CURRICULUM VITAE

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EDUCATION

1992	B.S., Chemistry, University of Michigan, Ann Arbor
1998	Ph.D., Chemistry, University of California, Berkeley Dissertation: "Single molecule fluorescence burst detection of DNA fragments in capillary electrophoresis and microfabricated capillary electrophoresis chips"

RESEARCH POSITIONS

1992	Research Assistant, Laboratory of Michael A. Morris, University of Michigan, Ann Arbor, Michigan
1993	Research Assistant, Laboratory of John R. Stevens, Los Alamos National Laboratory, Los Alamos, New Mexico
1993–1998	Graduate Researcher, Laboratory of Richard A. Mathies, University of California, Berkeley, California
1999–2000	Postdoctoral Fellow, Laboratory of Patrick O. Brown, Stanford University, Palo Alto, California
2000–2004	Special Program Investigator and Director of the DNA Microarray Core Facility, Van Andel Research Institute, Grand Rapids, Michigan
2004–2007	Assistant Professor, Van Andel Research Institute, Grand Rapids, Michigan Head, Laboratory of Cancer Immunodiagnostics
2006–date	Adjunct Professor, Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing
2007–date	Associate Professor, Van Andel Research Institute, Grand Rapids, Michigan Head, Laboratory of Cancer Immunodiagnostics
2009–date	Adjunct Faculty Member, Genetics Program, Michigan State University, East Lansing

MEMBERSHIPS AND SERVICE

Societies

American Association of Cancer Research
American Chemical Society
American Association for the Advancement of Science
American Society for Biochemistry and Molecular Biology
American Pancreatic Association
Society for Glycobiology

Advisory Boards

2002–date	Advisory Board to the Department of Chemistry, Grand Valley State University
2002–date	Board of Advisors, Center for Applied Genomics, Wayne State University
2004–date	Wellcome Trust Expert Review Group
2006	External Board of Advisors, Yale SPORE in Skin Cancer
2007–date	Board of Directors, U.S. Human Proteome Organization (US HUPO)

Editorial Boards

2005–date	*Cancer Genomics and Proteomics*
2006–date	*Molecular Oncology*
2006	*Biomarker Insights*
2007–date	*Proteomics,* Senior Editor
2008–date	*Journal of Proteome Research*
2008–date	*Human Genomics and Proteomics*
2008–date	*Genome Medicine*
2009–date	*Clinical Proteomics*
2009–date	*Molecular and Cellular Proteomics*
2010–date	*Recent Patents on Biomarkers*
2012	*Proteomics, Clinical Applications*

Grant and Site Visit Reviews

2002, 2004	The Wellcome Trust
2003	NIH/NIAMS study section
2003	Early Detection Research Network, site visit review at Johns Hopkins University
2004	NIH/NIDA Cutting Edge Basic Research Award Program
2004	Early Detection Research Network Biomarker Validation Proposals
2004	EDRN contracts for technology development
2005	NCI Innovative Molecular Analysis Technologies study section
2005	NSF International Research Fellowship Program
2005	NIH Special Emphasis Panel, Oncological Sciences Review Group
2006	Wellcome International Research Fellowship Program
2006	NCI Innovative Molecular Analysis Technologies study section
2006	NIH Special Emphasis Panel, Bioengineering Sciences and Technologies Review Group
2006	Science and Technology Development Program of North Carolina Biotechnology Center grant review
2006	Melanoma Research Foundation
2007	Science and Technology Development Program of North Carolina Biotechnology Center grant review
2007	National Science Foundation Assay Development and Enhancement grant review
2007	NCI Innovative Technologies for Molecular Analysis of Cancer
2008	NCI Antibody Array for Cancer Detection
2008	NCI Innovative Molecular Analysis Technologies grant review
2008	JDRF Biomarkers in Type 1 Diabetes and its Complications Review: MSRC Assignments
2009	NIDA Contract Reviews
2009	NCI Innovative Molecular Analysis Technologies grant review

