BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Wayne Shreffler, MD, PhD	Associate Professor Director of Food Allergy Program Division of Rheumatology, Allergy and Immunology
eRA COMMONS USER NAME SHREFLLERWG	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Washington, Seattle, WA	B.S.	1991	Cell & Molecular Biology
New York University, New York, NY	M.S.	1996	Biochemistry
New York University, New York, NY	Ph.D.	1997	Biochemistry
New York University, New York, NY	M.D.	1998	Medicine
Albert Einstein College of Medicine, Bronx, NY	Residency	1998	Pediatrics
Mount Sinai School of Medicine, New York, NY	Fellowship	2000	Allergy/ Immunolgy

A. Positions and Honors

Postitions and Employment

1988-1992 Research Assistant, Seattle Biomedical Research Institute
1992-1998 Predoctoral Research Fellow, New York University School of Medicine
1998-2000 Pediatric Resident, Albert Einstein College of Medicine and Montefiore Medical Center
2000-2003 Pediatric Fellow, Mount Sinai School of Medicine
2003-2009 Assistant Professor, Department of Pediatrics, Jaffe Food Allergy Institute, Mount Sinai School of Medicine and the Immunology Institute
2009-2009 Associate Professor, Department of Pediatrics, Jaffe Food Allergy Institute, Mount Sinai School of Medicine and the Immunology Institute
2009- AssociateProfessor, Massachusetts General Hospital

Other Experience and Professional Memberships

Board Certification
Pediatrics, 2003-
Allergy & Clinical Immunology, 2004-

Memberships
American Academy of Allergy, Asthma, and Immunology, FIT member (2000-03), Member (2003-2009), Fellow (2009-current)
Section on Mechanisms of Allergy (2002-current)
Chrysalis Program Mentor (2002)
National Resident Education Program Mentor (2000-01)

Peer Review
Ad hoc reviewer:
J Allergy & Clinical Immunology; Allergy; Int Arch Allergy Immunol; FEBS Letters; Immunology Letters

Honors and awards:

SBRI Undergraduate Research Award (1992)
ACAAI Travel Award (2000)
AAAAI Travel Award (2001, 2002, 2003)
NICHR, Child Health Research Career Award (2006, 2008)
NIAID/ AAAAI, School in Hypersensitivity & Allergic Disease (2007, 2008)

