

## CURRICULUM VITAE

### BRIAN B. HAAB

Associate Professor

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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  
2007–2013 Associate Professor, Van Andel Research Institute, Grand Rapids, Michigan  
Head, Laboratory of Cancer Immunodiagnostics  
2013–date 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**

2002–2006 Advisory Board to the Department of Chemistry, Grand Valley State University  
2002–2006 Board of Advisors, Center for Applied Genomics, Wayne State University  
2004–2008 Wellcome Trust Expert Review Group  
2006 External Board of Advisors, Yale SPORE in Skin Cancer  
2007–2012 Board of Directors, U.S. Human Proteome Organization (US HUPO)  
2013–date Advisory Board to the Molecular Diagnostics Program, Ferris State University

### **Editorial Boards**

2005–2013 *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*  
2008–2015 *Genome Medicine*  
2009–date *Clinical Proteomics*  
2009–date *Molecular and Cellular Proteomics*  
2010–date *Recent Patents on Biomarkers*  
2012–date *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
- 2013 NIH Cancer Biomarkers Study Section
- 2013 NIH Cancer Diagnostics and Treatments (CDT) SBIR/STTR IAM panel meeting
- 2013 NIH Human Microbiome Project Team, review of U54 center applications
- 2013 Ohio Cancer Research Associates
- 2013 NIH Detection of Pathogen-induced Cancer
- 2014 NIH Specialized Program for Research Excellence (SPORE) Review, Glycobiology
- 2014 NIH Innovative Molecular Analysis Technology Development for Cancer Research and Clinical Care
- 2014 NIH SBIR Application Review (PAR-13-327)
- 2014 NIH Detection of Pathogen-induced Cancer” Review, May
- 2014 NIH CSR SBIR/STTR IAM, co-chair, June
- 2014 NIH Cancer Biomarkers (CBSS) Study Section, October
- 2015 NIH Cancer Biomarkers (CBSS) Study Section, February
- 2015 AACR/PanCan Review Panel, March
- 2015 SBIR Phase II Contract Proposals for Topic 321, “Chemically Defined Glycan Libraries for Reference Standards and Glycomics Research, June
- 2015 NIH Cancer Diagnostics and Treatments (CDT) SBIR/STTR panel
- 2015 NIH Technical Evaluation Panel of the PNNL application (EDRN biomarkers), August
- 2015 NIH Cancer Biomarkers Study Section (CBSS), October
- 2016 2016 Pancreatic Cancer Action Network Translational Research Grant, Member, Scientific Review Committee

### **Ad Hoc Manuscript Reviews**

<i>Analytical Biochemistry</i>	<i>ChemBioChem</i>
<i>Analytical Chemistry</i>	<i>Current Drugs</i>
<i>Analytical Chimica Acta</i>	<i>Current Opinion in Molecular Therapeutics</i>
<i>Biochimica et Biophysica Acta</i>	<i>European Journal of Haematology</i>
<i>Biodrugs</i>	<i>Expert Opinion on Biological Therapy</i>
<i>Bioinformatics</i>	<i>Expert Review of Molecular Diagnostics</i>
<i>Biomacromolecules</i>	<i>Expert Review of Proteomics</i>
<i>Biomarker Insights</i>	<i>FASEB</i>
<i>Biotechniques</i>	<i>Genome Biology</i>
<i>BMC Cancer</i>	<i>Glycobiology</i>
<i>Cancer Biomarkers</i>	<i>International Journal of Cancer</i>
<i>Cancer Epidemiology, Biomarkers and Prevention</i>	<i>Journal of American Chemical Society</i>
	<i>Journal of Immunological Methods</i>

*Journal of Proteome Research*  
*Journal of Proteomics*  
*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*  
*Nature Reviews Gastroenterology*  
*Oncogene*  
*Preclinica*  
*Proteomics*  
*Proteomics, Clinical Applications*  
*Tumor Biology*

**Committees**

- 2001–2005 Oversight Committee for the VARI DNA microarray core facility
- 2005 Steering Group Chair for the NCI’s workshop on a Proteomics Reagents Resource
- 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
- 2007–2008 Nominating Committee, US HUPO
- 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
- 2009–2010 Graduate Admissions Committee, Dept. of Biochemistry and Molecular Biology, Michigan State University, East Lansing
- 2009–date Van Andel Research Institute – Conflict of Interest Committee
- 2010–2013 US HUPO Newsletter Committee
- 2010–2013 Chair, VARI Institutional Animal Care and Use Committee (IACUC)
- 2011–date Van Andel Institute Graduate School – Comprehensive Exam Organizing Committee
- 2012–2013 Van Andel Research Institute – Center for Neurodegenerative Science, Faculty Search Committee
- 2013–date Van Andel Research Institute – Center for Translational Medicine, Core Users Committee
- 2013–2014 Chair, Van Andel Institute Graduate School – Comprehensive Exam Organizing Committee
- 2013–2014 Member, Van Andel Institute Graduate School – Student Performance Review Committee
- 2015 Van Andel Research Institute – Center for Neurodegenerative Science, Neuroepigenetics Search Committee
- 2015 Van Andel Institute Graduate School – Chair, Comprehensive Exam Committee, Erin Weston
- 2016 Van Andel Institute Graduate School – External Member, Comprehensive Exam Committee, Nicole Vander Schaaf