2009	NCI Antibody Array for Cancer Detection
2010	NIDA Tool Development for New or Improved Capture Reagents
2010	NCI Centers for Cancer Nanotechnology Excellence
2010	NCI Instruments and Devices for Cancer Diagnosis, Prognosis and Treatment
2012	NIH Clinical Oncology (CONC) grant review
2012	NCI Innovative Molecular Analysis Technologies grant review

Ad Hoc Manuscript Reviews

Analytical Biochemistry
Analytical Chemistry
Analytical Chimica Acta
Biochimica et Biophysica Acta
Biodrugs
Bioinformatics
Biomacromolecules
Biomarker Insights
Biotechniques
BMC Cancer
Cancer Epidemiology, Biomarkers and Prevention
ChemBioChem
Current Drugs
Current Opinion in Molecular Therapeutics
European Journal of Haematology
Expert Opinion on Biological Therapy
Expert Review of Molecular Diagnostics
Expert Review of Proteomics
FASEB
Genome Biology
International Journal of Cancer
Journal of American Chemical Society
Journal of Immunological Methods
Journal of Proteome Research
Journal of Urology
Lancet
Molecular and Cellular Biochemistry
Molecular and Cellular Proteomics
Molecular Cancer Research
Molecular Oncology
Molecular Systems Biology
Nature Biotechnology
Nature Medicine
Nature Methods
Nature Reviews Drug Discovery
Oncogene
Preclinica
Proteomics
Proteomics, Clinical Applications
Tumor Biology

Committees

VARI

2001–2005	Oversight Committee for the VARI DNA microarray core facility
2005–2007	Van Andel Research Institute – Faculty Recruitment Committee
2005–2006	Van Andel Research Institute – Scientific Retreat Planning Committee
2006–2008	Van Andel Institute Graduate School – Admissions Committee
2008–2009	Chair, Van Andel Institute Graduate School – Student Performance Review Committee
2008	Van Andel Research Institute – Safety Review Committee
2009–2010	Van Andel Research Institute – Institutional Animal Care and Use Committee (IACUC) Member
2009–2010	Van Andel Institute Graduate School – Curriculum Committee
2009–date	Van Andel Research Institute – Conflict of Interest Committee
2010–date	Chair, VARI Institutional Animal Care and Use Committee (IACUC)
2011–2013	Van Andel Institute Graduate School – Comprehensive Exam Committee

2012–2013	Van Andel Research Institute – Center for Neurodegenerative Science, Faculty Search Committee

External

2005–2006	Thesis Committee for Lianbo Yu, Purdue University
2005	Steering Group Chair for the NCI's workshop on a Proteomics Reagents Resource
2006–2010	Thesis Committee for Tingting Yue, Michigan State University
2007–2008	Nominating Committee, US HUPO
2009–2010	Graduate Admissions Committee, Dept. of Biochemistry and Molecular Biology, Michigan State University, East Lansing
2009–date	Thesis Committee for Arkadeep Sinha, Michigan State University
2010–date	US HUPO Newsletter Committee

Teaching Experience

1993	University of California, Berkeley, Freshman Chemistry (teaching assistant)
1994–1995	University of California, Berkeley, Honors Analytical and Physical Chemistry (teaching assistant)
2001	Michigan State University, BMB 930 - Selected Topics in Biochemistry: Genomics (invited seminar)
2004	University of Michigan, Bioinformatics 800 – Proteome Informatics (invited seminar)
2005	University of Michigan, Translation Research Seminar Series (invited seminar)
2005	Purdue University, Introduction to Bioinformatics (invited seminar)
2007–date	Van Andel Institute Graduate School, Course Director, VAI8040 Pancreatic Cancer (fall)
2007	Van Andel Institute Graduate School, Instructor, SABR 8070 Prostate Cancer (winter)
2007	Van Andel Institute Graduate School, Instructor, VAI 8220 Molecular Biology in Clinical Practice (winter)
2008–date	Michigan State University, Co-Instructor, BMB 495 – Introduction to Protein Glycosylation in Cancer (spring)
2011–date	Van Andel Institute Graduate School, Co-Director, VAI 8221 Translational Research (spring)

