

## BIOGRAPHICAL SKETCH

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NAME David E. Misek	POSITION TITLE Research Assistant Professor		
eRA COMMONS USER NAME (credential, e.g., agency login)			
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
Colorado State University, Ft. Collins, CO	B.S.	1979	Microbiology
State University of NY-Downstate Medical Brooklyn, NY	Ph.D.	1986	Pathology

### A. Positions and Honors.

#### Positions and Employment

- 1986-1989 Research Fellow, Columbia Univ., Dept. of Genetics and Development.  
 1989-1990 Research Fellow, Rockefeller University, Dept. of Molecular Oncology  
 1990-1993 Research Fellow, Univ. of Michigan, Dept. of Physiology.  
 1994-1997 Assistant Research Scientist, University of Michigan, Dept. of Internal Medicine  
 1997-2006 Sr. Research Associate, University of Michigan, Dept. of Pediatrics.  
 2006-Present Research Assistant Professor, University of Michigan, Dept. of Surgery.  
 2007-Present Member, University of Michigan Comprehensive Cancer Center  
 2007-2009 Associate Member, Michigan Gastrointestinal Peptide Research Center.  
 2009-Present Member, Michigan Gastrointestinal Peptide Research Center.

### **B. Peer-Reviewed Publications (selected from approximately 90)**

11. **Misek DE**, Chang C, Kuick R, Hinderer R, Giordano TJ, Beer DG and Hanash SM. Transforming Properties of a Q18→E Mutation of the Microtubule Regulator Op18. *Cancer Cell*, 2:217-228, 2002.
12. Beer DG, Kardia SLR, Huang CC, Giordano TJ, Levin AM, **Misek DE**, Lin L, Chen G, Gharib TG, Thomas DG, Lizyness ML, Kuick R, Hayasaka S, Taylor JM, Iannettoni MD, Orringer MB and Hanash SM. Gene Expression Profiles Predict Survival of Patients with Lung Adenocarcinoma. *Nature Medicine* 8:816-824, 2002.
13. Chen G, Gharib TG, Huang CC, Thomas DG, Shedden KA, Taylor JM, Kardia SL, **Misek DE**, Giordano TJ, Iannettoni MD, Orringer MB, Hanash SM, and Beer DG. Proteomic analysis of lung adenocarcinoma: identification of a highly expressed set of proteins in tumors. *Clin Cancer Res.* 8:2298-2305, 2002.
14. Gharib TG, Chen G, Wang H, Huang CC, Prescott MS, Shedden K, **Misek DE**, Thomas DG, Giordano TJ, Taylor JMG, Kardia S, Yee J, Hanash S and Beer DG. Proteomic Analysis of Cytokeratin Isoforms Uncovers Association with Survival in Lung Adenocarcinoma. *Neoplasia* 4:440-448, 2002.
15. Lin L, Miller CT, Contreres JI, Prescott MS, Dagenais SL, Wu R, Yee J, Orringer MB, **Misek DE**, Hanash SM, Glover TW and Beer DG. The Hepatocyte Nuclear Factor 3  $\alpha$  Gene, HNF3 $\alpha$  (FOXA1), on Chromosome Band 14q13 is Amplified and Overexpressed in Esophageal and Lung Adenocarcinomas. *Can. Res.* 62:5273-5279, 2002.
16. Moran CJ, Arenberg DA, Huang CC, Giordano TJ, Thomas DG, **Misek DE**, Iannettoni MD, Chen G, Orringer MB, Hanash S and Beer DG. RANTES Expression Is a Predictor of Survival in Stage I Lung Adenocarcinoma. *Clin. Can. Res.* 8:3803-3812, 2002.
17. Shin BK, Wang H, Yim AM, Le Naour F, Brichory F, Jang JH, Zhao R, Puravs E, Tra J, Michael CW, **Misek DE** and Hanash SM. Global Profiling of the Cell Surface Proteome of Cancer Cells Uncovers an Abundance of Proteins with Chaperone Function. *J. Biol. Chem.*, 278:7607-7616, 2003.
18. Mo R, Chen J, Han Y, Bueno-Cannizares C, **Misek DE**, Lescure PA, Hanash S and Yung RL. T Cell Chemokine Receptor Expression in Aging. *J. Immunol.* 170:895-904, 2003.