B. Selected peer-reviewed publications (in chronological order)

1. Reed SG; **Shreffler WG**; Burns JM Jr; Scott JM; Orge Md; Ghalib HW; Siddig M; Badaro R. An improved serodiagnostic procedure for visceral leishmaniasis. *Am J Trop Med Hyg* 43: 632, 1990
2. Scott JM; **Shreffler WG**; Ghalib HW; el Asad A; Siddig M; Badaro R; Reed SG. A rapid and simple diagnostic test for active visceral leishmaniasis. *Am J Trop Med Hyg* 44: 272, 1991
3. Burns JM Jr, **Shreffler WG**, Rosman DE, Sleath PR, March CJ, Reed SG. Identification and synthesis of a major conserved antigenic epitope of Trypanosoma cruzi. 89: 1239, 1992
4. Burns JM Jr, **Shreffler WG**, Benson DR, Ghalib HW, Badaro R, Reed SG. Molecular characterization of a kinesin-related antigen of Leishmania chagasi that detects specific antibody in African and American visceral leishmaniasis. *Proc Nat Acad Sci. USA* 90: 775, 1993
5. **Shreffler WG**, Burns JM Jr, Badaró R, Ghalib HW, Button LL, McMaster WR, Reed SG. Antibody responses of visceral leishmaniasis patients to gp63, a major surface glycoprotein of Leishmania species. *J Infect Dis* 167: 426, 1993
6. Frevert U, Sinnis P, Cerami C, **Shreffler W**, Takacs B, Nussenzweig V. Malaria circumsporozoite protein binds to heparan sulfate proteoglycans associated with the surface membrane of hepatocytes. *J Exp Med* 177:1287, 1993
7. Peralta JM, Teixeira MG, **Shreffler WG**, Pereira JB, Burns JM Jr, Sleath PR Reed SG. Serodiagnosis of Chagas' disease by enzyme-linked immunosorbent assay using two synthetic peptides as antigens. *J Clin Microbiol* 32: 971, 1994
8. **Shreffler W**, Wolinsky E. The unc-8 and sup-40 genes regulate ion channel function in Caenorhabditis elegans motorneurons. *Genetics* 139: 1261, 1995
9. **Shreffler W**, Wolinsky E. Genes controlling ion permeability in both motorneurons and muscle. *Beh Genet* 27: 211, 1997
10. Tavernarakis N, **Shreffler W**, Wang S, Driscoll M. unc-8, a DEG/ENaC family member, encodes a subunit of a candidate mechanically gated channel that modulates C. elegans locomotion. *Neuron* 18: 107, 1997
11. **Shreffler WG**, Beyer K, Chu T-H T, Burks AW, Sampson HA. Microarray immunoassay: Association of clinical history, in vitro IgE function and heterogeneity of allergenic peanut epitopes. *J All Clin Immunol 113:* 776-82, 2004
12. **Shreffler WG**, Lencer DA, Bardina L, Sampson, HA. IgE and IgG4 epitope mapping by microarray immunoassay reveals the diversity of immune response to the peanut allergen, Ara h 2. *J All Clin Immunol 116:* 893-9, 2005
13. Li HA, Nowak-Wegrzyn A, Charlop-Powers Z, **Shreffler W,** Chehade M, Thomas S, Roda G, Dahan S, Sperber K, Berin MC. Transcytosis of IgE-antigen complexes by CD23a in human intestinal epithelial cells and its role in food allergy. *Gastroenterology 131:* 47-58, 2006
14. **Shreffler WG**, Charlop-Powers Z, Sicherer SH. Lack of association of HLA class II alleles with peanut allergy. *Ann Allergy Asthma Immunol 96:* 865-9, 2006
15. **Shreffler WG**. Evaluation of basophil activation in food allergy. *Curr Opin Allergy Clin Immunol 6:* 226-33, 2006
16. Knight AK, **Shreffler WG**, Sampson HA, Sicherer SH, Noone S, Mofidi S, Nowak-Wegrzyn A. Skin prick test to egg white provides additional diagnostic utility to serum egg white-specific IgE antibody concentration in children. *J All Clin Immunol 117:* 842-7, 2006
17. **Shreffler WG**, Castro RR, Kucuk ZY, Charlop-Powers Z, Grishina G, Yoo S, Burks AW, Sampson HA. The major glycoprotein allergen from Arachis hypogaea, Ara h 1, is a ligand of DC-SIGN and acts as a Th2 adjuvant in vitro. *J Immunol*, 177:3677-85, 2006.
18. **Shreffler WG,** Visness CM, Burger M, Cruikshank WW, Lederman HM, de la Morena M, Grindle K, Calatroni A, Sampson HA, Gern JE. Standardization and performance evaluation of mononuclear cell cytokine secretion assays in a multicenter study. *BMC Immunology* 7:29, 2006
19. Flinterman AE, Knol EF, Andreae DA, Bardina L, den Hartog Jager CF, Pasmans SG, Bruijnzeel-Koomen CA, Sampson HA, van Hoffen E, **Shreffler WG.** Peanut epitopes for IgE and IgG4 in peanut-sensitized children in relation to severity of peanut allergy. *J All Clin Immunol* 121:737-43 2008
20. Berin MC, **Shreffler WG**. Th2 adjuvants: implications for food allergy. *J All Clin Immunol* 121:1311-20 2008

