
BIOGRAPHICAL SKETCH

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NAME Vonakis, Becky Marie	POSITION TITLE Assistant Professor of Medicine		
eRA COMMONS USER NAME BVONAKI1			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Bowling Green State University, Bowling Green, OH	B.S.	1984	Chemistry
George Washington University, Washington, DC	Ph.D.	1993	Biochemistry

A. Positions and Honors.

Positions and Employment

1984-1985	Research Technician, National Cancer Institute-FCRF, Frederick, MD
1985-1992	Ph.D. Candidate, George Washington University, Washington, DC
1992-1997	Intramural Research Training Award (IRTA) Fellow, NIAMS/NIH, Bethesda, MD
1997-1999	Senior Staff Fellow, NIAMS/NIH, Bethesda, MD
1999-2001	Postdoctoral Fellow, Department of Medicine, Johns Hopkins University, Baltimore, MD
2001-present	Assistant Professor of Medicine, Johns Hopkins University, Baltimore, MD

Other Experience and Professional Memberships

1996-1997	Elected Councilor, NIDDK/NIAMS Assembly of Scientists
1997-1999	Executive Committee member, NIAMS Forum
2002-present	Member, American Association of Immunologists
2006-present	Fellow, American Academy of Allergy, Asthma, and Immunology (AAAAI)
2007 -present	Vice-representative, Workshops Subcommittee of the AAAAI Annual Meeting Planning Committee

Honors and Awards:

1980-1984	Alumni Merit (full tuition) Scholarship, Bowling Green State University
1988-1989	ARCS Foundation Fellowship, George Washington University
1989	Graduate Student Research Day, First Prize Winner-Oral Presentation, George Washington University Basic Science Faculty
1993	Radio Interview, WPFW, Washington, DC, "Health Talk" program
2001	Sepracor AAAAI Research Excellence Award Honorable Mention
2003	Osler Medicine and Science Lecture /Award for Outstanding Teaching, JHU School of Medicine.
2005	Travel Award, The Batsheva de Rothschild International Workshop on Mast Cell Signaling and Function in Health and Disease, Eilat, Israel.
2007	Young Investigator Award, from Dr. Edward Miller, Dean, Johns Hopkins University School of Medicine

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

1. **Vonakis, B.M.**, and Vanderhoek, J.Y., A calcium-independent 5-lipoxygenase system in mast basophil PT-18 cells, *Biochim. Biophys. Acta.*, 1045,142-146, (1990).
2. **Vonakis, B.M.**, and Vanderhoek, J.Y., 15-HETE receptors: involvement in the 15-HETE-induced stimulation of the cryptic 5-lipoxygenase in PT-18 mast/basophil cells, *J. Biol. Chem.* 267(33), 23625-23631, (1992).
3. **Vonakis, B.M.**, and Vanderhoek, J.Y., The simultaneous determination of hydroxyeicosanoid (HETE) binding to cells and its cellular metabolism, *J. Lipid Res.* 34(5), 853-858, (1993).
4. **Vonakis, B.M.**, Chen, H., Haleem-Smith, H., and Metzger, H. The unique domain as the site on Lyn kinase for its constitutive association with the high affinity receptor for IgE, *J. Biol. Chem.* 272(38), 24072-24080, (1997).
5. Wofsy, C.*, **Vonakis, B.M.***, Metzger, H. and Goldstein, B. One Lyn is sufficient to initiate phosphorylation of aggregated FcεRI, *Proc. Natl. Acad. Sci. (USA)*, 96, 8615-8620, and (1999). *Equal authors.
6. **Vonakis, B.M.**, Haleem-Smith, H., Benjamin, P. S. and Metzger, H. Interaction between the unphosphorylated receptor with high affinity for IgE and Lyn kinase, *J. Biol. Chem.*, 276, 1041-1050, (2001).
7. **Vonakis, B.M.**, Gibbons, S.P., Jr., Sora, R., Langdon, J.M., and MacDonald, S.M., Src homology 2 domain-containing inositol 5' phosphatase is negatively associated with histamine release to human recombinant histamine-releasing factor in human basophils, *J. Allergy Clin. Immunol.*, 108, 822-831 (2001).
8. MacDonald, S.M., and **Vonakis, B.M.**, Association of the src homology 2 domain-containing inositol 5' phosphatase (SHIP) to releasability in human basophils. *Mol. Immunol.* 38, 1323-1327, (2002).
9. **Vonakis, B.M.**, Sora, R., Langdon, J.M., Casolaro, V., and MacDonald, S.M., Inhibition of Cytokine Gene Transcription by the Human recombinant Histamine Releasing Factor (HrHRF) in Human T Lymphocytes, *J. Immunol.*, 171(7):3742-50 (2003).
10. Langdon, J.M., **Vonakis, B.M.**, and MacDonald, S.M. Identification of the Interaction between the Human Recombinant Histamine Releasing Factor/Translationally Controlled Tumor protein and Elongation Factor 1-delta, *Biochim. Biophys. Acta* , 1688:232-236 (2004).
11. MacDonald, S.M., and **Vonakis, B.M.**, Preface to "Emerging Therapies for Allergic Disease" in *Immunology and Allergy Clinics of North America*, Vol. 24, Number 4; MacDonald, S.M., and Vonakis, B.M., Eds., Elsevier Inc., Philadelphia, PA, pp. xi-xiii, (2004).
12. **Vonakis, B.M.**, Gibbons, S.P. Jr., Rotté, M.J., Brothers, E.A., Kim, S.C., Chichester, K., and MacDonald, S.M., Regulation of RBL-2H3 Mast Cell Secretion by a Constitutive Lyn Kinase Interaction with the High Affinity IgE Receptor (FcεRI), *J. Immunol.*, 175:4543-4554 (2005).
13. **Vonakis, B.M.**, and Saini, S.S., Basophils and mast cells in chronic idiopathic urticaria. *Curr. Allergy Asthma Rep.* 5 (4): 270-6 (2005).
14. Vasagar, K., **Vonakis, B.M.**, Gober, L.M., Viksman, A., Gibbons, S.P. Jr., and Saini, S.S., Evidence of in vivo basophil activation in chronic idiopathic urticaria, *Clin. Exp. Allergy*, 36: 770-6 (2006).
15. **Vonakis, B.M.**, Vasagar, K., Gibbons, Jr., S., Gober, L., Sterba, P.M., Chang, H., and Saini, S., Basophil FcεRI histamine release parallels expression of SH2-containing inositol phosphatases in chronic idiopathic urticaria, *J. Allergy Clin. Immunol.* 119:441-448 (2007).
16. **Vonakis, B.M.** and Saini, S.S. Syk-deficient Basophils from Chronic Idiopathic Urticaria Donors Exhibit a Spectrum of Releasability. *J. Allergy Clin. Immunol* 121, 262-264 (2008).
17. **Vonakis, B.M.**, MacGlashan, Jr., D.W., Vilariño, N., Langdon, J.M., Scott, R.S., and MacDonald, S.M. Distinct Characteristics of Signal Transduction Events by Histamine Releasing Factor/Translationally Controlled Tumor Protein (HRF/TCTP)-Induced Priming and Activation of Human Basophils. *Blood* 111, 1789-1796 (2008).
18. Lee, M-G., Dong, X., Liu, Q., Choi, O., **Vonakis, B.M.**, and Udem, B.J. Agonists of the Mas Related Gene (Mrgs) orphan receptors as Novel Mediators of Mast Cell-Sensory Nerve Interactions. *J. Immunology* 180, 2251-2255 (2008).
17. Langdon, J.M., Schroeder, J., **Vonakis, B.M.**, Bieneman, A., Chichester, K., and MacDonald, S. Histamine Releasing Factor/Translationally Controlled Tumor Protein (HRF/TCTP) Induced Histamine Release is Enhanced with SHIP-1 Knockdown in Cultured Human Mast Cell and Basophil Models, *J. Leukoc. Biol.*, (in press, 2008).

