons B, Foreman O, Burzenski L, Svenson KL, Chase TH, **Shultz LD**. 2013. Inflammatory dilated cardiomyopathy in *Abcg5*-deficient mice. *Toxicol Pathol* 41(6): 880-892. PMID: PMC3905339.
407. Goel HL, Pursell B, Chang C, Shaw LM, Mao J, Simin K, Kumar P, Vander Kooi CW, **Shultz LD**, Greiner DL, Norum JH, Toftgard R, Kuperwasser C, Mercurio AM. 2013. GLI1 regulates a novel neuropilin-2/ α 6 β 1 integrin based autocrine pathway that contributes to breast cancer initiation. *EMBO Mol Med* 5: 488-508. PMID: PMC3628099.
408. Covassin L, Jangalwe S, Jouvét N, Laning J, Burzenski L, **Shultz LD**, Brehm MA. 2013. Human immune system development and survival of non-obese diabetic (NOD)-*scid IL2ry^{null}* (NSG) engrafted with human thymus and autologous hematopoietic stem cells. *Clin Exp Immunol* 174(3): 372-388. PMID: 3826304.
409. Yokota SJ, Facciponte JG, Kelleher RJ, Jr., **Shultz LD**, Loyall JL, Parsons RR, Odunsi K, Frelinger JG, Lord EM, Gerber SA, Balu-Iyer SV, Bankert RB. 2013. Changes in ovarian tumor cell number, tumor vasculature, and T cell function monitored *in vivo* using a novel xenograft model. *Cancer Immun* 13: 11. PMID: PMC3721261.
410. McNeer NA, Schleifman EB, Cuthbert A, Brehm M, Jackson A, Cheng C, Anandalingam K, Kumar P, **Shultz LD**, Greiner DL, Mark Saltzman W, Glazer PM. 2013. Systemic delivery of triplex-forming PNA and donor DNA by nanoparticles mediates site-specific genome editing of human hematopoietic cells *in vivo*. *Gene Ther* 20(6): 658-669. PMID: PMC3713483.
411. **Shultz LD**, Goodwin N, Ishikawa F, Hosur V, Lyons BL, Greiner DL. 2014. Human cancer growth and therapy in immunodeficient mouse models. *Cold Spring Harb Protoc* 2014(7): 694-708. PMID: PMC4411952.
412. **Shultz LD**, Goodwin N, Ishikawa F, Hosur V, Lyons BL, Greiner DL. 2014. Subcapsular transplantation of tissue in the kidney. In: *Mouse Models of Cancer: A Laboratory Manual*, Shen C-A; Politi K, Chodosh LA, Olive KP; (eds). Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, p268-271.
413. Seymour R, Shirley BJ, Hogenesch H, **Shultz LD**, Sundberg JP. 2013. Loss of function of the mouse *Sharpin* gene results in Peyer's patch regression. *PLoS One* 8:(2) e55224. PMID: PMC3570409.
414. Barth BM, Keasey NR, Wang X, Shanmugavelandy SS, Rampal R, Hricik T, Cabot MC, Kester M, Wang H-G, **Shultz LD**, Tallman MS, Levine RL, Loughran TP Jr, Claxton DF. 2014. Engraftment of human primary acute myeloid leukemia defined by integrated genetic profiling in NOD/SCID/IL2ry^{null} mice for preclinical ceramide-based therapeutic evaluation. *J Leuk* 2(3): 146.
415. Dou S, Wang Y, Barton B, Chen L, Rusckowski M, **Shultz LD**, Greiner DL, Liu G. 2014. Comparison between two labeled agents in mice using a coinjection-ratio approach in contrast to a conventional group approach. *Nucl Med Biol* 41(1): 127-131. PMID: PMC3855254.
416. Aoki Y, Watanabe T, Saito Y, Kuroki Y, Hijikata A, Takagi M, Tomizawa D, Eguchi M, Eguchi-Ishimae M, Kaneko A, Ono R, Sato K, Suzuki N, Fujiki S, Koh K, Ishii E, **Shultz LD**, Ohara O, Mizutani S, Ishikawa F. 2015. Identification of CD34⁺ and CD34⁻ leukemia-initiating cells in MLL-rearranged human acute lymphoblastic leukemia. *Blood* 125(6): 967-980. PMID: PMC4319237.
417. Brehm MA, Jouvét N, Greiner DL, **Shultz LD**. 2013. Humanized mice for the study of infectious diseases. *Curr Opin Immunol* 25(4): 428-435. PMID: PMC3775881 .
418. Hickey RD, Galivo F, Schug J, Brehm MA, Haft A, Wang Y, Benedetti E, Gu G, Magnuson MA, **Shultz LD**, Lagasse E, Greiner DL, Kaestner KH, Grompe M. 2013. Generation of islet-like cells from mouse gall bladder by direct *ex vivo* reprogramming. *Stem Cell Res* 11(1): 503-515. PMID: PMC3940065.

419. Potter CS, Wang Z, Silva KA, Kennedy VE, Stearns TM, Burzenski L, **Shultz LD**, Hogenesch H, Sundberg JP. 2014. Chronic Proliferative Dermatitis in *Sharpin* Null Mice: Development of an Autoinflammatory Disease in the Absence of B and T Lymphocytes and IL4/IL13 Signaling. *PLoS One* 9(1): e85666. PMID: PMC3897490.
420. Brehm MA, **Shultz LD**, Luban J, Greiner DL. 2013. Overcoming current limitations in humanized mouse research. *J Infect Dis* 208 suppl 2: S125-130. PMID: PMC3807974.
421. Jurczyk A, Dilorio P, Brostowin D, Leehy L, Yang C, Urano F, Harlan DM, **Shultz LD**, Greiner DL, Bortell R. 2013. Improved function and proliferation of adult human beta cells engrafted in diabetic immunodeficient NOD-*scid IL2r γ null* mice treated with alogliptin. *Diabetes Metab Syndr Obes: Targets and Therapy* 6: 493-499. PMID: PMC3864939.