Community Service

2000	Guest speaker at AMBUCS, Walker, Michigan, July
2001	Guest speaker at AMBUCS, Grand Rapids, Michigan, and Jenison, Michigan, May and Oct.
2002	Speaker at Student Career Day, VARI, Grand Rapids, Michigan, March 5
2002	Speaker at local middle school Career Day, April
2004	Keynote speaker at local chapter of the American Chemical Society's Appreciation Night for graduating high school seniors, Feb. 25
2005	Guest speaker at local chapter of Gilda's Club, March 1
2007	Guest speaker at local chapter of Gilda's Club, March 6
2010	Guest speaker at South Christian High School Vocation Day, Nov. 4

Consultantships

2003	Eastman Kodak, Rochester, New York
2004–date	Detroit R&D, Detroit, Michigan
2006	US Biological, Cleveland, Ohio
2006	MedImmune, Gaithersburg, Maryland
2006–date	Scientific Advisory Board, GenTel Biosciences, Madison, Wisconsin

INVITED PRESENTATIONS

2000	Cold Spring Harbor Laboratory, course on "Making and Using DNA Microarrays," Laurel Hollow, NY, June
2000	Grand Valley State University, Department of Chemistry, Allendale, MI, October
2000	Chips to Hits, Philadelphia, PA, November
2000	Michigan State University, Department of Biochemistry, E. Lansing, MI, November
2000	Antibody Engineering (session chair), San Diego, CA, December
2001	Association of Biomedical Resource Facilities, San Diego, CA, February
2001	Dupont Pharmaceuticals, Wilmington, DE, April
2001	Antibody Therapeutics, Baltimore, MD, May
2001	Genomics and Proteomics in Cancer, Detroit, MI, May
2001	Massachusetts Institute of Technology, Department of Biology, Cambridge, MA, May
2001	Yale University School of Medicine, New Haven, CT, May
2001	Memorial Sloan Kettering Cancer Center, New York, NY, June
2001	ACS regional meeting (session organizer), Grand Rapids, MI, June
2001	University of Michigan, Department of Chemistry, Ann Arbor, MI, September
2001	Calvin College, Departments of Chemistry and Biology, Grand Rapids, MI, November
2002	Protein Microarrays, San Diego, CA, January
2002	Pfizer, Ann Arbor, MI, January
2002	Emerging Microarray Technology, San Diego, CA, March
2002	Bioarrays Europe (Keynote address), Cambridge, U.K., September
2003	3M, St. Paul, MN, January
2003	Hope College, Departments of Chemistry and Biochemistry, Holland, MI, January
2003	Keystone Symposium, Banff, Canada, February
2003	Pittcon, Orlando, FL, March
2003	Association of Biomolecular Resource Facilities (session organizer), San Diego, CA, April
2003	Early Detection Research Network (EDRN) Meeting, Pittsburgh, PA, June
2003	Pfizer, Ann Arbor, MI, September
2004	Lab Automation, San Jose, CA, February
2004	ACS Appreciation Night (Keynote address), Grand Valley State University, Allendale, MI, February
2004	Association of Biomolecular Resource Facilities, Portland, OR, March
2004	Pittcon, Chicago, IL, March