**Research Guidance Committees**

- 2005–2006 Lianbo Yu, Purdue University
- 2006–2010 Tingting Yue, Michigan State University (advisor, Brian Haab)

- 2009–2014 Arkadeep Sinha, Michigan State University (advisor, Brian Haab)
- 2012–2013 Yinjiao Ma, Michigan State University (advisor, Brian Haab)
- 2015–date Daniel Barnett, Michigan State University (advisor, Brian Haab)
- 2015–date Peter Hsueh, Michigan State University (advisor, Brian Haab)
- 2015 Jessica Duarte, University of Cape Town (external examiner, Brian Haab)

### **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)
- 2011–2012 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
- 2013 Hosted tour of VAI for Institute of Management Accountants-Grand Rapids Chapter

### **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
- 2013–date Scientific Advisor, Protein Metrics, Paolo Alto, California

## 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 Pep Talk 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 6<sup>th</sup> 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 10<sup>th</sup> 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 7<sup>th</sup> 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

- 2013 Drexel Institute for Biotechnology and Virology Research of Drexel University  
College of Medicine, Pennsylvania Biotechnology Center, Doylestown, PA,  
July
- 2013 Webinar hosted by Current Protocols, October 23, 2013
- 2013 Grand Valley State University, Department of BioMedical Science and Molecular  
Biology, Allendale, Michigan, November
- 2014 US HUPO 8<sup>th</sup> Annual Conference, Seattle, WA, April
- 2014 5<sup>th</sup> Charles Warren Workshop, Shannon Ireland, August
- 2015 PancreasFest 2015, Pittsburgh, PA, July
- 2015 American Pancreatic Association Annual Meeting, San Diego, CA, November
- 2015 Society for Glycobiology Annual Meeting, San Francisco, CA, December

## **PERSONS MENTORED**

### **Undergraduate interns**

- 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
- 2009–2011 Andrew Koo
- 2010 Katie Partyka
- 2010 Daniel Liden
- 2010 Emily McGee
- 2010–2012 Brian Fallon
- 2010–2013 Mitch McDonald
- 2011 Paul Schnau
- 2012 Lynnae deGuise
- 2012 Joanna Miller
- 2012–date Hannah Westra
- 2013 Danielle Maryanski
- 2013 Calvin McCarter
- 2013 Zion Lee
- 2013 Erin Weston



2013-date Elliott Ensink  
2014 Alexander Clegg  
2014 Anne Murphy  
2015 Leland Dunwoodie  
2015 Joseph Kretowicz  
2015-date Michael VanWyngarden

### **Master interns**

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  
2012–2013 Heather Bartlam, Grand Valley State University  
2014 Alexandria Rogers, Grand Valley State University  
2015 Garima Vohra, Grand Valley State University

### **Graduate students**

2006–2010 Tingting Yue, cooperative program with Michigan State University  
2009–date Arkadeep Sinha, cooperative program with Michigan State University  
2012–2013 Yinjiao Ma, cooperative program with Michigan State University  
2014–date Daniel Barnett, D.O.-Ph.D. program with Michigan State University  
2013–date Peter Hsueh, cooperative program with Michigan State University

### **Rotation students**

2009 Robert Anteck, Van Andel Institute Graduate School  
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

### **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  
2011–2013 Zheng Cao, Ph.D., University of Maryland, College Park  
2012–date Sudhir Singh, Ph.D., Southern California Biomedical Council (SoCalBio)

## **PATENTS/LICENSES**

### **Patents**

Method and Apparatus for Making Partitioned Slides

Brian Haab

David Kruithoff  
United States, 7547424 (2009)

Methods for Measuring Glycan Levels of Proteins  
Brian Haab  
Songming Chen  
United States, 7838634 (2010)

Biomarkers for Pancreatic Cancer and Diagnostic Methods  
Brian Haab  
Tingting Yue  
Randall E. Brand  
United State, 8632983 (2014)  
12/30/2010

### **Pending patents**

Methods for Diagnosing the Malignant Potential of Pancreatic Cystic Lesions  
Brian Haab  
Diane Simeone  
61/783,361  
3/14/2013