422. Schleifman EB, McNeer NA, Jackson A, Yamtich J, Brehm MA, **Shultz LD**, Greiner DL, Kumar P, Saltzman WM, Glazer PM. 2013. Site-specific Genome Editing in PBMCs With PLGA Nanoparticle-delivered PNAs Confers HIV-1 Resistance in Humanized Mice. *Mol Ther Nucleic Acids* 2: e135. PMID: PMC3889188.
423. Lee J, Brehm MA, Greiner D, **Shultz LD**, Kornfeld H. 2013. Engrafted human cells generate adaptive immune responses to *Mycobacterium bovis* BCG infection in humanized mice. *BMC Immunol* 14(1): 53. PMID: PMC3924189.
424. Roderick JE, Tesell J, **Shultz LD**, Brehm MA, Greiner DL, Harris MH, Silverman LB, Sallan SE, Gutierrez A, Look AT, Qi J, Bradner JE, Kelliher MA. 2014. c-Myc inhibition prevents leukemia initiation in mice and impairs the growth of relapsed and induction failure pediatric T-ALL cells. *Blood* 123(7): 1040-1050. PMID: PMC3924926.
425. Knoechel B, Roderick JE, Williamson KE, Zhu J, Lohr JG, Cotton MJ, Gillespie SM, Fernandez D, Ku M, Wang H, Piccioni F, Silver SJ, Jain M, Pearson D, Kluk MJ, Ott CJ, **Shultz LD**, Brehm MA, Greiner DL, Gutierrez A, Stegmaier K, Kung AL, Root DE, Bradner JE, Aster JC, Kelliher MA, Bernstein BE. 2014. An epigenetic mechanism of resistance to targeted therapy in T cell acute lymphoblastic leukemia. *Nat Genet* 46(4): 364-370. PMID: PMC4086945.
426. Brehm MA, Wiles MV, Greiner DL, **Shultz LD**. 2014. Generation of improved humanized mouse models for human infectious diseases. *J Immunol Methods* 410C: 3-17. PMID: PMC4155027.
427. Hosur V, Johnson KR, Burzenski LM, Stearns TM, Maser RS, **Shultz LD**. 2014. *Rhbdf2* mutations increase its protein stability and drive EGFR hyperactivation through enhanced secretion of amphiregulin. *Proc Natl Acad Sci U S A* 111(21): E2200-2209. PMID: PMC4040562.
428. Maykel J, Liu JH, Li H, **Shultz LD**, Greiner DL, Houghton J. 2014. NOD-*scidIl2rg^{tm1Wjl}* and NOD-*Rag1^{null}Il2rg^{tm1Wjl}*: a model for stromal cell-tumor cell interaction for human colon cancer. *Digestive diseases and sciences* 59(6): 1169-1179. PMID: PMC4032472.
429. Goel HL, Gritsko T, Pursell B, Chang C, **Shultz LD**, Greiner DL, Norum JH, Toftgard R, Shaw LM, Mercurio AM. 2014. Regulated splicing of the $\alpha 6$ integrin cytoplasmic domain determines the fate of breast cancer stem cells. *Cell reports* 7(3): 747-761. PMID: PMC4038359.
430. Trabucco SE, Gerstein RM, Evens AM, Bradner JE, **Shultz LD**, Greiner DL, Zhang H. 2015. Inhibition of bromodomain proteins for the treatment of human diffuse large B-cell lymphoma. *Clin Cancer Res* 21(1): 113-122. PMID: PMC4286476.
431. Jaiswal S, Smith K, Ramirez A, Woda M, Pazoles P, **Shultz LD**, Greiner DL, Brehm MA, Mathew A. 2015. Dengue virus infection induces broadly cross-reactive human IgM antibodies that recognize intact virions in humanized BLT-NSG mice. *Experimental biology and medicine* 240(1): 67-78. PMID: PMC4446989.
432. Aryee KE, **Shultz LD**, Brehm MA. 2014. Immunodeficient mouse model for human hematopoietic stem cell engraftment and immune system development. *Methods in molecular biology* 1185: 267-278.

433. McCune JM, **Shultz LD**. Humanized mice as models for human disease. In LY Poluektova, JV Garcia, et al (Eds.), *Humanized Mice for HIV Research*. New York, NY: Springer; 2015. p 15-24.
434. Gallagher GR, Brehm MA, Finberg RW, Barton BA, **Shultz LD**, Greiner DL, Bortell R, Wang JP. 2015. Viral infection of engrafted human islets leads to diabetes. *Diabetes* 64(4): 1358-1369. PMID: PMC4375078.
435. Abate F, Todaro M, van der Krogt JA, Boi M, Landra I, Machiorlatti R, Tabbo F, Messana K, Abele C, Barreca A, Novero D, Gaudio M, Aliberti S, Di Giacomo F, Tousseyn T, Lasorsa E, Crescenzo R, Bessone L, Ficarra E, Acquaviva A, Rinaldi A, Ponzoni M, Longo DL, Aime S, Cheng M, Ruggeri B, Piccaluga PP, Pileri S, Tiacci E, Falini B, Pera-Gresely B, Cerchiatti L, Iqbal J, Chan WC, **Shultz LD**, Kwee I, Piva R, Wlodarska I, Rabadan R, Bertoni F, Inghirami G, European TcLSG. 2015. A novel patient-derived tumorgraft model with TRAF1-ALK anaplastic large-cell lymphoma translocation. *Leukemia* 29(6): 1390-1401. PMID: PMC4864432.
436. Chang C, Goel HL, Gao H, Pursell B, **Shultz LD**, Greiner DL, Ingerpuu S, Patarroyo M, Cao S, Lim E, Mao J, McKee KK, Yurchenco PD, Mercurio AM. 2015. A laminin 511 matrix is regulated by TAZ and functions as the ligand for the $\alpha 6\beta 1$ integrin to sustain breast cancer stem cells. *Genes Dev* 29(1): 1-6. PMID: PMC4281560.
