

Kelli G. Kline

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Education

University of Colorado School of Medicine

Doctor of Philosophy in Pharmacology

May 2009, GPA 3.95

Thesis: Quantitative proteomic method development for the analysis of the intact human heart

University of Puget Sound

Bachelor of Science in Biochemistry

May 2005, GPA 3.89

Positions Held

University of Wisconsin-Madison, Genetics Biotechnology Center (June 2009-present)

PI: Dr. Michael Sussman

Post-doctoral Research Associate

- Utilize novel metabolic isotope labeling and mass spectrometry (MS) techniques to quantify protein and phosphorylation changes following plant pharmacological and/or environmental stimulus. Develop high-throughput MS assays for quantitation of phosphorylation stoichiometry.
- Lead proteomics research team in the development of high-throughput MS assays for the identification and validation of plasma biomarkers for colorectal cancer in collaboration with Dr. William Dove's laboratory.

University of Colorado Pharmacology Department (June 2005-May 2009)

PI: Dr. Christine C. Wu

Pre-Doctoral Fellow

- Focused on the development of targeted MS assays for the detection and quantitation of low abundance peptides in complex unfractionated human heart tissue and blood. Pioneered the analysis of mRNA, DNA, and protein from the same initial human patient biopsy sample.

Selected Honors and Achievements

UW-Madison Boyer Outstanding Post-Doctoral Award, Biochemistry Department, 2010

UW-Madison Genome Sciences Training Grant Award Funding, 2010

CU Outstanding Doctoral Dissertation of the Year, Nominee, 2009

CU Department of Pharmacology Norman Weiner Award for Research Excellence, 2008

NIH Graduate Student Research Festival Invited Presenter, 2008

CU Graduate School Hirs Research Award Recipient, 2008

CU Dept. of Pharmacology Norman Weiner Award for Academic Excellence, 2006

CU Pre-doctoral Pharmacology Training Grant Award Funding 2005-2006

UPS Canfield Summer Science Research Grant, 2004

UPS Snow Biology Scholarship Award, 2004

Collier Institute of Science and Ethics Scholarship Award, 2003

UPS R. Springer Chemistry Scholarship Award, 2003, 2004

Publications

Kline, K.G., Sussman, M.R., and Jones, A. (2010) Abscisic acid receptors. *Plant Phys.* 2010 Oct;154(2):479-82

Kline, KG, Barrett-Wilt, G.A., and Sussman, M.R. (2010) In Planta changes in protein phosphorylation induced by the plant hormone abscisic acid. *Proc. Nat. Acad. Sciences.* 2010 Sept 7; 107(36):15986-91. Epub 2010 Aug 23

Kline, KG., and Sussman, MR (2010) Protein Quantitation Using Isotope-Assisted Mass Spectrometry. *Annu Rev Biophys.* 2010 Jun 9;39:291-308

Haruta, M., Burch, HL, Nelson, RB, Barrett-Wilt, G, **Kline, KG**, Mohsin, SB, Young, JC, Otegui, MS, Sussman, MR (2010) Molecular characterization of mutant Arabidopsis plants with reduced plasma membrane proton pump activity. *J. Biol. Chem.* Jun 4;285(23):17918-29

Kline, KG, Farias, S., and Wu, CC (2010) Increased HPLC temperature improves peptide recovery and resolution using selected reaction monitoring mass spectrometry. *Anal Chem.* May 1;82(9):3435-40

Kline, KG., Finney, G., and Wu, CC (2009) Quantitative strategies to fuel the merger of discovery and hypothesis-driven shotgun proteomics. *Brief Funct Genomic Proteomic.* Mar; 8(2): 114-25

Kline, KG, Wu, CC. (2009) MudPIT Analysis: Application to Human Heart Tissue. *Methods Mol Bio*; 528: 281-93.

Kline, KG., Frewen, B., Bristow, M., MacCoss, M., Wu, CC. (2008) High Quality Catalog of Proteotypic Peptides from Human Heart. *J. Proteome Res.* Nov;7(11):5055-61

Select Presentations

Kline, KG, Barrett-Wilt, GA, and Sussman, MR. "Interview with Norman Gilliland." University of the Air. Wisconsin Public Radio, Madison WI. 11, Sept. 2010.

Kline, KG, Barrett-Wilt, GA, and Sussman, MR. (2010) Quantitative changes in the Arabidopsis phosphoproteome measured with ¹⁵N in situ labeling- *Invited oral presentation: Plant Molecular Biology Gordon Research Conference, Holderness, NH*

Kline, KG, Moore, S., and Wu, CC (2009) Quantitative assessment of enhanced recovery of hydrophobic peptides from reversed phase chromatography at elevated temperatures- *Oral Presentation: American Society for Mass Spectrometry meeting, Philadelphia, PA, 2009*

Kline, KG, and Wu, CC. (2007) Complementing Discovery-Based Proteomic Platforms with Targeted Analysis of Proteins Involved in Human Heart Failure- *Oral presentation: American Society for Mass Spectrometry meeting, Indianapolis, IN, 2007*

Curriculum Vitae

Personal Research Funding

NIAAA/NIH NRSA Pre-doctoral Fellowship (PI: K. Kline, Sponsor: C. Wu) F31 AA 17341-01.
Quantitative Proteomic Analysis of the Intact Human Heart. 2007-2009

Professional Affiliations

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| American Society of Mass Spectrometry | (2006-present) |
| <i>Ad hoc</i> reviewer for FEBS Letters | (2009-present) |
| <i>Ad hoc</i> reviewer for Journal Proteome Research | (2010-present) |