19. Saini, S.S., Paterniti, M., Vasagar, K., Scott Gibbons, Jr., S., Sterba, P.M. and **Vonakis, B.M.**, Cultured Mast Cells from Chronic Idiopathic Urticaria Patients Spontaneously Degranulate Upon IgE Sensitization: Relationship to Expression of Syk and SHIP-2, Clin. Immunol., (under revision, 2008).
20. **Vonakis, B.M.** and Saini, S.S, New concepts in chronic urticaria. Curr. Opin. Immunol. (in press, 2008).

C. Research Support

Ongoing Research Support

1R56AI071117-01A1 Vonakis (PI) 9/26/07-9/25/09

NIH/NIAID

Src Family Kinase Regulation in Allergy

This study explores the dynamics of Src family kinase associations with the FcεRI in live cells as well as the role of individual kinase domains in FcεRI signaling and secretion.

Role: PI

1U19AI070345 – 01 Asthma and Allergic Diseases Cooperative Research Centers Grant

MacGlashan (PI) 7/1/06- 6/30/11

NIH/ NIAID

Efficacy of IgE in Mediating Allergic Reactions in Vivo

This grant explores the quantitative requirements for IgE in the expression of allergic diseases using the humanized monoclonal antibody omalizumab to manipulate in vivo levels of IgE.

Role: Co-Investigator

Institutional Research Grant Vonakis (PI) 5/1/08-4/30/09

Johns Hopkins University School of Medicine

Antagonism of IgE Receptor Signaling in a Mouse Model of Asthma

This study investigates the effect of disrupting early FcεRI signaling on allergic inflammation in a mouse model of asthma.

Role: PI

Completed Research Support (last three years)

1 R56AI059298-01A1 Vonakis (PI) 3/01/05 - 2/28/07

NIH/ NIAID

Lyn Kinase-mediated Regulation of Allergic Inflammation

This study explored how differences in the expression of Lyn and Fyn kinases affect mast cell signaling and secretion.

Role: PI

Institutional Research Grant Vonakis (PI) 5/01/06 – 4/31/07

Johns Hopkins University School of Medicine

Molecular Mechanisms of Hyper-releasability in Human Basophils

This study investigated how modulation of SHIP-1 protein expression affects hyperreleasability in human basophils, as measured by degranulation induced by Human recombinant Histamine Releasing Factor and signaling downstream of SHIP-1.

Role: PI

Q3245S Investigator-initiated project Saini (PI) 3/1/05-12/31/08

Genentech

Effect of Omalizumab in Chronic Urticaria

This grant supports mechanistic studies on signaling and secretion in human basophils from patients participating in a clinical trial of Omalizumab for treatment of chronic idiopathic urticaria.

Role: Co-Investigator