437. Tang Z, Dai S, He Y, Doty RA, **Shultz LD**, Sampson SB, Dai C. 2015. MEK guards proteome stability and inhibits tumor-suppressive amyloidogenesis via HSF1. *Cell* 160(4): 729-744. PMID: PMC4564124.
438. Babad J, Mukherjee G, Follenzi A, Ali R, Roep BO, **Shultz LD**, Santamaria P, Yang OO, Goldstein H, Greiner DL, DiLorenzo TP. 2015. Generation of β cell-specific human cytotoxic T cells by lentiviral transduction and their survival in immunodeficient human leucocyte antigen-transgenic mice. *Clinical and experimental immunology* 179(3): 398-413. PMID: PMC4337673.
439. Serr I, Furst RW, Achenbach P, Scherm MG, Gokmen F, Haupt F, Sedlmeier EM, Knopff A, **Shultz L**, Willis RA, Ziegler AG, Daniel C. 2016. Type 1 diabetes vaccine candidates promote human Foxp3⁺Treg induction in humanized mice. *Nat Commun* 7: 10991. PMID: PMC4796321.
440. Crescenzo R, Abate F, Lasorsa E, Tabbo F, Gaudio M, Chiesa N, Di Giacomo F, Spaccarotella E, Barbarossa L, Ercole E, Todaro M, Boi M, Acquaviva A, Ficarra E, Novero D, Rinaldi A, Tousseyn T, Rosenwald A, Kenner L, Cerroni L, Tzankov A, Ponzoni M, Paulli M, Weisenburger D, Chan WC, Iqbal J, Piris MA, Zamo A, Ciardullo C, Rossi D, Gaidano G, Pileri S, Tiacci E, Falini B, **Shultz LD**, Mevellec L, Vialard JE, Piva R, Bertoni F, Rabadan R, Inghirami G, et al. 2015. Convergent mutations and kinase fusions lead to oncogenic STAT3 activation in anaplastic large cell lymphoma. *Cancer cell* 27(4): 516-532.
441. Samanta S, Sun H, Goel HL, Pursell B, Chang C, Khan A, Greiner DL, Cao S, Lim E, **Shultz LD**, Mercurio AM. 2016. IMP3 promotes stem-like properties in triple-negative breast cancer by regulating SLUG. *Oncogene* 35(9): 1111-1121.
442. Sewald X, Ladinsky MS, Uchil PD, Bloor J, Pi R, Herrmann C, Motamedi N, Murooka TT, Brehm MA, Greiner DL, **Shultz LD**, Mempel TR, Bjorkman PJ, Kumar P, Mothes W. 2015. Retroviruses use CD169-mediated trans-infection of permissive lymphocytes to establish infection. *Science* 350(6260): 563-567. PMID: PMC4651917.
443. Yang C, Loehn M, Jurczyk A, Przewozniak N, Leehy L, Herrera PL, **Shultz LD**, Greiner DL, Harlan DM, Bortell R. 2015. Lixisenatide accelerates restoration of normoglycemia and improves human beta-cell function and survival in diabetic immunodeficient NOD-*scid IL-2rg^{null}* RIP-DTR mice engrafted with human islets. *Diabetes, metabolic syndrome and obesity : targets and therapy* 8: 387-398. PMID: PMC4548726.
444. Friedline RH, Ko HJ, Jung DY, Lee Y, Bortell R, Dagdeviren S, Patel PR, Hu X, Inashima K, Kearns C, Tsitsilianos N, Shafiq U, **Shultz LD**, Lee KW, Greiner DL, Kim JK. 2016. Genetic ablation of lymphocytes and cytokine signaling in nonobese diabetic mice prevents diet-induced obesity and insulin

- resistance. FASEB journal : official publication of the Federation of American Societies for Experimental Biology 30(3): 1328-1338. PMID: PMC4750424.
445. Akkina R, Allam A, Balazs AB, Blankson JN, Burnett JC, Casares S, Garcia JV, Hasenkrug KJ, Kashanchi F, Kitchen SG, Klein F, Kumar P, Luster AD, Poluektova LY, Rao M, Sanders-Beer BE, **Shultz LD**, Zack JA. 2016. Improvements and Limitations of Humanized Mouse Models for HIV Research: NIH/NIAID "Meet the Experts" 2015 Workshop Summary. AIDS Rex Hum Retroviruses 32(2): 109-119. PMID: PMC4761823.
446. Cheng F, Twardowski L, Reifenberg K, Winter K, Canisius A, Pross E, Fan J, Schmitt E, **Shultz LD**, Lackner KJ, Torzewski M. 2016. Combined B, T and NK cell deficiency accelerates atherosclerosis in BALB/c mice. PLoS One 11(8): e0157311. PMID: PMC5001715.
447. Jurczyk A, Nowosielska A, Przewozniak N, Aryee KE, DiIorio P, Blodgett D, Yang C, Campbell-Thompson M, Atkinson M, **Shultz L**, Rittenhouse A, Harlan D, Greiner D, Bortell R. 2016. Beyond the brain: disrupted in schizophrenia 1 regulates pancreatic β -cell function *via* glycogen synthase kinase-3 β . FASEB journal : official publication of the Federation of American Societies for Experimental Biology 30(2): 983-993. PMID: PMC4714549.
448. Dai C, Kayton NS, Shostak A, Poffenberger G, Cyphert HA, Aramandla R, Thompson C, Papagiannis IG, Emfinger C, Shiota M, Stafford JM, Greiner DL, Herrera PL, **Shultz LD**, Stein R, Powers AC. 2016. Stress-impaired transcription factor expression and insulin secretion in transplanted human islets. The Journal of clinical investigation 126(5): 1857-1870. PMID: PMC4855919.