2004	Seton Hall University, Department of Biochemistry, South Orange, NJ, April
2004	Argonne National Laboratory, Bioscience Seminar Series, Argonne, IL, April
2004	ACS Prospectives Series, Advanced Microarray Strategies, Boston, MA, June
2004	Protein Biomarkers, Philadelphia, PA, September
2004	Early Detection Research Network (EDRN), Workshop on pancreatic cancer biomarkers (organizer), Norfolk, VA, September
2004	Chips to Hits, Boston, MA, September
2004	AACR Special Conference on Proteomics in Cancer Research, Key Biscayne, FL, October
2005	Protein Arrays, San Diego, CA, January
2005	Department of Chemistry, Andrews University, Berrien Springs, MI, February
2005	NCI Principal Investigators Meeting of the Innovative Molecular Technologies Program, Washington, D.C., September
2005	21st Asilomar Conference on Mass Spectrometry, Pacific Grove, CA, October
2006	Association of Biomolecular Resource Facilities (session organizer), Long Beach, CA, February
2006	AACR Annual Meeting, Proteomics Education Session, Washington, D.C., April
2006	Georgia Institute of Technology, Department of Biology, Atlanta, GA, June
2006	Michigan State University, Dept. of Biochemistry Colloquium, E. Lansing, MI, June
2006	Michigan State University, Dept. of Chemistry Colloquium, E. Lansing, MI, August
2006	Human Proteome Organization World Congress, Long Beach, CA, November
2007	PepTalk Protein Arrays (featured presenter), San Diego, CA, January
2007	New Mexico Bioinformatics Symposium, Santa Fe, NM, March
2007	Department of Chemistry, University of Wisconsin, Madison, WI, May
2007	HUPO 6th Annual World Congress, Seoul, South Korea, October
2007	Wayne State University, Dept. of Biochemistry and Molecular Biology, Detroit, MI, December
2008	Texas Tech University, Dept. of Environmental Toxicology and The Institute of Environmental and Human Health, Lubbock, TX, February
2009	University of Toledo, Dept. of Chemistry, Toledo, OH, February
2009	Drexel Institute for Biotechnology and Virology Research of Drexel University College of Medicine, Pennsylvania Biotechnology Center, Doylestown, PA, March
2009	Clinical and Translational Research on Cancer: Glycomics Applications, Ise-Shima, Japan, March
2009	Abbott Laboratories, Abbott Park, IL, June
2009	Mucins In Health and Disease, Robinson College, Cambridge, UK, July
2009	10th Annual IMAT PI Meeting, Bethesda, MD, October
2009	Leveraging Glycan Array Screens with Biological, Computational and Structural Data, NIH workshop, Bethesda, MD, October
2010	Molecular Diagnostics Program Seminar, Fred Hutchinson Cancer Research Center, Seattle, WA, April
2010	Eppley Seminar Series, Eppley Institute for Research in Cancer, University of Nebraska Medical Center, Omaha, NE, April

2010	National Institute of General Medical Sciences, Workshop on Glycan Array / Bioinformatics, Emory Conference Center, Atlanta, GA, September
2011	US HUPO 7th Annual Conference, Raleigh, NC, March
2011	University of Oklahoma Health Sciences Center, Department of Cell Biology, Oklahoma City, OK, April
2011	Mucins In Health and Disease, Robinson College, Cambridge, UK, July
2012	Early Detection Research Network (EDRN) Steering Committee Annual Meeting, Tempe, AZ, March
2012	American Society for Investigative Pathology (ASIP) Annual Meeting at Experimental Biology, San Diego, CA, April

RADIO AND NEWS ARTICLES

Pancreatic Cancer Research, WZZM-TV 13 (Grand Rapids, MI), *Healthy You*, aired June 19-20, 2010, interviewed by Valerie Lego.

WGVSU National Public Radio (NPR) Morning Show, July 21, 2010, interviewed by Shelly Irwin.

Pancreatic Cancer Research, WZZM-TV 13 (Grand Rapids, MI), *Stand Up To Cancer*, aired September 2, 2010, interviewed by Valerie Lego.