19. Giordano TJ, Thomas DG, Kuick R, Lizyness M, **Misek DE**, Smith AL, Sanders D, Aljundi RT, Gauger PG, Thompson NW, Taylor JMG and Hanash SM. Distinct Transcriptional Profiles of Adrenocortical Tumors Uncovered by DNA Microarray Analysis. *Amer. J. Pathol.* 162:521-531, 2003.
20. Logsdon C, Simeone DM, Brinkley C, Arumugam T, Greenson JK, Giordano TJ, **Misek DE**, Kuick R and Hanash SM. Molecular Profiling of Pancreatic Adenocarcinoma and Chronic Pancreatitis Identifies Multiple Genes Differentially Regulated in Pancreatic Cancer. *Cancer Research* 63:2649-2657, 2003.
21. Chen G, Wang H, Gharib TG, Huang CC, Thomas DG, Shedden KA, Kuick R, Taylor JMG, Kardia SLR, **Misek DE**, Giordano TJ, Iannettoni MD, Orringer MB, Hanash SM and Beer DG. Overexpression of Oncoprotein 18 Correlates with Poor Differentiation in Lung Adenocarcinomas. *Mol. Cell. Prot.* 2:117-126, 2003.
22. Chen G, Gharib TG, Thomas DG, Huang CC, **Misek DE**, Kuick R, Giordano TJ, Iannettoni MD, Orringer MB, Hanash SM and Beer DG. Proteomic analysis of eIF-5A in Lung Adenocarcinomas. *Proteomics* 3:496-504, 2003.
23. Ji B, Chen XQ, **Misek DE**, Kuick R, Hanash S, Ernst S, Najarian R and Logsdon CD. Pancreatic Gene Expression during the Initiation of Acute Pancreatitis: Identification of EGR-1 as a Key Regulator. *Physiol. Genomics*, 14:59-72, 2003.
24. Schwartz DR, Wu R, Kardia SLR, Levin AM, Huang C-C, Shedden KA, Kuick R, **Misek DE**, Hanash SM, Taylor JMG, Reed H, Hendrix N, Zhai Y, Fearon ER and Cho KR. Novel Candidate Targets of  $\beta$ -Catenin/T-cell Factor Signaling Identified by Gene Expression Profiling of Ovarian Endometrioid Adenocarcinomas. *Cancer Research* 63:2913-2922, 2003.
25. Miller CT, Chen G, Gharib TG, Wang H, Thomas DG, **Misek DE**, Giordano TJ, Yee J, Orringer MB, Hanash SM and Beer DG. Increased C-CRK Proto-Oncogene Expression is Associated With an Aggressive Phenotype in Lung Adenocarcinomas. *Oncogene* 22:7950-7957, 2003.
26. Nam MJ, Madoz-Gurpide J, Wang H, Lescure P, Schmalbach CE, Zhao R, **Misek DE**, Kuick R, Brenner DE and Hanash SM. Molecular Profiling of the Immune Response in Colon Cancer Using Protein Microarrays: Occurrence of Autoantibodies to Ubiquitin C-terminal Hydrolase L3. *Proteomics*, 3:2108-2115, 2003.
27. Bouwman K, Qiu J, Zhou H, Schotanus M, Mangold LA, Vogt R, Erlandson E, Trenkle J, Partin AW, **Misek DE**, Omenn GS, Haab BB and Hanash S. Microarrays of Tumor Cell Derived Proteins Uncover a Distinct Pattern of Prostate Cancer Serum Immunoreactivity. *Proteomics*, 3:2200-2207, 2003.
28. Chen G, Gharib TG, Wang H, Huang CC, Kuick R, Thomas DG, Shedden KA, **Misek DE**, Taylor JMG, Giordano TJ, Kardia SLR, Iannettoni MD, Yee J, Hogg PJ, Orringer MB, Hanash SM and Beer DG. Protein Profiles Associated with Survival in Lung Adenocarcinoma. *Proc. Natl. Acad. Sci. USA.*, 100:13537-13542, 2003.
29. Qiu J, Madoz-Gurpide J, **Misek DE**, Kuick R, Brenner DE, Michailidis G, Haab BB, Omenn GS and Hanash, SM. Development of natural protein microarrays for diagnosing cancer based on an antibody response to tumor antigens. *J. Proteome Res.*, 3:261-267, 2004.
30. Chen G, Wang H, Miller CT, Thomas DG, Gharib TG, **Misek DE**, Giordano TJ, Orringer MB, Hanash SM and Beer DG. Reduced selenium-binding protein 1 expression is associated with poor outcome in lung adenocarcinomas. *J. Pathology* 202:321-329, 2004.
31. Hong S-H, **Misek DE**, Wang H, Puravs E, Giordano TJ, Greenson JK, Brenner DE, Simeone DM, Logsdon CD and Hanash SM. An Autoantibody-Mediated Immune Response to Calreticulin Isoforms in Pancreatic Cancer. *Cancer Research*, 64:5504-5510, 2004.
32. Wang H, Clouthier S, Galchev V, **Misek DE**, Zhao R, Tra J, Kuick R, Omenn GS, Ferrara JLM and Hanash S. Intact protein-based high-resolution three-dimensional quantitative analysis system to profile the human plasma proteome for disease-related alterations. *Mol. Cell. Prot.*, 4:618-625, 2005.
33. Gharib TG, Chen G, Huang CC, **Misek DE**, Iannettoni MD, Hanash SM, Orringer MB, Beer DG. Genomic and proteomic analyses of vascular endothelial growth factor and insulin-like growth factor-binding protein 3 in lung adenocarcinomas. *Clin Lung Cancer*. 5:307-12, 2004.
34. Binkley CE, Zhang L, Greenson JK, Giordano TJ, Kuick R, **Misek D**, Hanash S, Logsdon CD, and Simeone DM. The Molecular Basis for Pancreatic Fibrosis: Common Stromal Gene Expression in Chronic Pancreatitis and Pancreatic Adenocarcinoma. *Pancreas*, 29:254-63, 2004.
35. Li JY, Kuick R, Thompson RC, **Misek DE**, Lai YM, Liu YQ, Chai BX, Hanash SM, Gantz I. Arcuate Nucleus Transcriptome Profiling Identifies Ankyrin Repeat and suppressor of cytokine signaling Box-