449. Kenney LL, **Shultz LD**, Greiner DL, Brehm MA. 2016. Humanized Mouse Models for Transplant Immunology. Am J Transplant 16(2): 389-397. PMID: PMC5283075.
450. Li S, Ling C, Zhong L, Li M, Su Q, He R, Tang Q, Greiner DL, **Shultz LD**, Brehm MA, Flotte TR, Mueller C, Srivastava A, Gao G. 2015. Efficient and Targeted Transduction of Nonhuman Primate Liver With Systemically Delivered Optimized AAV3B Vectors. Mol Ther 23(12): 1867-1876. PMID: PMC4700112.
451. Hasgur S, Aryee KE, **Shultz LD**, Greiner DL, Brehm MA. 2016. Generation of Immunodeficient Mice Bearing Human Immune Systems by the Engraftment of Hematopoietic Stem Cells. Methods Mol Biol 1438: 67-78. PMID: PMC5268072.
452. Presa M, Chen YG, Grier AE, Leiter EH, Brehm MA, Greiner DL, **Shultz LD**, Serreze DV. 2015. The Presence and Preferential Activation of Regulatory T Cells Diminish Adoptive Transfer of Autoimmune Diabetes by Polyclonal Nonobese Diabetic (NOD) T Cell Effectors into NSG versus NOD-*scid* Mice. Journal of immunology 195(7): 3011-3019. PMID: PMC4575869.
453. Najima Y, Tomizawa-Murasawa M, Saito Y, Watanabe T, Ono R, Ochi T, Suzuki N, Fujiwara H, Ohara O, **Shultz LD**, Yasukawa M, Ishikawa F. 2016. Induction of WT1-specific human CD8⁺ T cells from human HSCs in HLA class I Tg NOD/SCID/IL2rgKO mice. Blood 127(6): 722-734. PMID: PMC4751022.
454. Ali R, Babad J, Follenzi A, Gebe JA, Brehm MA, Nepom GT, **Shultz LD**, Greiner DL, DiLorenzo TP. 2016. Genetically modified human CD4⁺ T cells can be evaluated *in vivo* without lethal graft-versus-host disease. Immunology 148(4): 339-351. PMID: PMC4948041.
455. Goel HL, Pursell B, **Shultz LD**, Greiner DL, Brekken RA, Vander Kooi CW, Mercurio AM. 2016. P-Rex1 promotes resistance to VEGF/VEGFR-Targeted therapy in prostate cancer. Cell Rep 14(9): 2193-2208. PMID: PMC4791963.
456. Liu ET, Bult CJ, **Shultz LD**. 2016. Patient-Derived Tumor Xenografts: Why Now? JAMA Oncol 2(5): 567-8.
457. Samuelov L, Li Q, Bochner R, Najor NA, Albrecht L, Malchin N, Goldsmith T, Grafi-Cohen M, Vodo D, Fainberg G, Meilik B, Goldberg I, Warshauer E, Rogers T, Edie S, Ishida-Yamamoto A, Burzenski L, Erez N, Murray SA, Irvine AD, **Shultz L**, Green KJ, Uitto J, Sprecher E, Sarig O. 2017. SVEP1 plays a crucial role in epidermal differentiation. Exp Dermatol 26(5): 423-430. PMID: PMC5543306.

458. Walsh NC, Kenney LL, Jangalwe S, Aryee KE, Greiner DL, Brehm MA, **Shultz LD**. 2017. Humanized mouse models of clinical disease. *Annu Rev Pathol* 12: 187-215. PMID: PMC5280554.
459. Hosur V, Low BE, **Shultz LD**, Wiles MV. 2017. Genetic deletion of amphiregulin restores the normal skin phenotype in a mouse model of the human skin disease tylosis. *Biol Open* 6(8): 1174-1179. PMID: PMC5576083.
460. Bryce PJ, Falahati R, Kenney LL, Leung J, Bebbington C, Tomasevic N, Krier RA, Hsu CL, **Shultz LD**, Greiner DL, Brehm MA. 2016. Humanized mouse model of mast cell-mediated passive cutaneous anaphylaxis and passive systemic anaphylaxis. *J Allergy Clin Immunol* 138(3): 769-779. PMID: PMC5014665.
461. Mercado-Lubo R, Zhang Y, Zhao L, Rossi K, Wu X, Zou Y, Castillo A, Leonard J, Bortell R, Greiner DL, **Shultz LD**, Han G, McCormick BA. 2016. A *Salmonella* nanoparticle mimic overcomes multidrug resistance in tumours. *Nat Commun* 7: 12225. PMID: PMC5512628
462. Saito Y, Mochizuki Y, Ogahara I, Watanabe T, Hogdal L, Takagi S, Sato K, Kaneko A, Kajita H, Uchida N, Fukami T, **Shultz LD**, Taniguchi S, Ohara O, Letai AG, Ishikawa F. 2017. Overcoming mutational complexity in acute myeloid leukemia by inhibition of critical pathways. *Sci Transl Med* 9:(413). PMID: PMC5377281.
463. Boudreau JE, Liu XR, Zhao Z, Zhang A, **Shultz LD**, Greiner DL, Dupont B, Hsu KC. 2016. Cell-extrinsic MHC Class I molecule engagement augments human NK cell education programmed by cell-intrinsic MHC Class I. *Immunity* 45(2): 280-291. PMID: PMC5003427.
464. Jangalwe S, **Shultz LD**, Mathew A, Brehm MA. 2016. Improved B cell development in humanized NOD-scid IL2R γ ^{null} mice transgenically expressing human stem cell factor, granulocyte-macrophage colony-stimulating factor and interleukin-3. *Immun Inflamm Dis* 4:(4) 427-440. PMID: PMC5134721.
465. Moser J, van Ark J, van Dijk MC, Greiner DL, **Shultz LD**, van Goor H, Hillebrands JL. 2016. Distinct differences on neointima formation in immunodeficient and humanized mice after carotid or femoral arterial injury. *Sci Rep* 6: 35387. PMID: PMC5069488.
