

William Hildebrand, Ph.D.

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Contact Information:

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Education:

1983: B.S., Env. Biology, Saint Mary's University, MN

1983: B.S., Biology, Saint Mary's University, MN

1986: M.A., Microbiology, Southern Illinois University, IL

1990: Ph.D., Microbiology, Southern Illinois University, IL

Academic Appointments:

1990-1993: Postdoctoral Scholar, Stanford University (Dr. Peter Parham mentor)

1993-1999: Assistant Professor, University of Oklahoma Health Sciences Center

1999-2004: Associate Professor, University of Oklahoma Health Sciences Center

2004-present: Professor, University of Oklahoma Health Sciences Center

1999-present: Chief Scientist, Pure Protein, L.L.C., OK

2003-present: Chief Scientist, Pure Transplant Solutions, OK

2003-present: Chief Scientist, Pure Vaccine Solutions, OK

2013-present: Chief Scientist, Pure MHC, OK

Awards and Honors:

1988: AAI Scholarship Recipient "Regulatory Immune Mechanisms"

1988-1990: Doctoral Dissertation Research Award, Southern Illinois University

1991-1993: NIH Postdoctoral Award

1997: Provost's Junior Faculty Research Award, The University of Oklahoma

1998: ABHI Diplomat, Certified Clinical HLA Laboratory Director, The University of Oklahoma

1998: Human Immunology Editorial Board

1998: Scientific Founder, Pure Protein, L.L.C.

1999: Member Advisory Board of Emergent Technologies, Austin, Texas

2005: Provost's Senior Faculty Research Award, The University of Oklahoma

2005-2008: Robert Glenn Rapp Foundation Presidential Professor, The University of Oklahoma

Other Experience and Professional Memberships:

1993-present: Member, American Society for Histocompatibility and Immunogenetics (ASHI)

1993-present: Member, American Association for the Advancement of Science (AAAS)

1993-present: Stanford University Dining/Restaurant Critic

1994-1998: Member, Clinical Immunology Society (CIS)

1995-present: Member, American Association of Immunology (AAI)
1998-present: Member, American Board of Histocompatibility and Immunogenetics (ABHI)
1998-present: Human Immunology Editorial Board
1999-present: Member, Emergent Technologies Advisory Board, Austin, Texas
2006-present: Associate Editor, Journal of Immunology
2007-2012: Member, NIH HIV Vaccine Study Section
2007-2012: Member, NIH IEDB Advisory Committee
2008-present: Member, American Society for Mass Spectrometry (ASMS)
2008-2012: Member, NIH Allergy Advisory Committee
2009-present: Member, NIH Director's New Innovator Awards Committee
2012-present: Member, ASHI Scientific Planning Committee
2012-present: Member, International Working Group on HLA Epitopes
2012-present: Member, Peggy and Charles Stephenson Cancer Center, OUHSC

Research Support:

- 2010-2014: NIH 2R24RR015371-11, "MHC-bound, SIV-derived, CTL & HTL Epitopes, Role Co-Investigator
- 2010-2014: NIH 1R01AI090672-01, "Discovery and Targeting of HIV-1 Associated Antigens", Role: PI
- 2010-2014: NIH R24RR021745, "Immunogenetics of Primates used for Bioterror Research", Role: Co-Investigator
- 2009-2014: HHSN272200900053C, "Large Scale T Cell Epitope Discovery", Role: Co-Investigator
- 2009-2014: NIH 1R01AI078420-01A2, "Mechanisms of Mycobacterial Antigen Processing", Role: Co-Investigator
- 2009-2014: NIH 1U01AI082057-01, "Discovery and Targeting of West Nile Virus Epitopes", Role: PI
- 2010-2014: NIH R24RR021745, "Immunogenetics of Macaques Used in Biodefense and Aids Research", Role: Co-Investigator
- 2012-2014: NIH U19 AI062629-05, "Identifying Protective Class I HLA in Human Toxoplasmosis Patients", Role: Co-Investigator
- 2012-2017: FDA U01FD004410-01, "Direct Discovery of HLA-Associated Influenza Epitopes (U01)", Role: PI
- 2001-2014: OK-IMBRE, Oklahoma's IDeA Network for Biomedical Research Excellence (OK-IMBRE) will build capacity to carry out biomedical research by supporting promising new faculty, recruiting students into biomedical careers, sustaining vital core facilities, and performing statewide K-12 outreach through a network of community colleges. Role: Mentor

Selected Publications:

1. An HLA-presented fragment of macrophage migration inhibitory factor is a therapeutic target for invasive breast cancer. Hawkins O, Verma B, Lightfoot S, Jain R, Rawat A, McNair S, Caseltine S, Mojsilovic A, Gupta P, Neethling F, Almanza O, Dooley W, Hildebrand WH, Weidanz JA. *J Immunol.* 2011. Jun1;186(11):6607-16. PMID: 21515791.
2. Expanding the Targets Available to Therapeutic Antibodies via Novel Disease-specific Markers. Weidanz JA, Hildebrand WH. *Int Rev Immunol.* 2011 Oct-Dec;30(5-6):312-327. PMID: 23405914.
3. TCR-like Biomolecules Target Peptide/MHC Class I Complexes on the Surface of Infected and Cancerous Cells. Weidanz, J. A., Hawkins O, Verma B, and Hildebrand WH. *Int Rev Immunol.* 2011 Oct-Dec; 30(5-6):328-340. PMID: 22053972 PMID: 23405915.
4. Direct discovery and validation of a peptide/MHC epitope expressed in primary human breast cancer cells using a TCRm monoclonal antibody with profound antitumor properties. Verma, B, Hawkins OE, Neethling FA, Caseltine SL, Largo SR, Hildebrand WH, Weidanz JA. *Cancer Immunol Immunother.* Apr;59(4):563-573. PMID: 19779714.
5. Identification of breast cancer peptide epitopes presented by HLA-A*0201. Hawkins OE, VanGundy RS, Eckerd A, Bardet W, Buchli R, Weidanz JA, Hildebrand WH. *J Proteome Res.*, 2008 Apr;7(4):1445-1457. PMID: 18345606.
6. May NA, Wang Q, Balbo A, Konrad SL, Buchli R, Hildebrand WH, Schuck P, Hudson AW. Human herpesvirus 7 u21 tetramerizes to associate with class I major histocompatibility complex molecules. 2014 *J Virol.* Mar;88(6):3298-308. PMID: 24390327.
7. Profiling antibodies to class II HLA in transplant patient sera. McMurtrey C, Lowe D, Buchli R, Daga S, Royer D, Humphrey A, Cate S, Osborn S, Mojsilovic A, Vangundy R, Bardet W, Duty A, Mojsilovic D, Jackson K, Stastny P, Briggs D, Zehnder D, Higgins R, Hildebrand W. 2014 *Hum Immunol.* Mar;75(3):261-70. PMID: 24269696.

8. The Human Proteome Organization Chromosome 6 Consortium: Integrating chromosome-centric and biology/disease driven strategies. Borchers CH, Kast J, Foster LJ, Siu KW, Overall CM, Binkowski TA, Hildebrand WH, Scherer A, Mansoor M, Keown PA. *J Proteomics*. 2013 Aug 8. pii: S1874-3919(13)00438-7. PMID: 23933161.
9. Identification of class I HLA T cell control epitopes for West Nile virus. Kaabinejadian S, Piazza PA, McMurtrey CP, Vernon SR, Cate SJ, Bardet W, Schafer FB, Jackson KW, Campbell DM, Buchli R, Rinaldo CR, Hildebrand WH. *PLoS One*. 2013 Jun 10;8(6):e66298. PMID: 23762485.
10. Discovering naturally processed antigenic determinants that confer protective T cell immunity. Gilchuk P, Spencer CT, Conant SB, Hill T, Gray JJ, Niu X, Zheng M, Erickson JJ, Boyd KL, McAfee KJ, Oseroff C, Hadrup SR, Bennink JR, Hildebrand W, Edwards KM, Crowe JE Jr, Williams JV, Buus S, Sette A, Schumacher TN, Link AJ, Joyce S. *J Clin Invest*. 2013 May 1;123(5):1976-87. PMID: 23543059.
11. Elevated soluble HLA II protein levels in patients with alpha-1 antitrypsin deficiency with or without COPD. Li L, Kueppers F, Hildebrand W, Buchli R, Gaughan J. *Exp Lung Res*. 2012 Aug;38(6):302-6. PMID: 22686467
12. Abacavir induces loading of novel self-peptides into HLA-B*57: 01: an autoimmune model for HLA-associated drug hypersensitivity. Norcross MA, Luo S, Lu L, Boyne MT, Gomarteli M, Rennels AD, Woodcock J, Margulies DH, McMurtrey C, Vernon S, Hildebrand WH, Buchli R. *AIDS*. 2012 Jul 17;26(11):F21-9. PMID: 22617051.
13. Proteome sampling by the HLA class I antigen processing pathway. Hoof I, van Baarle D, Hildebrand WH, Keşmir C. *PLoS Comput Biol*. 2012 8(5):e1002517. PMID: 22615552.
14. A shared MHC supertype motif emerges by convergent evolution in macaques and mice, but is totally absent in human MHC molecules. Sette A, Sidney J, Southwood S, Moore C, Berry J, Dow C, Bradley K, Hoof I, Lewis MG, Hildebrand WH, McMurtrey CP, Wilson NA, Watkins DI, Mothé BR. *Immunogenetics*. 2012 Jun;64(6):421-34. PMID: 22322672.
15. Definition of the viral targets of protective HIV-1-specific T cell responses. Mothe B, Llano A, Ibarondo J, Daniels M, Miranda C, Zamarreño J, Bach V, Zuniga R, Pérez-Álvarez S, Berger CT, Puertas MC, Martínez-Picado J, Rolland M, Farfan M, Szinger JJ, Hildebrand WH, Yang OO, Sanchez-Merino V, Brumme CJ, Brumme ZL, Heckerman D, Allen TM, Mullins JI, Gómez G, Goulder PJ, Walker BD, Gatell JM, Clotet B, Korber BT, Sanchez J, Brander C. *J Transl Med*. 2011 Dec 7;9:208. PMID: 22152067.