- Containing Protein 4 as a gene regulated by fasting in central nervous system feeding circuits. *J. Neuroendocrinol.* 17:394-404, 2005.
36. **Misek D**, Kuick R, Wang H, Galchev V, Pisano M, Strahler J, Andrews P, Omenn G and Hanash, SM. A Wide Range of Protein Isoforms in Serum and Plasma Uncovered by Quantitative Intact Protein Analysis System (IPAS). *Proteomics*, 5:3343-3352, 2005.
  37. Shedden KA, Kshirsagar MP, Schwartz DR, Wu R, Yu H, **Misek DE**, Hanash S, Katabuchi H, Ellenson LH and Cho KR. Influence of Histological Type, Organ of Origin, and Wnt Pathway Status on Gene Expression Profile in Ovarian and Uterine Carcinomas. *Clin. Cancer Res.*, 11:2123-2131, 2005.
  38. Creighton CJ, Bromberg-White JL, **Misek DE**, Monsma DJ, Brichory F, Kuick R, Giordano TJ, Gao W, Omenn GS, Webb C, Hanash SM. Analysis of tumor-host interactions by gene expression profiling of lung adenocarcinoma xenografts identifies genes involved in tumor formation. *Mol Cancer Res.*, 3:119-129, 2005.
  39. Giordano TJ, Kuick R, Thomas DG, **Misek DE**, Vinco M, Sanders D, Zhu Z, Ciampi R, Roh M, Shedden K, Gauger P, Doherty G, Thompson NW, Hanash S, Koenig RJ and Nikiforov, YE. Molecular classification of papillary thyroid carcinoma: distinct BRAF, RAS, and RET/PTC mutation-specific gene expression profiles discovered by DNA microarray analysis. *Oncogene*, 24:6646-6656, 2005.
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  41. Rozek LS, Lipkin SM, Fearon ER, Hanash S, Giordano TJ, Greenson JK, Kuick R, **Misek DE**, Taylor JM, Douglas JA, Rennert G and Gruber SB. CDX2 polymorphisms, RNA expression, and risk of colorectal cancer. *Cancer Res.* 65:5488-92, 2005.
  42. Giordano TJ, Au AYM, Kuick R, Thomas DG, Rhodes DR, Wilhelm KG, Vinco M, **Misek DE**, Sanders D, Zhu Z, Ciampi R, Hanash S, Chinnaiyan A, Clifton-Bligh RJ, Robinson BG, Nikiforov YE and Koenig RJ. Delineation, Functional Validation, and Bioinformatic Evaluation of Gene Expression in Thyroid Follicular Carcinomas with the PAX8-PPARG Translocation. *Clin Cancer Res*, 12:1983-1993, 2006.
  43. Hong S-H, **Misek DE**, Wang H, Puravs E, Hinderer R, Giordano TJ, Greenson JK, Brenner DE, Simeone DM, Logsdon CD, Hanash SM. Identification of a Specific Vimentin Isoform That Induces an Antibody Response in Pancreatic Cancer. *Biomarker Insights*, 2:175-183, 2006.
  44. Zhao J, Chang AC, Li C, Shedden KA, Thomas DG, **Misek DE**, Giordano TJ, Beer DG and Lubman, DM. Comparative proteomic analysis of Barrett metaplasia and esophageal adenocarcinomas using 2-D liquid mass mapping. *Mol. Cell. Proteomics*, 6:987-999, 2007.
  45. Zhao J, Patwa TH, Qiu W, Shedden K, Hinderer R, **Misek DE**, Anderson MA, Simeone DM and Lubman DM. Glycoprotein microarrays with multi-lectin detection: unique lectin binding patterns as a tool for classifying normal, chronic pancreatitis and pancreatic cancer sera. *J. Proteome Research*, 6:1864-1874, 2007.
  46. Kuick R, **Misek DE**, Monsma DJ, Webb CP, Wang H, Peterson KJ, Pisano M, Omenn GS, Hanash SM. Discovery of cancer biomarkers through the use of mouse models. *Can. Lett.*, 249:40-48, 2007.
  47. Wu R, Hendrix-Lucas N, Kuick R, Zhai Y, Schwartz DR, Akyol A, Hanash S, **Misek DE**, Katabuchi H, Williams BO, Fearon ER and Cho KR. Mouse Model of Human Ovarian Endometrioid Adenocarcinoma Based on Somatic Defects in the Wnt/ $\beta$ -catenin and PI3K/Pten Signaling Pathways. *Cancer Cell*, 11:321-333, 2007.
  48. Chen J, Anderson M, **Misek DE**, Simeone DM and Lubman DM. Characterization of Apolipoprotein and Apolipoprotein Precursors in Pancreatic Cancer Serum Samples via Two-dimensional Liquid Chromatography and Mass Spectrometry. *J. Chromatography A*, 1162:117-125, 2007.
  49. Pereira-Faca SR, Kuick R, Puravs E, Zhang Q, Krasnoselsky AL, Phanstiel D, Qiu J, **Misek DE**, Hinderer R, Tammemagi M, Landi MT, Caporaso N, Pfeiffer R, Edelstein C, Goodman G, Barnett M, Thornquist M, Brenner D, Hanash SM. Identification of 14-3-3 theta as an antigen that induces a humoral response in lung cancer. *Cancer Research*, 67:12000-12006, 2007.
  50. Kim H, Wu R, Cho KR, Thomas DG, Gossner G, Liu JR, Giordano TJ, Shedden KA, **Misek DE**, Lubman DM. Comparative proteomic analysis of low stage and high stage endometrioid ovarian adenocarcinomas. *Proteomics- Clinical Applications*, 2:571-584, 2008.