466. Miller PH, Rabu G, MacAldaz M, Knapp DJ, Cheung AM, Dhillon K, Nakamichi N, Beer PA, **Shultz LD**, Humphries RK, Eaves CJ. 2017. Analysis of parameters that affect human hematopoietic cell outputs in mutant c-kit-immunodeficient mice. *Exp Hematol* 48: 41-49. PMID: PMC5926796.
467. Liu ET, Bolcun-Filas E, Grass DS, Lutz C, Murray S, **Shultz L**, Rosenthal N. 2017. Of mice and CRISPR: The post-CRISPR future of the mouse as a model system for the human condition. *EMBO Rep* 18(2): 187-193. PMID: PMC5286389.
468. Hosur V, Burzenski LM, Stearns TM, Farley ML, Sundberg JP, Wiles MV, **Shultz LD**. 2017. Early induction of NRF2 antioxidant pathway by RHBDF2 mediates rapid cutaneous wound healing. *Exp Mol Pathol* 102(2): 337-346. PMID: PMC5436942.
469. Lee J, Dykstra B, Spencer JA, Kenney LL, Greiner DL, **Shultz LD**, Brehm MA, Lin CP, Sackstein R, Rossi DJ. 2017. mRNA-mediated glycoengineering ameliorates deficient homing of human stem cell-derived hematopoietic progenitors. *J Clin Invest* 127(6): 2433-2437. PMID: PMC5451245.
470. Hosur V, Low BE, Avery C, **Shultz LD**, Wiles MV. 2017. Development of humanized mice in the age of genome editing. *J Cell Biochem* 118(10): 3043-3048. PMID: PMC5550330.
471. Brehm MA, Bortell R, Verma M, **Shultz LD**, Greiner DL. 2016. Humanized mice in translational immunology. In: *Translational Immunology, Mechanisms and Pharmacologic Approaches*, Tan S-L (ed). Academic Press: Elsevier; p. 285-326.
472. Verma MK, Clemens J, Burzenski L, Sampson SB, Brehm MA, Greiner DL, **Shultz LD**. 2017. A novel hemolytic complement-sufficient NSG mouse model supports studies of complement-mediated antitumor activity *in vivo*. *J Immunol Methods* 446: 47-53. PMID: PMC5480316.

473. Durost PA, Aryee KE, Manzoor F, Tisch RM, Mueller C, Jurczyk A, **Shultz LD**, Brehm MA. 2018. Gene therapy with an adeno-associated viral vector expressing human interleukin-2 alters immune system homeostasis in humanized mice. *Hum Gene Ther* 29(3): 352-365. PMID: PMC5865247.
474. Serr I, Furst RW, Achenbach P, Scherm MG, Gokmen F, Haupt F, Sedlmeier EM, Knopff A, **Shultz L**, Willis RA, Ziegler AG, Daniel C. 2016. Type 1 diabetes vaccine candidates promote human Foxp3⁺Treg induction in humanized mice. *Nat Commun* 7: 10991. PMID: PMC4796321.
475. Kooreman NG, de Almeida PE, Stack JP, Nelakanti RV, Diecke S, Shao NY, Swijnenburg RJ, Sanchez-Freire V, Matsa E, Liu C, Connolly AJ, Hamming JF, Quax PHA, Brehm MA, Greiner DL, **Shultz LD**, Wu JC. 2017. Alloimmune responses of humanized mice to human pluripotent stem cell therapeutics. *Cell Rep* 20(8): 1978-1990. PMID: PMC5573767.
476. Borel F, Tang Q, Gernoux G, Greer C, Wang Z, Barzel A, Kay MA, **Shultz LD**, Greiner DL, Flotte TR, Brehm MA, Mueller C. 2017. Survival advantage of both human hepatocyte xenografts and genome-edited hepatocytes for treatment of α -1 antitrypsin deficiency. *Mol Ther* 25(11): 2477-2489. PMID: PMC5675605.
477. Dai C, Hang Y, Shostak A, Poffenberger G, Hart N, Prasad N, Phillips N, Levy SE, Greiner DL, **Shultz LD**, Bottino R, Kim SK, Powers AC. 2017. Age-dependent human β cell proliferation induced by glucagon-like peptide 1 and calcineurin signaling. *J Clin Invest* 127(10): 3835-3844. PMID: PMC5617654.
478. Hosur V, Lyons BL, Burzenski LM, **Shultz LD**. 2017. Tissue-specific role of RHBDF2 in cutaneous wound healing and hyperproliferative skin disease. *BMC Res Notes* 10(1): 573. PMID: PMC5678570.
479. Wang M, Yao LC, Cheng M, Cai D, Martinek J, Pan CX, Shi W, Ma AH, De Vere White RW, Airhart S, Liu ET, Banchereau J, Brehm MA, Greiner DL, **Shultz LD**, Palucka K, Keck JG. 2018. Humanized mice in studying efficacy and mechanisms of PD-1-targeted cancer immunotherapy. *FASEB J* 32(3): 1537-1549. PMID: PMC5892726.
480. Bahmani B, Uehara M, Ordikhani F, Li X, Jiang L, Banouni N, Ichimura T, Kasinath V, Eskandari SK, Annabi N, Bromberg JS, **Shultz LD**, Greiner DL, Abdi R. 2018. Ectopic high endothelial venules in pancreatic ductal adenocarcinoma: A unique site for targeted delivery. *EBioMedicine* 38: 79-88. PMID: PMC6306381.
481. Brissova M, Haliyur R, Saunders D, Shrestha S, Dai C, Blodgett DM, Bottino R, Campbell-Thompson M, Aramandla R, Poffenberger G, Lindner J, Pan FC, von Herrath MG, Greiner DL, **Shultz LD**, Sanyoura M, Philipson LH, Atkinson M, Harlan DM, Levy SE, Prasad N, Stein R, Powers AC. 2018. α cell function and gene expression are compromised in Type 1 Diabetes. *Cell Rep* 22(10): 2667-2676. PMID: PMC6368357.