21. Hyman SJ, **Shreffler WG**, Rapaport R. Type I diabetes, autoimmune thyroid disease and chronic uritcaria. *Pediatr Diabetes* May 7; PMID 18466206 2008
22. Nowak-Wegrzyn A, Bloom K, Sicherer SH, **Shreffler WG**, Noone S, Wanich N, Sampson HA. Tolerance to extensively heated milk in children with cow's milk allergy. *J All Clin Immunol* 122:342-7 2008
23. Cerecedo I, Zamora J, **Shreffler WG**, Lin J, Bardina L, Dieguez MC, Wang J, Muriel A, de la Hoz B, Sampson HA. Mapping of the IgE and IgG4 sequential epitopes of milk allergens with a peptide microarray-based immunoassay. *J All Clin Immunol* 122:589-94 2008
24. Lemon-Mulé H, Sampson HA, Sicherer SH, **Shreffler WG**, Noone S, Nowak-Wegrzyn A. Immunologic changes in children with egg allergy ingesting extensively heated egg. *J All Clin Immunol* 122:977-83 2008
25. Moloney M, **Shreffler WG**. Basic science for the practicing physician: flow cytometry and cell sorting. *Ann Allergy Asthma Immunol* 101:544-9 2008
26. **Shreffler WG**, Wanich N, Moloney M, Nowak-Wegrzyn A, Sampson HA. The association of allergen-specific regulatory T cells with the onset of clinical tolerance to milk protein. *J All Clin Immunol* 123:43-52 2009
27. **Shreffler WG**. The perfectly potent peanut. *J All Clin Immunol* 123:352-3 2009
28. Wanich N, Nowak-Wegrzyn A, Sampson HA, **Shreffler WG**. Allergen-specific basophil suppression associated with clinical tolerance in patients with milk allergy. *J All Clin Immunol* 123:789-94 2009
29. Lin J, Bardina L, **Shreffler WG**. Microarrayed allergen molecules for diagnostics of allergy. *Methods Mol Biol* 524:259-72 2009
30. Gern JE, Visness CM, Gergen PJ, Wood RA, Bloomberg GR, O'Connor GT, Kattan M, Sampson HA, Witter FR, Sandel MT, **Shreffler WG**, Wright RJ, Arbes SJ Jr, Busse WW. The Urban Environment and Childhood Asthma (URECA) birth cohort study: design, methods and study population. *BMC Pulm Med* 9:17 2009
31. Jones SM, Pons L, Roberts JL, Scurlock AM, Perry TT, Kulis M, **Shreffler WG**, Steele P, Henry KA, Adair M, Francis JM, Durham S, Vickery BP, Zhong X, Burks AW. Clinical efficacy and immune regulation with peanut oral immunotherapy. *J All Clin Immunol* 124:292-300 2009
32. Lin J, Bardina L, **Shreffler WG**, Andreae DA, Ge Y, Wang J, Bruni FM, Fu Z, Han Y, Sampson HA. Development of a novel peptide microarray for large-scale epitope mapping of food allergen. *J All Clini Immunol* 124:315-22 2009

C. Research Support

Completed Research Support

NCCAM/ K12 HD052890 4/1/06-7/1/07
Molecular & Developmental Biology in Pediatric Research
Trainee
The objective of this grant was to support my career development.

Food Allergy Initiative 7/1/06-6/30/08
Characterization of the adjuvant activity of the peanut allergen, Ara h 1
PI (93,606)
The objectives of this study were to identify receptors for peanut allergens expressed on dendritic cells and define mechanisms of allergen-induced activation of dendritic cells. This was used to obtain preliminary data for my K08 application.

Ongoing Research Support

NIAID/ K08 AI067722 7/1/07-6/30/10
Mechanisms of peanut (A. hypogaea) glycan adjuvanticity
PI (359,625)
The objectives of this study are to define mechanisms of innate immune activation by peanut allergens and how that contributes to allergic sensitization.

NIAID/ R03 AI079544 7/1/08-6/30/10
Mechanisms of oral immunotherapy-induced suppression of type I hypersensitivity
PI (169,500)
The objectives of this study are to identify the mechanisms of basophil/ mast cell downregulation induced by allergen immunotherapy with a focus on developing methodological advances in the characterization of basophil activation by flow cytometry.

FAAN 2/1/08-1/31/10
Clinical relevance of peanut epitope recognition by IgE and IgG4 in adults
Co-PI (218,653)
The objectives of this study are to better understand the relationship between allergenspecific IgE and IgG specificity and function to patient clnical sensitivity.

NIAID/ K08 AI067722-03S1 9/30/09-8/31/10
Mechanisms of peanut (A. hypogaea) glycan adjuvanticity (supplement)
PI (49,011)
Supplement grant to K08

NIEHS/ EPA/ R25 HL084762 9/30/09-7/31/14
Mechanisms of asthma-dietary interventions against environmental triggers
Co-Investigator
The long-term goal of the ASTHMA-DIET (A Study To Understand The Mechanisms Of Asthma--Dietary Interventions To Protect Against Environmental Triggers) Program is to understand how diet influences the asthmatic response to indoor and outdoor airborne pollutants and allergens, with the expectation of translating these findings into practical dietary strategies to improve pediatric asthma health.
My role will be to evaluate basophil activation as a biomarker of allergic inflammation.

NIAID/ R01 AI081845 12/1/09-11/30/14
Mechanisms of clinical reactivity or tolerance to mouse allergen; The JAX Cohort.
PI (3,401,959)
The purpose of this grant is to study the dose-response relationships between mouse allergen exposure and immune response in a occupational cohort in the hope that the knowledge gained from this study will provide the foundation upon which to devise preventative and therapeutic interventional in both occupational and community settings.