

ASHI Quarterly

Volume 48, Issue 2

ASHI Quarterly Editorial Board

Editor-in-Chief

Lee Ann Baxter-Lowe, Ph.D., F(ACHI)

Associate Editors (listed alphabetically)

Nicholas Brown, Ph.D., F(ACHI)

Lynden Gault, CHS(ACHI)

Anne Halpin, MLT, MSc, Ph.D., CHS(ACHI)

James H. Lan, MD, FRCP(C), F(ACHI)

Chang Liu, MD, Ph.D., A(ACHI)

Former Editors in Chief and Advisors to the ASHI Quarterly Editorial Board

Manish J. Gandhi, MD, A(ACHI)

Robert Liwski, MD, Ph.D.

Board Liaison to the ASHI Quarterly Editorial Board

Eric T. Weimer, PhD, D(ABMLI), F(ACHI)

CEO and Staff Liaison to the ASHI Quarterly Editorial Board

Katherine Giovetsis, CAE, IOM

The ASHI Quarterly is published quarterly by the American Society for Histocompatibility and Immunogenetics, 5051 Route 42, Unit 4 PMB 1072, Turnersville, NJ 08012. Reproductions of any material in this publication are permitted only under license from the American Society for Histocompatibility and Immunogenetics with the written permission of the authors. Fair use of such material by individual readers and nonprofit libraries, such as making single copies of an article for use in teaching or research, is allowed. Consent of the authors and ASHI must be obtained to reprint figures, tables or excerpts from the printed matter. Any statements or opinions expressed in this publication are those of the authors and do not necessarily reflect the views of ASHI. ASHI does not endorse any products. Copyright © 2024. American Society for Histocompatibility and Immunogenetics.



Table of Contents

American Society for Histocompatibility and Immunogenetics

PERSPECTIVES

| | |
|--|---|
| From the Editor-In-Chief..... | 5 |
| From the ASHI President | 7 |
| From the 2024 ASHI Annual Meeting Program Planning Chair | 8 |

SPOTLIGHT ON RESEARCH

DQ Delights: Exploring The Role of HLA-DQ In Human Disease And Transplantation

| | |
|--|----|
| HLA-DQ Associated Autoimmunity..... | 10 |
| <i>Nicholas K. Brown and Chang Liu</i> | |

| | |
|---|----|
| Exploring the Role of HLA-DQ Antibodies in Solid Organ Transplantation: Recent Advances and Remaining Challenges | 15 |
| <i>Lee Ann Baxter-Lowe</i> | |

| | |
|---|----|
| Clinical Relevance of HLA-DQ Eplet Mismatch and Maintenance Immunosuppression with Risk of Allosensitization After Kidney Transplant Failure | 21 |
| <i>Jenny Tran and James H. Lan</i> | |

| | |
|---|----|
| Is this DQ antibody real? | 27 |
| <i>Jar-How Lee, N. Remi Shih, Thoa Nong, and Robert A. Bray</i> | |

TECHNOLOGIST INNOVATIONS AND INSIGHTS

| | |
|--|----|
| Summary of Tips and Tricks for Preparing Abstracts and Posters | 30 |
| <i>Katie Mellon</i> | |

| | |
|-----------------------------|----|
| My First ASHI Meeting | 31 |
| <i>Yasmeen Jilani</i> | |

VIEW FROM THE LAB

| | |
|--|----|
| Gift of Hope Histocompatibility & Immunogenetics Laboratory..... | 32 |
| <i>Lynden Gault</i> | |

INSPIRATIONAL STORIES

| | |
|--|----|
| Intro to My Life in HLA | 34 |
| <i>Adriana Zeevi and Marilyn Marrari</i> | |

| | |
|-----------------------|----|
| My Life in HLA | 35 |
| <i>Rene Duquesnoy</i> | |

| | |
|-----------------------------------|----|
| My Life in HLA (A Follow-Up)..... | 40 |
| <i>Rene Duquesnoy</i> | |

| | |
|---------------------|----|
| My Way to HLA..... | 42 |
| <i>Tenisha West</i> | |

NEWS FROM ASHI

| | |
|--------------------------|----|
| Accreditation News | 43 |
|--------------------------|----|

| | |
|---|----|
| Proficiency Testing Program - Grading Angiotensin II Type I Receptor Antibody Survey: Are We There Yet?..... | 46 |
|---|----|

| | |
|--|-----------|
| ASHI QUARTERLY CONTINUING EDUCATION QUIZ..... | 50 |
|--|-----------|

For information regarding advertising, please contact E&M at advertising@eandmsales.com or 800.572.0011.

E&M Consulting, Inc., the publishers, take no responsibility for the accuracy of the information published, inadvertent omissions or printing errors. We take no responsibility regarding representations or warranties concerning the content of advertisements of products/services for a particular use, including all information, graphics, copyrighted materials, and assertions included in the advertisements. The reader is advised to independently check all information before basing decisions on such information. Any views or opinions expressed in this publication are those of the authors and do not necessarily reflect the views of E&M Consulting, Inc., publishers.

From the Editor in Chief

Lee Ann Baxter-Lowe, Ph.D., F(ACHI)



It is my pleasure to welcome you to the second issue of the 2024 *ASHI Quarterly*. In the President's Column Luis Hidalgo provides information about ASHI's annual meeting, recent CMS changes, and ASHI-U modules that have been translated into Spanish. Rob Liwski, the [2024 ASHI Annual Meeting Program Planning Chair](#), shares plans for the meeting.