482. Burack WR, Spence JM, Spence JP, Spence SA, Rock PJ, Shenoy GN, **Shultz LD**, Bankert RB, Bernstein SH. 2017. Patient-derived xenografts of low-grade B-cell lymphomas demonstrate roles of the tumor microenvironment. *Blood Adv* 1(16): 1263-1273. PMID: PMC5728547.
483. Hosur V, Farley ML, Burzenski LM, **Shultz LD**, Wiles MV. 2018. ADAM17 is essential for ectodomain shedding of the EGF-receptor ligand amphiregulin. *FEBS Open Bio* 8(4): 702-710. PMID: PMC5881543.
484. Brehm MA, Kenney LL, Wiles MV, Low BE, Tisch RM, Burzenski L, Mueller C, Greiner DL, **Shultz LD**. 2019. Lack of acute xenogeneic graft-versus-host disease, but retention of T-cell function following engraftment of human peripheral blood mononuclear cells in NSG mice deficient in MHC class I and II expression. *FASEB J* 33(3): 3137-3151. PMID: PMC6404556.
485. Hua L, Shi J, **Shultz LD**, Ren G. 2018. Genetic models of macrophage depletion. *Methods Mol Biol* 1784: 243-258. PMID: PMC6333569.
486. Hosur V, Farley ML, Low BE, Burzenski LM, **Shultz LD**, Wiles MV. 2018. RHBDF2-regulated growth factor signaling in a rare human disease, Tylosis With esophageal cancer: What can we learn From murine models? *Front Genet* 9: 233. PMID: PMC6039722.

487. Youngblood BA, Brock EC, Leung J, Falahati R, Bryce PJ, Bright J, Williams J, **Shultz LD**, Greiner DL, Brehm MA, Bebbington C, Tomasevic N. 2019. AK002, a Humanized Sialic Acid-Binding Immunoglobulin-Like Lectin-8 Antibody that Induces Antibody-Dependent Cell-Mediated Cytotoxicity against Human Eosinophils and Inhibits Mast Cell-Mediated Anaphylaxis in Mice. *Int Arch Allergy Immunol* 180(2): 91-102. PMID: PMC6878738.
488. Saunders DC, Brissova M, Phillips N, Shrestha S, Walker JT, Aramandla R, Poffenberger G, Flaherty DK, Weller KP, Pelletier J, Cooper T, Goff MT, Virostko J, Shostak A, Dean ED, Greiner DL, **Shultz LD**, Prasad N, Levy SE, Carnahan RH, Dai C, Sevigny J, Powers AC. 2019. Ectonucleoside triphosphate diphosphohydrolase-3 antibody targets adult human pancreatic β cells for *In Vitro* and *In Vivo* analysis. *Cell Metab* 29(3): 745-754 e4. PMID: PMC6402969.
489. Gawron MA, Duval M, Carbone C, Jaiswal S, Wallace A, Martin JC, 3rd, Dauphin A, Brehm MA, Greiner DL, **Shultz LD**, Luban J, Cavacini LA. 2019. Human anti-HIV-1 gp120 monoclonal antibodies with neutralizing activity cloned from humanized mice infected with HIV-1. *J Immunol* 202:(3) 799-804. PMID: PMC6344273.
490. Ono R, Watanabe T, Kawakami E, Iwasaki M, Tomizawa-Murasawa M, Matsuda M, Najima Y, Takagi S, Fujiki S, Sato R, Mochizuki Y, Yoshida H, Sato K, Yabe H, Kato S, Saito Y, Taniguchi S, **Shultz LD**, Ohara O, Amagai M, Koseki H, Ishikawa F. 2019. Co-activation of macrophages and T cells contribute to chronic GVHD in human IL-6 transgenic humanised mouse model. *EBioMedicine* 41:584-596. PMID: PMC6441951.
491. Matsuda M, Ono R, Iyoda T, Endo T, Iwasaki M, Tomizawa-Murasawa M, Saito Y, Kaneko A, Shimizu K, Yamada D, Ogonuki N, Watanabe T, Nakayama M, Koseki Y, Kezuka-Shiotani F, Hasegawa T, Yabe H, Kato S, Ogura A, **Shultz LD**, Ohara O, Taniguchi M, Koseki H, Fujii SI, Ishikawa F. 2019. Human NK cell development in hIL-7 and hIL-15 knockin NOD/SCID/IL2rgKO mice. *Life Sci Alliance* 2 (2): e201800195. PMID: PMC6445396.
492. **Shultz LD**, Keck J, Burzenski L, Jangalwe S, Vaidya S, Greiner DL, Brehm MA. 2019. Humanized mouse models of immunological diseases and precision medicine. *Mamm Genome* 30:(5-6) 123-142. PMID: PMC6610695.
493. Li P, Gong Z, **Shultz LD**, Ren G. 2019. Mesenchymal stem cells: From regeneration to cancer. *Pharmacol Ther* 200:42-54. PMID: PMC6626571.
494. Bedognetti D, Ceccarelli M, Galluzzi L, Lu R, Palucka K, Samayoa J, Spranger S, Warren S, Wong KK, Ziv E, Chowell D, Coussens LM, De Carvalho DD, DeNardo DG, Galon J, Kaufman HL, Kirchhoff T, Lotze MT, Luke JJ, Minn AJ, Politi K, **Shultz LD**, Simon R, Thorsson V, Weidhaas JB, Ascierto ML, Ascierto PA, Barnes JM, Barsan V, Bommareddy PK, Bot A, Church SE, Ciliberto G, De Maria A, Draganov D, Ho WS, McGee HM, Monette A, Murphy JF, Nistico P, Park W, Patel M, Quigley M, Radvanyi L, Raftopoulos H, Rudqvist NP, Snyder A, Sweis RF, Valpione S, Butterfield LH, Disis ML, Fox BA, Cesano A, Marincola FM, Society for Immunotherapy of Cancer (SITC) Cancer Immune Responsiveness Task Force and Working Group. 2019. Toward a comprehensive view of cancer immune responsiveness: a synopsis from the SITC workshop. *J Immunother Cancer* 7:(1) 131. PMID: PMC6529999.
