
Yuan Tian

Postdoctoral Fellow
Division of Vaccine Discovery
La Jolla Institute for Allergy and Immunology, La Jolla, CA
ytian@lji.org / (858) 752-6926 (Laboratory) / (205) 370-4157 (Mobile)

Summary of Qualifications

- In-depth knowledge of immunology with extensive research experience in T cell responses.
- Demonstrated ability to develop hypotheses, design experiments, and manage research projects.
- Advanced skills in flow cytometry, mass cytometry, cell culture, ELISA, ELISPOT, Luminex, and real-time PCR.
- Strong public speaking and communication skills, as evidenced by ten oral and poster presentations and a first prize for poster presentation.
- 3 years of experience in programming and using Python for web development and data analysis.

Education

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| 2016 | Ph.D. in Microbiology and Immunology
University of Alabama at Birmingham (UAB), Birmingham, AL
Thesis: "The roles of IL-21 and IL-10 in cellular and humoral immune responses" |
| 2011 | B.E. in Bioengineering, Tianjin University, Tianjin, China |

Research Experience

2016–present *Postdoctoral Fellow*

La Jolla Institute for Allergy and Immunology

- Investigate the immune signatures of T cell responses against dengue virus (DENV) infections and vaccinations.
- Use a combination of fluorescence-based flow cytometry, mass cytometry, and RNA-sequencing to characterize human antiviral CD4 and CD8 T cells.

2011–2016 *Graduate Research Assistant*

Department of Microbiology, University of Alabama at Birmingham

- Investigated the roles of IL-21 signaling in the differentiation of CD8 T cell subsets including effector, effector memory (Tem) and tissue-resident memory (Trm) cells under unimmunized conditions and after lymphocytic choriomeningitis virus (LCMV) infection.
- Studied the effects of IL-10 on the differentiation of effector and memory type 1 helper T (Th1) and CD8 T cells as well as on the development of follicular helper T (Tfh) cells, follicular regulatory T (Tfr) cells, and germinal center B cells following LCMV infection.

2009–2011 *Undergraduate Researcher*

Department of Bioengineering, Tianjin University

- Designed and conducted experiments aimed at the isolation and characterization of anti-digoxin llama single-domain antibodies (VHHs) by phage display.
- Obtained funding for the project through a competitive proposal process.
- Managed the project budget and a research team consisting of three undergraduate students.

Publications

- **Tian Y**, Sette A, and Weiskopf D. 2016. "Cytotoxic CD4 T Cells: Differentiation, Function, and Application to Dengue Virus Infection." *Frontiers in Immunology* 7: 531.
- **Tian Y**, Mollo SB, Harrington LE, and Zajac AJ. 2016. "IL-10 Regulates Memory T Cell Development and the Balance between Th1 and Follicular Th Cell Responses during an Acute Viral Infection." *The Journal of Immunology* 197(4): 1308-21.

- **Tian Y** and Zajac AJ. 2016. "IL-21 and T Cell Differentiation: Consider the Context." *Trends in Immunology* 37(8): 557-68.
- **Tian Y**, Cox MA, Kahan SM, Ingram JT, Bakshi RK, and Zajac AJ. 2016. "A Context-Dependent Role for IL-21 in Modulating the Differentiation, Distribution, and Abundance of Effector and Memory CD8 T Cell Subsets." *The Journal of Immunology* 196(5): 2153-66.

Honors

- 2016 The American Association of Immunologists (AAI) Trainee Abstract Award
- 2015 AAI Trainee Abstract Award
- 2015 Raymond N. Hiramoto Travel Award
- 2014 First Prize for Poster Presentation at Annual UAB Microbiology Research Retreat
- 2013 UAB Spring Immunology Symposium Award
- 2011 Tianjiu Innovation Research Scholarship
- 2010 Shanghai Pudong Development Bank Scholarship

Presentations

Oral

- 2016 AAI Annual Meeting, Seattle, WA. "A context-dependent role for IL-21 in modulating the differentiation, distribution, and abundance of effector and memory CD8 T cell subsets"
- 2015 Annual UAB Microbiology Research Retreat, Chattanooga, TN. "Regulation of CD8 T cell subsets by IL-21"
- 2015 AAI Annual Meeting, New Orleans, LA. "IL-21 signaling modulates the differentiation, distribution, and abundance of CD8 T cell subsets"
- 2015 UAB Graduate Student Research Days, Birmingham, AL. "A context-dependent role of interleukin-21 in modulating CD8 T cell responses"
- 2014 UAB Graduate Student Research Days, Birmingham, AL. "IL-21 signaling modulates the generation and maintenance of CD8 T cell subsets"
- 2013 Annual UAB Microbiology Research Retreat, Columbiana, AL. "The role of IL-21 in memory CD8 T cell differentiation and maintenance"

Poster

- 2016 AAI Annual Meeting, Seattle, WA. "A context-dependent role for IL-21 in modulating the differentiation, distribution, and abundance of effector and memory CD8 T cell subsets"
- 2015 AAI Annual Meeting, New Orleans, LA. "IL-21 signaling modulates the differentiation, distribution, and abundance of CD8 T cell subsets"
- 2014 Annual UAB Microbiology Research Retreat, Rogersville, AL. "IL-21 signaling modulates the differentiation, distribution, and abundance of CD8 T cell subsets"
- 2014 Southeastern Immunology Symposium, Atlanta, GA. "IL-21 signaling modulates the differentiation, distribution, and abundance of CD8 T cell subsets"
- 2013 Spring Immunology Symposium, Birmingham, AL. "The role of IL-21 in memory CD8 T cell differentiation and maintenance"
- 2012 Annual UAB Microbiology Research Retreat, Sandestin, FL. "IL-21 regulates the survival and differentiation of CD8 T cells"