Cancer Research, *Family Matters TV*, (Grand Rapids, MI), February 22, 2012, interviewed by Shelly Irwin

PERSONS MENTORED

Undergraduate students

2000–2001	Joshua Kwekel
2002	Daniel Diephouse
2002–2004	Darren Hamelinck
2002	Mark Schotanus
2004	Jasmine Belanger
2004–2005	Thomas LaRoche
2004–2005	Richard Shildhouse
2005, 2006	Jennifer Lunger
2005–2010	Derek Bergsma
2006–2007	Devin Mistry
2007	Krysta Collins
2007	Adam Granger
2008	Carrie Fiebig
2008	Lee Heeringa
2008–2010	Kevin Maupin
2008–2009	Randi VanOcker
2008–2009	Dan Hekman
2009	Christopher Madziar
2009, 2010, 2011	Andrew Koo
2010	Katie Partyka
2010	Daniel Liden
2010	Emily McGee
2010–2012	Brian Fallon
2010–date	Mitch McDonald

2011	Paul Schnau
2012	Lynnae deGuise
2012	Hannah Westra

Master students

2008–2009	Kim Babins, Grand Valley State University
2009	Anusha Sunkara, Grand Valley State University
2010	Joe Brown, Grand Valley State University
2010–2011	Venkata Goriparthi, Grand Valley State University
2012	Heather Bartlam, Grand Valley State University

Graduate students

2006–2010	Tingting Yue, cooperative program with Michigan State University
2009	Robert Antecki, Van Andel Institute Graduate School
2009–date	Arkadeep Sinha, cooperative program with Michigan State University
2009	Nathan Davis, medical student, GR MERC
2009	Ken Valkenburg, Van Andel Institute Graduate School
2010–2011	Indiwari Gopallawa, cooperative program with Michigan State University
2010	Mark Farrugia, cooperative program with Michigan State University
2010–2011	Jing-Ru Jhan, cooperative program with Michigan State University
2012–date	Yinjiao Ma, cooperative program with Michigan State University

Postdoctoral fellows

2000–2002	Jeremy Miller, Ph.D., University of Michigan
2001–2002	Heping Zhou, Ph.D., University of Illinois
2003–2004	Muthu Shanmugam, Ph.D., University of Singapore
2004–2006	Michael Shafer, Ph.D., Michigan State University
2006–2009	Yi-Mi Wu, Ph.D., National Tsing-Hua University, Taiwan
2008–2009	John Buchweitz, Ph.D., Michigan State University
2011–date	Huiyuan Tang, Ph.D., Michigan State University
2011–date	Zheng Cao, Ph.D., University of Maryland, College Park

PATENTS/LICENSES

Patents

U.S. Patent Application 7,547,424. Method and apparatus for making partitioned slides. Issued June 16, 2009, Haab, B. and Kruithoff, D.

U.S. Patent Application 7,838,634. Methods for measuring glycan levels of proteins. Issued November 23, 2010, Haab, B. and Chen, S.

Patent Applications

PCT Patent Application PCT/US2000/010171. Microarrays of polypeptides. Submitted 04/14/2000, Haab, B., Shalon, D., and Brown, P.O.

U.S. Patent Application 10/473,173. Microarray gene expression profiling in clear cell renal cell carcinoma : prognosis and drug target identification. Submitted 03/29/2001, Haab, B., Rhodes, D., Teh, BT and Takahashi, M.

U.S. Patent Application 60/813,838. A method for mapping molecular complexes. Submitted 06/15/2006, Haab, B.

U.S. Patent Application 61/317,514. Method For Determining The Specificities of Glycan-Binding Proteins Using A Motif-Based Analysis Of Glycan Array Data. Submitted 03/25/2010, Haab, B.

Licenses

2006	GenTel Biosciences, Madison, Wisconsin, licensed "Methods for measuring glycan levels of proteins."
2007	The Gel Company, San Francisco, California, licensed "Method and apparatus for making partitioned slides."

BIBLIOGRAPHY

Peer-reviewed articles

Haab, B.B., and R.A. Mathies. 1995. Single molecule fluorescence burst detection of DNA fragments separated by capillary electrophoresis. *Anal. Chem.* 67: 3253–3260.

