

BIOGRAPHICAL SKETCH

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NAME Doherty, Taylor Alan	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California, San Diego	B.S.	09/89-06/94	Biochemistry/Cell Bio
California State University, Fullerton	N/A	08/96-05/97	Postbacc/Pre-med
The Chicago Medical School/Rosalind Franklin	M.D.	07/98-06/02	Medicine
University of California, San Diego/La Jolla Institute for Allergy and Immunology	N/A	10/06-11/09	Post doctoral fellow allergy immunology

A. Personal Statement

My interest in asthma stems from caring for patients with asthma in inner city Chicago hospitals during medical school. Understanding the mechanisms underlying asthma pathogenesis inspired me to choose Allergy and Immunology as a specialty and solidified my career goal of becoming an independent physician scientist. In 2010, I successfully competed for a NIH K08 award that has been critical to my development as an independent investigator. Importantly, my post-doctoral work at La Jolla Institute for Allergy and Immunology (LIAI) in Dr. Michael Croft's laboratory led to a novel discovery revealing that TNF family member LIGHT contributes critically to airway remodeling and I first-authored a manuscript published in *Nature Medicine* in 2011. I was promoted to the faculty at UC San Diego as an assistant professor in 2009 and have developed into a successful early-stage independent investigator. During the last four years, I have demonstrated significant productivity in the field as author of 15 original research reports including six first-authored and two senior-authored manuscripts. Our current focus is the role of type 2 innate lymphoid cells (ILC2) in allergic inflammation. I have also mentored two successful graduate students and one visiting physician-scientist. In summary, I have demonstrated a record of productive research with significant impact in the field of asthma/ILC2 and allergic disease and there is no doubt that this experience has prepared me to successfully perform the proposed novel work.

B. Positions and Honors

Positions and Employment

- 2002-2005 **Internal Medicine Resident**, University of California, San Diego Medical Center, Department of Medicine, San Diego, CA.
- 2005-2006 **Chief Medical Resident**, University of California, San Diego Medical Center, Department of Medicine, San Diego, CA.
- 2006-2008 **Allergy and Immunology Clinical Fellow**, University of California, San Diego Medical Center, Division of Rheumatology, Allergy and Immunology, San Diego, CA.
- 2006-2009 **Postdoctoral Research Fellow**, Croft Laboratory, Molecular Immunology, La Jolla Institute for Allergy and immunology, La Jolla, CA.
- 2009-present **Assistant Professor**, University of California, San Diego Medical Center, Division of Rheumatology, Allergy and Immunology, San Diego, CA.

Honors and Other Activities

- 1999 Physicians for Social Responsibility, Chapter President
- 2001 Alpha Omega Alpha Honor Medical Society, Delta Chapter President
- 2002 Deans Award, The Chicago Medical School
- 2002 Board of Trustees Scholarship Award, The Chicago Medical School

2005 Boehringer Ingelheim Medical Resident Teaching Award
 2006 Fellow-in-training member, American Academy of Allergy, Asthma & Immunology
 2006 Fellow-in-training member, American College of Allergy, Asthma & Immunology
 2007 Physician volunteer, American Lung Association SCAMP asthma camp
 2009 Reviewer: *Immunology*
 2009 Associate Faculty Member Contributor, Faculty of 1000
 2009 Member, American Academy of Allergy, Asthma & Immunology
 2010 Reviewer: *Journal of Asthma*
 2011 Member, UCSD CTRI research grant review committee
 2011 Member, AAAAI Cells and Mediators of Allergic Inflammation Committee
 2011 Reviewer: *Journal of Allergy and Clinical Immunology*
 2011 Member, American Association of Immunologists
 2011 Member, Western Society of Allergy, Asthma and Immunology
 2012 Advisory Board Member, Allergy Drug Discovery & Development Conference
 2012 Problem-based learning instructor, UC San Diego School of Medicine
 2013 Fellow, American Academy of Allergy, Asthma and Immunology (FAAAAI)
 2013 UCSD CTRI education program advisory board member
 2014 Symposia speaker, 2014 AAAAI meeting "Type 2 Innate Lymphoid Cell Activation by CysLTs"