51. Madoz-Gurpide J, Kuick R, Wang H, **Misek DE**, Hanash SM. Integral protein microarrays for the identification of lung cancer antigens in sera that induce a humoral response. *Mol. Cell. Prot.* 7:268-281, 2008.
52. Qiu Y, Patwa TH, Xu L, Shedden K, **Misek DE**, Tuck M, Jin G, Ruffin MT, Turgeon DK, Synal S, Bresalier R, Marcon N, Brenner DE, Lubman DM. Plasma Glycoprotein Profiling for Colorectal Cancer Biomarker Identification by Lectin Glycoarray and Lectin Blot. *J. Proteome Res.*, 7:1693-1703, 2008.
53. Shedden K, Taylor JMG, Enkemann SA, Tsao MS, Yeatman TJ, Gerald WL, Eschrich S, Jurisica I, Giordano TJ, **Misek DE**, Chang AC, Zhu CQ, Strumpf D, Hanash S, Shepherd F, Ding K, Seymour L, Naoki K, Pennell N, Weir B, Verhaak R, Ladd-Acosta C, Golub T, Gruidl M, Sharma A, Szoke J, Zakowski M, Rusch V, Kris M, Viale A, Motoi N, Travis W, Conley B, Seshan VE, Meyerson M, Kuick R, Dobbin KK, Lively T, Jacobson JW, Beer DG,. Gene Expression-Based Survival Prediction in Lung Adenocarcinoma: A Multi-Site, Blinded Validation Study. *Nature Medicine*, 14:822-827, 2008.
54. Paczesny S, Krijanovski O, Braun TM, Choi S, Clouthier SG, Kuick R, **Misek DE**, Cooke KR, Kitko CL, Weyand A, Bickley D, Jones D, Whitfield J, Levine JE, Hanash SM and Ferrara JLM. A biomarker panel of acute graft versus host disease. *Blood*, 113:273-278, 2009.
55. Dai L, Li C, Shedden KA, **Misek DE** and Lubman DM. Comparative Proteomic Study of Two Closely Related Ovarian Endometrioid Adenocarcinoma Cell Lines using cIEF Fractionation and Pathway Analysis. *Electrophoresis*, 30:1119-1131, 2009.
56. Vilar E, Mukherjee B, Kuick R, Raskin L, **Misek DE**, Taylor JMG, Giordano TJ, Hanash SM, Fearon ER, Rennert G, Gruber SB. Gene Expression Patterns in Mismatch Repair-Deficient Colorectal Cancers Highlight the Potential Therapeutic Role of Inhibitors of the PI3K-AKT-mTOR pathway. *Clin. Cancer Res.*, 15:2829-2839, 2009.
57. Wang Y, Wu R, Cho KR, Shedden KA, Lubman DM, **Misek DE**. Differential Protein Mapping of Ovarian Serous Adenocarcinomas: Identification of Potential Markers for Distinct Tumor Stage. *J. Prot. Res.*, 8:1452-1463, 2009.