Haab, B.B., and R.A. Mathies. 1997. Optimization of single molecule fluorescence burst detection of ds-DNA: application to capillary electrophoresis separations of 100–1000 basepair fragments. *Appl. Spec*. 51: 1579–1584.

Haab, B.B., and R.A. Mathies. 1999. Single molecule detection of DNA separations in microfabricated capillary electrophoresis chips employing focused molecular streams. *Anal. Chem.* 71: 5137–5145.

Haab, B.B., M.J. Dunham, and P.O. Brown. 2001. Protein microarrays for highly parallel detection and quantitation of specific proteins and antibodies in complex solutions. *Genome Biology* 2: 1–13.

Miller, J.C., E.B. Butler, B.S. Teh, and B.B. Haab. 2001. The application of protein microarrays to serum diagnostics: prostate cancer as a test case. *Dis. Markers* 17(4): 225–234.

Takahashi, M., D.R. Rhodes, K.A. Furge, H. Kanayama, S. Kagawa, B.B. Haab, and B.T. Teh. 2001. Gene expression profiling of clear cell renal cell carcinoma: gene identification and prognostic classification. *Proc. Nat. Acad. Sci. U.S.A.* 98: 9754–9759.

Guo, X., W.-O. Lui, C.-N. Qian, J.-D. Chen, S.G. Gray, D. Rhodes, B. Haab, E. Stanbridge, H. Wang, M.-H. Hong, H.-Q. Min, C. Larsson, and B.T. Teh. 2002. Identifying cancer-related genes in nasopharyngeal carcinoma cell lines using DNA and mRNA expression profiling analyses. *Int. J. Oncol.* 21(6): 1197–1204.

Haddad, R., K.A. Furge, J. Miller, B.B. Haab, J. Schoumans, B.T. Teh, L.L. Barr, and C.P. Webb. 2002. Genomic profiling and cDNA microarray analysis of human colon adenocarcinoma and associated intraperitoneal metastases reveals consistent cytogenetic and transcriptional aberrations associated with progression of multiple metastases. *Appl. Genomics Proteomics* 1(2): 123–134.

Rhodes, D.R., J.C. Miller, B.B. Haab, and K.A. Furge. 2002. CIT: identification of differentially expressed clusters of genes from microarray data. *Bioinformatics* 18(1): 205–206.

Robinson, W.H., C. DiGennaro, W. Hueber, B.B. Haab, M. Kamachi, E.J. Dean, S. Fournel, D. Fong, M.C. Genovese, H.E.N. de Vegvar, K. Skriner, D.L. Hirschberg, R.I. Morris, S. Muller, G.J. Pruijn, W.J. van Venrooij, J.S. Smolen, P.O. Brown, L. Steinman, and P.J. Utz. 2002. Autoantigen microarrays for multiplex characterization of autoantibody responses. *Nature Med.* 8(3): 295–301.

Bouwman, K., J. Qiu, H. Zhou, M. Schotanus, L.A. Mangold, R. Vogt, E. Erlandson, J. Trenkle, A.W. Partin, D. Misek, G.S. Omenn, B.B. Haab, and S. Hanash. 2003. Microarrays of tumor cell derived proteins uncover a distinct pattern of prostate cancer serum immunoreactivity. *Proteomics* 3(11): 2200–2207.

Miller, J.C., H. Zhou, J. Kwekel, R. Cavallo, J. Burke, E.B. Butler, B.S. Teh, and B.B. Haab. 2003. Antibody microarray profiling of human prostate cancer sera: antibody screening and identification of potential biomarkers. *Proteomics* 3(1): 56–63.

Breuhahn, K., S. Vreden, R. Haddad, S. Beckebaum, D. Stippel, P. Flemming, T. Nussbaum, W.H. Caselmann, B.B. Haab, and P. Schirmacher. 2004. Molecular profiling of human hepatocellular carcinoma defines mutually exclusive interferon regulation and insulin-like growth factor II overexpression. *Cancer Res.* 64(17): 6058–6064.