C. Selected Peer-reviewed Publications (from 20 original articles and 7 reviews/book chapters)

Recent publications

1. **Doherty TA**, Soroosh P, Khorram N, Fukuyama S, Rosenthal P, Cho JY, Norris PS, Choi H, Scheu S, Pfeffer K, Zuraw BL, Ware CF, Broide DH, Croft M. The TNF family member LIGHT is a target for asthmatic airway remodeling. *Nature Medicine* (2011); 17:596-603.
2. **Doherty TA**, Khorram N, Sugimoto K, Sheppard D, Rosenthal P, Cho JY, Pham A, Miller M, Croft M, Broide DH. *Alternaria* induces STAT-6 dependent acute airway eosinophilia and epithelial FIZZ1 expression that promotes airway fibrosis and epithelial thickness. *J Immunol* (2012); 188:2622-9.
3. **Doherty TA**, Khorram N, Chang JE, Kim HK, Rosenthal P, Croft M, Broide DH. STAT6 regulates natural helper cell proliferation during lung inflammation initiated by *Alternaria*. *Am J Physiol Lung Cell Mol Physiol* (2012); 303:L577-88.
4. **Doherty TA**, Khorram N, Lund S, Mehta AK, Croft M, Broide DH. Lung type 2 innate lymphoid cells express cysteinyl leukotriene receptor 1, which regulates Th2 cytokine production. *J Allergy Clin Immunol* (2013);132(1):205-13.
5. Kim HK, Baum R, Lund S, Khorram N, Yang SL, Chung KR, **Doherty TA**. Impaired induction of allergic lung inflammation by *Alternaria alternata* mutant MAPK homologue Fus3. *Exp Lung Res* (2013); 39(9):399-409.
6. Chang J, **Doherty TA**, Baum R, Broide DH. PGD2 regulates human type 2 innate lymphoid cell chemotaxis. *J Allergy Clin Immunol* (2013); <http://dx.doi.org/10.1016/j.jaci.2013.09.020>.
7. Kim HK, Kim H., Lund S., Baum R., Khorram N., Rosenthal P., **Doherty TA**. Innate Type-2 Response to *Alternaria* Extract Enhances Ryegrass-induced Lung Inflammation. *Int Arch Allergy Immunol* (2013);163:92-105.
8. **Doherty TA**, Scott D, Walford HH, Khorram N, Lund S, Baum R, Chang J, Rosenthal P, Beppu A, Miller M, Broide DH. Allergen challenge in allergic rhinitis rapidly induces increased peripheral blood type 2 innate lymphoid cells that express CD84. *J Allergy Clin Immunol* (2014); *In Press*.

Other publications related to the field

9. Broide D, Lawrence T, **Doherty T**, Cho J, Miller M, McElwain K, McElwain S, Karin M. Allergen-induced peribronchial fibrosis and mucus production mediated by I kappa B kinase b-dependent genes in airway epithelium. *Proc Natl Acad Sci* (2005); 102:17723-17728.
10. **Doherty T** and Broide D. Cytokines and growth factors in airway remodeling in asthma. *Curr Opin Immunol* (2007); 19:1-5.
11. **Doherty T**, Soroosh P, Broide D, Croft M. CD4 cells are required for chronic eosinophilic inflammation but not airway remodeling. *Am J Physiol Lung Cell Mol Physiol* (2009); 296:L229-35.
12. Soroosh P, **Doherty TA**, So T, Mehta AK, Khorram N, Norris PS, Scheu S, Pfeffer K, Ware C, Croft M. Herpesvirus entry mediator (TNFRSF14) regulates the persistence of T helper memory cell populations. *J Exp Med* (2011); 208:797-809.
13. Miller M, Tam AB, Cho JY, **Doherty TA**, Pham A, Khorram N, Rosenthal P, Mueller JL, Hoffman HM, Suzukawa M, Niwa M, Broide DH. ORMDL3 is an inducible lung epithelial gene regulating metalloproteases, chemokines, OAS, and ATF6. *Proc Natl Acad Sci* (2012); 109:16648-16653.
14. Soroosh P, **Doherty TA**, Duan W, Mehta AK, Choi H, Adams YF, Mikulski Z, Khorram N, Rosenthal P, Broide DH, Croft M. Lung Resident Tissue Macrophages Generate Foxp3+ Regulatory T cells and Promote Airway Tolerance. *J Exp Med* (2013); 210:775-788.
15. Suzukawa M, Miller M, Rosenthal P, Cho JY, **Doherty TA**, Varki A, Broide DH. Sialyltransferase ST3Gal-III regulates Siglec-F ligand formation and eosinophilic lung inflammation in mice. *J Immunol* (2013); 190:5939-5948.