This is a very special meeting because we are celebrating ASHI's 50th anniversary. I encourage everyone to join us in Anaheim, California from October 21-25, 2024.

In this issue, the **Spotlight on Research** features **DQ Delights: Exploring the Role of HLA-DQ in Human Disease and Transplantation** which highlights the unique and multifaceted role of HLA-DQ in health and disease. The articles in this scientific section along with Rene Duquesnoy's articles in the **Inspirational Stories and Accomplishments** section describe some of the challenges, controversies, and surprises encountered from HLA-DQs discovery to leading edge research.

- In ***HLA-DQ Associated Autoimmunity***, Nick Brown and Chang Liu describe several autoimmune diseases that are associated with HLA-DQ: celiac disease, narcolepsy, and type I diabetes. They provide an excellent overview of disease pathogenesis, the molecular mechanisms underlying HLA-DQ's association with the disease, and recommendations for HLA typing for these indications. The interplay of HLA-DQ diversity and complex disease mechanisms is fascinating and important for us to understand.
- In ***Exploring the Role of HLA-DQ Antibodies in Solid Organ Transplantation: Recent Advances and Remaining Challenges***, I review recent research on the development and clinical relevance of HLA-DQ antibodies. Considerable controversy remains regarding models for assessing immunogenicity and molecular mechanisms underlying their pathogenicity (see also ***Clinical Relevance of HLA-DQ Eplet Mismatch and Maintenance Immunosuppression with Risk of Allosensitization after Kidney Transplant Failure***). One of the recent surprises in this field is that patients have antibodies against epitopes that are defined by an HLA-DQ heterodimer with specific HLA-derived peptides in their peptide binding cleft (described below in ***Is This Antibody Real?***). Another surprise is that some individuals have antibodies against inter-locus heterodimers formed by polypeptides encoded by HLA-DRA1 and -HLA-DQB1 alleles.

- In ***Clinical Relevance of HLA-DQ Eplet Mismatch and Maintenance Immunosuppression with Risk of Allosensitization after Kidney Transplant Failure*** Jenny Tran and James Lan describe their approach of using HLA Class II eplet mismatch scores to assess the risk of allosensitization in patients whose first kidney transplant has failed. Their work provides evidence that HLA-DQ eplet mismatches are associated with allosensitization after graft failure and that allosensitization could be mitigated by personalized immunosuppression. This approach could be very helpful for these patients.
- In ***Is This Antibody Real?*** Jar-How Lee, et al. share their recent research showing that some antibodies against HLA-DQ recognize an epitope that includes peptides derived from HLA Class I proteins located in the peptide binding cleft of the HLA-DQ protein. This observation offers possible explanations for antibody binding patterns that cannot be explained using HLA-DQ sequence alignments alone as well as discordance between the results of solid-phase antibody assays and cell-based crossmatches. They propose a new term to describe epitopes that depend upon HLA-bound peptides, ***Peptitope***. This could begin a new chapter of discovery for HLA antibodies.

In the **Technologist Innovations and Insights** section, Katie Mellon shares highlights from a recent Virtual Happy Hour which featured speakers who provided tips and tricks for preparing abstracts and posters. Everyone is encouraged to view the Zoom recording for this Happy Hour because it offers insights that have widespread application.

Yasmeen Jilani shares her insights from winning an ASHI travel award to attend the 49th ASHI Annual Meeting in San Antonio. She describes some of the benefits of attending the national meeting including learning useful and vital information, broadening knowledge, making new connections, and creating treasured memories. This is the perfect time to begin plans to attend the 2024 meeting.

Our new feature **View from the Lab** provides the location for the snowy lab view we saw in the last quarter. I encourage you to read this section and learn about the lab with the view.

In keeping with the HLA-DQ theme, the **Inspirational Stories and Accomplishments** section revisits Rene Duquesnoy's **My Life in HLA** articles which were originally published in 2012. His life in HLA began with challenges in convincing the field that HLA-DQ exists. He also describes developing HLA Matchmaker which has become a mainstay of molecular mismatching algorithms. Without question, we are indebted

to Rene for his many scientific contributions to the field and service to ASHI. In **My Way to HLA** Tenisha West describes her career path and fascination with clinical laboratory science. It is inspiring to learn about her development and appreciation for the continuous change in our field.

ASHI is known for its leadership in the field and the committees of dedicated and talented ASHI members play a major role in this achievement. Recent activities described in this issue are summarized below. I encourage you to read their updates.

- In the **Accreditation** update, Sam Ho revisits important topics selected from Q & A from the 2024 Commissioner's Corner: transplant agreements, ARB Commissioners, ASHI inspectors, and enhanced proficiency testing.
- In the update **from the Proficiency Testing Program**, Idoia Gimferrer, Mary Philogene, and Peter Jindra provide an excellent overview of the results from the ungraded sur-

vey for antibodies against Angiotensin II Type I Receptor (AT1RAb), challenges in obtaining suitable material for this survey, grading, and concerns regarding the validity of the AT1RAb assay.

- Activities from the **Technologists' Affairs Committee** are described above in the **Technologist Innovations and Insights** section.

In closing, I am honored to work with so many talented people who have played a role in bringing you this issue of the *ASHI Quarterly*. I would like to give special thanks to the authors, the Editorial Board who played a major role in planning and creating the scientific content, the Publications Committee for careful editing of the content, and Kathy Giovetis and the entire ASHI management team for managing the entire process. I welcome your feedback on this issue and suggestions for future issues. Thank you for reading the *Quarterly*!