Konwinski, R.R., R. Haddad, J.A. Chun, S. Klenow, S.C. Larson, B.B. Haab, and L.L. Furge. 2004. Oltipraz, 3*H*-1,2-dithiole-3-thione, and sulforaphane induce overlapping and protective antioxidant responses in murine microglial cells. *Toxicol. Lett.* 153(3): 343–355.

Lindvall, C., K. Furge, M. Björkholm, X. Guo, B. Haab, E. Blennow, M. Nordenskjöld, and B.T. Teh. 2004. Combined genetic and transcriptional profiling of acute myeloid leukemia with normal and complex karyotypes. *Haematologica* 89(9): 1072–1081.

Qiu, J., J. Madoz-Gurpide, D.E. Misek, R. Kuick, D.E. Brenner, G. Michailidis, B.B. Haab, G.S. Omenn, and S. Hanash. 2004. Development of natural protein microarrays for diagnosing cancer based on an antibody response to tumor antigens. *J. Proteome Res.* 3(2): 261–267.

Zhou, H., K. Bouwman, M. Schotanus, C. Verweij, J.A. Marrero, D. Dillon, J. Costa, P. Lizardi, and B.B. Haab. 2004. Two-color, rolling-circle amplification on antibody microarrays for sensitive, multiplexed serum-protein measurements. *Genome Biol.* 5(4): R28.

Gao, W.-M., R. Kuick, R.P. Orchekowski, D.E. Misek, J. Qiu, A.K. Greenberg, W.N. Rom, D.E. Brenner, G.S. Omenn, B.B. Haab, and S.M. Hanash. 2005. Distinctive serum protein profiles involving abundant proteins in lung cancer patients based upon antibody microarray analysis. *BMC Cancer* 5: 110.

Haab, B.B., B.H. Geierstanger, G. Michailidis, F. Vitzthum, S. Forrester, R. Okon, P. Saviranta, A. Brinker, M. Sorette, L. Perlee, S. Suresh, G. Drwal, J.N. Adkins, and G.S. Omenn. 2005. Immunoassay and antibody microarray analysis of the HUPO Plasma Proteome Project reference specimens: systematic variation between sample types and calibration of mass spectrometry data. *Proteomics* 5(13): 3278–3291.

Hamelinck, D., H. Zhou, L. Li, C. Verweij, D. Dillon, Z. Feng, J. Costa, and B.B. Haab. 2005. Optimized normalization for antibody microarrays and application to serum-protein profiling. *Mol. Cell. Proteomics* 4(6): 773–784.

Omenn, G.S., D.J. States, M. Adamski, T.W. Blackwell, R. Menon, H. Hermjakob, R. Apweiler, B.B. Haab, R.J. Simpson, J.S. Eddes, E.A. Kapp, R.L. Moritz, D.W. Chan, A.J. Rai, A. Admon, R. Aebersold, J. Eng, W.S. Hancock, S.A. Hefta, H. Meyer, Y.-K. Paik, J.-S. Yoo, P. Ping, J. Pounds, J. Adkins, X. Qian, R. Wang, V. Wasinger, C.Y. Wu, X. Zhao, R. Zeng, A. Archakov, A. Tsugita, I. Beer, A. Pandey, M. Pisano, P. Andrews, H. Tammen, D.W. Speicher, and S.M. Hanash. 2005. Overview of the HUPO Plasma Proteome Project: results from the pilot phase with 35 collaborating laboratories and multiple analytical groups, generating a core dataset of 3020 proteins and a publicly available database. *Proteomics* 5(13): 3226–3245.

Orchekowski, R., D. Hamelinck, L. Li, E. Gliwa, M. VanBrocklin, J.A. Marrero, G.F. Vande Woude, Z. Feng, R. Brand, and B.B. Haab. 2005. Antibody microarray profiling reveals individual and combined serum proteins associated with pancreatic cancer. *Cancer Res.*

65(23): 11193–11202.