495. Karlinsey JE, Stepien TA, Mayho M, Singletary LA, Bingham-Ramos LK, Brehm MA, Greiner DL, **Shultz LD**, Gallagher LA, Bawn M, Kingsley RA, Libby SJ, Fang FC. 2019. Genome-wide Analysis of *Salmonella enterica* serovar Typhi in Humanized Mice Reveals Key Virulence Features. *Cell Host Microbe* 26(3):426-434 e426. PMID: PMC6742556.
496. de Groot AP, Saito Y, Kawakami E, Hashimoto M, Aoki Y, Ono R, Ogahara I, Fujiki S, Kaneko A, Sato K, Kajita H, Watanabe T, Takagi M, Tomizawa D, Koh K, Eguchi M, Ishii E, Ohara O, **Shultz LD**, Mizutani S, Ishikawa F. 2021. Targeting critical kinases and anti-apoptotic molecules overcomes steroid resistance in MLL-rearranged leukaemia. *EBioMedicine* 64:103235. PMID: PMC7878180.

497. Bedognetti D, Ceccarelli M, Galluzzi L, Lu R, Palucka K, Samayoa J, Spranger S, Warren S, Wong KK, Ziv E, Chowell D, Coussens LM, De Carvalho DD, DeNardo DG, Galon J, Kaufman HL, Kirchoff T, Lotze MT, Luke JJ, Minn AJ, Politi K, **Shultz LD**, Simon R, Thorsson V, Weidhaas JB, Ascierto ML, Ascierto PA, Barnes JM, Barsan V, Bommareddy PK, Bot A, Church SE, Ciliberto G, De Maria A, Draganov D, Ho WS, McGee HM, Monette A, Murphy JF, Nistico P, Park W, Patel M, Quigley M, Radvanyi L, Raftopoulos H, Rudqvist NP, Snyder A, Sweis RF, Valpione S, Zappasodi R, Butterfield LH, Disis ML, Fox BA, Cesano A, Marincola FM, Society for Immunotherapy of Cancer (SITC) Cancer Immune Responsiveness Task Force, Working Group. 2019. Correction to: Toward a comprehensive view of cancer immune responsiveness: a synopsis from the SITC workshop. *J Immunother Cancer* 7:(1) 167. PMID: PMC6610889.
498. Allen TM, Brehm MA, Bridges S, Ferguson S, Kumar P, Mirochnitchenko O, Palucka K, Pelanda R, Sanders-Bear B, **Shultz LD**, Su L, PrabhuDas M. 2019. Humanized immune system mouse models: progress, challenges and opportunities. *Nat Immunol* 20:(7) 770-774. PMID: PMC7265413.
499. Wagenblast E, Azkanaz M, Smith SA, Shakib L, McLeod JL, Krivdova G, Araujo J, **Shultz LD**, Gan OI, Dick JE, Lechman ER. 2019. Functional profiling of single CRISPR/Cas9-edited human long-term hematopoietic stem cells. *Nat Commun* 10:(1) 4730. PMID: PMC6802205.
500. Redick SD, Leehy L, Rittenhouse AR, Blodgett DM, Derr AG, Kucukural A, Garber MG, **Shultz LD**, Greiner DL, Wang JP, Harlan DM, Bortell R, Jurczyk A. 2020. Recovery of viable endocrine-specific cells and transcriptomes from human pancreatic islet-engrafted mice. *FASEB J* 34(1):1901-1911. PMID: PMC6972551.
501. Kierkels GJJ, Scheper W, Meringa AD, Johanna I, Beringer DX, Janssen A, Schiffler M, Aarts-Riemens T, Kramer L, Straetemans T, Heijhuurs S, Leusen JHW, San Jose E, Fuchs K, Griffioen M, Falkenburg JH, Bongiovanni L, de Bruin A, Vargas-Diaz D, Altelaar M, Heck AJR, **Shultz LD**, Ishikawa F, Nishimura MI, Sebestyen Z, Kuball J. 2019. Identification of a tumor-specific allo-HLA-restricted $\gamma\delta$ TCR. *Blood Adv* 3:(19) 2870-2882. PMID: PMC6784524.
502. Svoboda DS, Barrasa MI, Shu J, Rietjens R, Zhang S, Mitalipova M, Berube P, Fu D, **Shultz LD**, Bell GW, Jaenisch R. 2019. Human iPSC-derived microglia assume a primary microglia-like state after transplantation into the neonatal mouse brain. *Proc Natl Acad Sci U S A* 116:(50) 25293-25303. PMID: PMC6911218.
503. Dai C, Walker JT, Shostak A, Padgett A, Spears E, Wisniewski S, Poffenberger G, Aramandla R, Dean ED, Prasad N, Levy SE, Greiner DL, **Shultz LD**, Bottino R, Powers AC. 2020. Tacrolimus- and sirolimus-induced human β cell dysfunction is reversible and preventable. *JCI Insight* 5(1). PMID: PMC7030815.
504. Johanna I, Hernandez-Lopez P, Heijhuurs S, Bongiovanni L, de Bruin A, Beringer D, van Dooremalen S, **Shultz LD**, Ishikawa F, Sebestyen Z, Straetemans T, Kuball J. 2020. TEG011 persistence averts extramedullary tumor growth without exerting off-target toxicity against healthy tissues in a humanized HLA-A*24:02 transgenic mice. *J Leukoc Biol* 107(6):1069-1079. PMID: PMC7722393.