## **BIBLIOGRAPHY**

### **Peer-reviewed articles**

- Haab, B.B.**, and R.A. Mathies. Single molecule fluorescence burst detection of DNA fragments separated by capillary electrophoresis. *Anal Chem* 1995; 67(18):3253–3260.
- Haab, B.B.**, and R.A. Mathies. Optimization of single molecule fluorescence burst detection of ds-DNA: application to capillary electrophoresis separations of 100–1000 basepair fragments. *Appl Spec* 1997; 51:1579–1584.
- Haab, B.B.**, and R.A. Mathies. Single molecule detection of DNA separations in microfabricated capillary electrophoresis chips employing focused molecular streams. *Anal Chem* 1999; 71(22):5137–5145.
- Haab, B.B.**, M.J. Dunham, and P.O. Brown. Protein microarrays for highly parallel detection and quantitation of specific proteins and antibodies in complex solutions. *Genome Biol* 2001; 2(2):1–13.
- Miller, J.C., E.B. Butler, B.S. Teh, and **B.B. Haab**. The application of protein microarrays to serum diagnostics: prostate cancer as a test case. *Dis Markers* 2001; 17(4):225–234.
- Takahashi, M., D.R. Rhodes, K.A. Furge, H. Kanayama, S. Kagawa, **B.B. Haab**, and B.T. Teh. Gene expression profiling of clear cell renal cell carcinoma: gene identification and prognostic classification. *Proc Nat Acad Sci USA* 2001; 98(17):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. Identifying cancer-related genes in nasopharyngeal carcinoma cell lines using DNA and mRNA expression profiling analyses. *Int J Oncol* 2002; 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. 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* 2002; 1(2):123–134.
- Rhodes, D.R., J.C. Miller, **B.B. Haab**, and K.A. Furge. CIT: identification of differentially expressed clusters of genes from microarray data. *Bioinformatics* 2002; 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. Autoantigen microarrays for multiplex characterization of autoantibody responses. *Nat Med* 2002; 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. Microarrays of tumor cell derived proteins uncover a distinct pattern of prostate cancer serum immunoreactivity. *Proteomics* 2003; 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**. Antibody microarray profiling of human prostate cancer sera: antibody screening and identification of potential biomarkers. *Proteomics* 2003; 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. Molecular profiling of human hepatocellular carcinoma defines mutually exclusive interferon regulation and insulin-like growth factor II overexpression. *Cancer Res* 2004; 64(17):6058–6064.
- Konwinski, R.R., R. Haddad, J.A. Chun, S. Klenow, S.C. Larson, **B.B. Haab**, and L.L. Furge. Oltipraz, 3H-1,2-dithiole-3-thione, and sulforaphane induce overlapping and protective antioxidant responses in murine microglial cells. *Toxicol Lett* 2004; 153(3):343–355.
- Lindvall, C., K. Furge, M. Björkholm, X. Guo, **B. Haab**, E. Blennow, M. Nordenskjöld, and B.T. Teh. Combined genetic and transcriptional profiling of acute myeloid leukemia with normal and complex karyotypes. *Haematologica* 2004; 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. Development of natural protein microarrays for diagnosing cancer based on an antibody response to tumor antigens. *J Proteome Res* 2004; 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**. Two-color, rolling-circle amplification on antibody microarrays for sensitive, multiplexed serum-protein measurements. *Genome Biol* 2004; 5(4):R28.
- Haab, B.B.**, and H. Zhou. Multiplexed protein analysis using spotted antibody microarrays. In *Protein Arrays: Methods and Protocols*, E. Fung, ed. Methods in Molecular Biology series, Vol. 264. Totowa, N.J.: Humana, 2004; pp. 33–45.
- Gao, W.-M., R. Kuick, R.P. Orzechowski, D.E. Misek, J. Qiu, A.K. Greenberg, W.N. Rom, D.E. Brenner, G.S. Omenn, **B.B. Haab**, and S.M. Hanash. Distinctive serum protein profiles involving abundant proteins in lung cancer patients based upon antibody microarray analysis. *BMC Cancer* 2005; 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. 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* 2005; 5(13):3278–3291.
- Hamelinck, D., H. Zhou, L. Li, C. Verweij, D. Dillon, Z. Feng, J. Costa, and **B.B. Haab**.

- Optimized normalization for antibody microarrays and application to serum-protein profiling. *Mol Cell Proteomics* 2005; 4(6):773–784.
- Haab, B.B.** Multiplexed protein analysis using antibody microarrays and label-based detection. In *Microarrays in Clinical Diagnostics*, T.O. Joos and P. Fortina, eds. Methods in Molecular Medicine series, Vol. 114. Totowa, N.J.: Humana Press, 2005; pp. 183–194.
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