Rai, A.J., C.A. Gelfand, B.C. Haywood, D.J. Warunek, J. Yi, M.D. Schuchard, R.J. Mehigh, S.L. Cockrill, G.B.I. Scott, H. Tammen, P. Schulz-Knappe, D.W. Speicher, F. Vitzthum, B.B. Haab, G. Siest, and D.W. Chan. 2005. HUPO Plasma Proteome Project specimen collection and handling: Towards the standardization of parameters for plasma proteome samples. *Proteomics* 5(13): 3262–3277.

Haab, B.B., A.G. Paulovich, N.L. Anderson, A.M. Clark, G.J. Downing, H. Hermjakob, J. LaBaer, and M. Uhlen. 2006. A reagent resource to identify proteins and peptides of interest for the cancer community: a workshop report. *Mol. Cell. Proteomics* 5(10): 1996–2007.

Hung, K.E., A.T. Kho, D. Sarracino, L.G. Richard, B. Krastins, S. Forrester, B.B. Haab, I.S. Kohane, and R. Kucherlapati. 2006. Mass spectrometry–based study of the plasma proteome in a mouse intestinal tumor model. *J. Proteome Res.* 5(8): 1866–1878.

Sanchez-Carbayo, M., N.D. Socci, J.J. Lozano, B.B. Haab, and C. Cordon-Cardo. 2006. Profiling bladder cancer using targeted antibody arrays. *Am. J. Pathol.* 168(1): 93–103.

Chen, S., T. LaRoche, D. Hamelinck, D. Bergsma, D. Brenner, D. Simeone, R.E. Brand, and B.B. Haab. 2007. Multiplexed analysis of glycan variation on native proteins captured by antibody microarrays. *Nature Methods* 4(5): 437–444.

Forrester, S., J. Qiu, L. Mangold, A. Partin, D. Misek, B. Phinney, D. Whitten, P. Andrews, E. Diamandis, G.S. Omenn, S. Hanash, and B.B. Haab. 2007. An experimental strategy for quantitative analysis of the humoral immune response to prostate cancer antigens using natural protein microarrays. *Proteomics – Clin. Apps*. 1: 494–505.

Li, Z., S. Srivastava, X. Yang, S. Mittal, P. Norton, J. Resau, B. Haab, and C. Chan. 2007. A hierarchical approach employing metabolic and gene expression profiles to identify the pathways that confer cytotoxicity in HepG2 cells. *BMC Systems Biology* 1: 15 pp.

Shafer, M.W., L. Mangold, A.W. Partin, and B.B. Haab. 2007. Antibody array profiling reveals serum TSP-1 as a marker to distinguish benign from malignant prostatic disease. *Prostate* 67: 255–267.

Forrester, S., K.E. Hung, R. Kuick, R. Kucherlapati, and B.B. Haab. 2007. Low-volume, high-throughput sandwich immunoassays for profiling plasma proteins in mice: identification of early-stage systemic inflammation in a mouse model of intestinal cancer. *Mol. Oncol.* 1: 216–225.

Wu, YM., D. Nowack, G. Omenn, B. Haab. 2009. Mucin glycosylation is altered by pro-inflammatory signaling in pancreatic-cancer cells. *J. Proteome Res*. 8(4): 1876–1886.

Hung, K.E., V. Faca, K. Song, D.A. Sarracino, L.G. Richard, B. Krastins, S. Forrester, A. Porter, A. Kunin, U. Mahmood, B.B. Haab, S.M. Hanash, and R. Kucherlapati. 2009. Comprehensive proteome analysis of an Apc mouse model uncovers proteins associated with intestinal tumorigensis. *Cancer Prev. Res.* 2(3): 224–233.

Yue, T., I.J. Goldstein, M.A. Hollingsworth, K. Kaul, R.E. Brand, and B.B. Haab. 2009. The prevalence and nature of glycan alterations on specific proteins in pancreatic cancer patients revealed using antibody-lectin sandwich arrays. *Mol Cell Proteomics* 8(7): 1697–1707.

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