505. Hashimoto M, Saito Y, Nakagawa R, Ogahara I, Takagi S, Takata S, Amitani H, Endo M, Yuki H, Ramilowski JA, Severin J, Manabe R-i, Watanabe T, Ozaki K, Kaneko A, Kajita H, Fujiki S, Sato K, Honma T, Uchida N, Fukami T, Okazaki Y, Ohara O, **Shultz LD**, Yamada M, Taniguchi S, Vyas P, de Hoon M, Momozawa Y, Ishikawa F. 2021. Combined inhibition of XIAP and BCL2 drives maximal therapeutic efficacy in genetically diverse aggressive acute myeloid leukemia. *Nature Cancer* 2(3):340-56.
506. Saito Y, **Shultz LD**, Ishikawa F. 2020. Understanding Normal and Malignant Human Hematopoiesis Using Next-Generation Humanized Mice. *Trends Immunol* 41(8): 706-720. PMID: PMC7395895.

507. Hosur V, Skelly DA, Francis C, Low BE, Kohar V, Burzenski LM, Amiji MM, **Shultz LD**, Wiles MV. 2020. Improved mouse models and advanced genetic and genomic technologies for the study of neutrophils. *Drug Discov Today*. 25(6):1013-25. PMID: PMC7329609.
508. Dai C, Walker JT, Shostak A, Bouchi Y, Poffenberger G, Hart NJ, Jacobson DA, Calcutt MW, Bottino R, Greiner DL, **Shultz LD**, McGuinness OP, Dean ED, Powers AC. 2020. Dapagliflozin Does Not Directly Affect Human α or β Cells. *Endocrinology* 161(8). PMID: PMC7375801.
509. Stripecke R, Munz C, Schuringa JJ, Bissig KD, Soper B, Meeham T, Yao LC, Di Santo JP, Brehm M, Rodriguez E, Wege AK, Bonnet D, Guionaud S, Howard KE, Kitchen S, Klein F, Saeb-Parsy K, Sam J, Sharma AD, Trumpp A, Trusolino L, Bult C, **Shultz L**. 2020. Innovations, challenges, and minimal information for standardization of humanized mice. *EMBO Mol Med* 12(7): e8662. PMID: PMC7338801.
510. Hosur V, Low BE, Li D, Stafford GA, Kohar V, **Shultz LD**, Wiles MV. 2020. Genes adapt to outsmart gene-targeting strategies in mutant mouse strains by skipping exons to reinitiate transcription and translation. *Genome Biol* 21(1): 168. PMID: PMC7350591.
511. Ye C, Yang H, Cheng M, **Shultz LD**, Greiner DL, Brehm MA, Keck JG. 2020. A rapid, sensitive, and reproducible in vivo PBMC humanized murine model for determining therapeutic-related cytokine release syndrome. *FASEB J* 34(9): 12963-12975. PMID: PMC7436391.
512. Li P, Lu M, Shi J, Hua L, Gong Z, Li Q, **Shultz LD**, Ren G. 2020. Dual roles of neutrophils in metastatic colonization are governed by the host NK cell status. *Nat Commun* 11(1): 4387. PMID: PMC7463263.
513. Li P, Lu M, Shi J, Gong Z, Hua L, Li Q, Lim B, Zhang XH, Chen X, Li S, **Shultz LD**, Ren G. 2020. Lung mesenchymal cells elicit lipid storage in neutrophils that fuel breast cancer lung metastasis. *Nat Immunol* 21(11): 1444-1455. PMID: PMC7584447.
514. Jiang L, Wang YJ, Zhao J, Uehara M, Hou Q, Kasinath V, Ichimura T, Banouni N, Dai L, Li X, Greiner DL, **Shultz LD**, Zhang X, Sun ZJ, Curtin I, Vangos NE, Yeoh ZC, Geffken EA, Seo HS, Liu ZX, Heffron GJ, Shah K, Dhe-Paganon S, Abdi R. 2020. Direct Tumor Killing and Immunotherapy through Anti-SerpinB9 Therapy. *Cell* 183(5): 1219-1233 e18. PMID: PMC7927154.
515. Shenoy GN, Greene CJ, Bhatta M, Baroja ML, Loyall JL, Balu-Iyer SV, Kelleher RJ, Jr., Carreno BM, Linette GP, **Shultz LD**, Bankert RB. 2021. Preclinical evaluation of cancer immune therapy using patient-derived tumor antigen-specific T cells in a novel xenograft platform. *Clin Transl Immunology* 10(2): e1246. PMID: PMC7853904.
516. Jia B, Zhao C, Bayerl M, Shike H, Claxton DF, Ehmann WC, Mineishi S, Schell TD, Zheng P, Zhang Y, **Shultz LD**, Prabhu KS, Paulson RF, Zheng H. 2021. A novel clinically relevant graft-versus-leukemia model in humanized mice. *J Leukoc Biol*, online ahead of print.
517. Suri K, Bubier JA, Wiles MV, **Shultz LD**, Amiji MM, Hosur V. Role of MicroRNA in Inflammatory Bowel Disease: Clinical Evidence and the Development of Preclinical Animal Models. *Cells*. 2021;10(9). PMID: PMC8468560.
518. Burzenski LM, Low BE, Kohar V, **Shultz LD**, Wiles MV, Hosur V. Inactive rhomboid proteins RHBDF1 and RHBDF2 (iRhoms): a decade of research in murine models. *Mamm Genome*. 2021. Online ahead of print. PubMed PMID: 34477920.
519. Bhatta M, Shenoy GN, Loyall JL, Gray BD, Bapardekar M, Conway A, Minderman H, Kelleher RJ, Jr., Carreno BM, Linette G, **Shultz LD**, Odunsi K, Balu-Iyer SV, Pak KY, Bankert RB. 2021. Novel phosphatidylserine-binding molecule enhances antitumor T-cell responses by targeting immunosuppressive exosomes in human tumor microenvironments. *J Immunother Cancer* 9(10):e00314. PMID: PMC8488709.