### C. Research Support

#### Ongoing Research Support

1R21HL089193 Westfall (PI)	12/23/08-11/30/10	1.2 cal months
NIH	\$275,000 TDC	
Protein Expression in Failing Human Hearts	\$125,000 TDC current (12/23/08-11/30/09)	

The major goals of this project are to define altered protein expression, especially in signal transduction pathways, in failing human hearts. I provide oversight of protein separation and mass spectrometric technologies

Role: Co-Investigator.

W81XWH-09-1-0043 Misek (PI)	1/15/09-4/14/12	1.8 cal months
Department of Defense, Army	\$375,000 TDC	
Analysis of Glycan Structural Modifications to Identify Improved Biomarkers for Breast Cancer Detection	\$125,000 TDC current (1/15/09-1/14/10)	

The major goals of this project are to define altered protein glycosylation in the ductal lavage fluid of the affected breast of women with unilateral breast cancer. We will subsequently search for the proteins with altered glycan structures in plasma from women with breast cancer as compared to normal controls.

1R01CA140211-01 Misek (PI)	7/1/09-6/30/14	.57 cal months
NIH/NCI	\$1,037,500 TDC	
Distinctive Glycan Fingerprints of Pancreatic Cancer for Plasma Detection	\$207,500 TDC current (7/1/09-5/30/10)	

The major goals of this project are to identify early markers of pancreatic cancer by defining altered protein glycosylation starting directly from tissue samples from patients with pancreatic cancer, chronic pancreatitis and normal pancreata. We will identify these alterations on lectin microarrays, and the proteins by mass spectrometry. We will subsequently search for the tissue-specific proteins that were identified to possess altered glycan structures in plasma from patients with pancreatic cancer as compared to patients with chronic pancreatitis and normal controls.