
BIOGRAPHICAL SKETCH

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NAME Weiner, I. David	POSITION TITLE Professor of Medicine and Physiology		
eRA COMMONS USER NAME Davidweiner			
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
Vanderbilt University, Nashville, TN	B.S.	1980	Mathematics, Computer Science (double major)
Vanderbilt University, Nashville, TN	M.D.	1984	Medicine
University of Texas Health Science Center at San Antonio, TX	Residency	1987	Internal Medicine
Washington University and Barnes Hospital, St. Louis, MO	Fellowship	1990	Nephrology

A. Personal Statement

I am a clinician-scientist with a long history of NIH, American Heart Association and Department of Veterans Affairs funded research. My research is directed at understanding the molecular mechanisms and the regulation of acid-base and ammonia transport. We use a variety of experimental approaches, including in vivo genetically modified animals with cell specific alteration in gene expression, immunohistochemistry, immunoblot analysis and functional analysis of protein transport mechanisms.

B. Research and/or Professional Experience

Employment

VA

1990-present, Staff Physician, NF/SGVHS, Gainesville, Fla

2004-present, Section Chief, Nephrology and Hypertension Section, NF/SGVHS, Gainesville, Fla.

University

1990-1995, Assistant Professor of Medicine, University of Florida, Gainesville, Fla.

1995-2005, Associate Professor of Medicine, University of Florida, Gainesville, Fla.

2005-present, Professor of Medicine and Physiology and Functional Genomics, University of Florida College of Medicine, Gainesville, Fla.

Honors

University of Florida Research Foundation Professor, 2007-2010, 2012-2015.

C. Craig and Audrae Chair in Nephrology, University of Florida College of Medicine, Gainesville, FL, awarded 2009.

Master Clinician Program, University of Florida College of Medicine, 2006.

Exemplary Teacher Award, University of Florida College of Medicine, 2003.

Professional Societies and Public Advisory Committees

VA

VA Research Career Scientist Review Panel, 2012.

VA Career Development Study Section, Member 2009 – 2011.

VA Merit Review (Nephrology) Study Section, Member, 2001-2005; Chairperson, 2003 – 2005.

NIH

NIH Kidney Molecular Biology and Genitourinary Development Study Section, Permanent member, October 2010 – 2014.

NICHD (National Institute of Child Health and Human Development) Special Emphasis Panel, October 2012.

NIH CMBK Study Section, Ad hoc, 2008

NIH KUGD Study Section, 2007

NIH GMB Special Study Section, 2003

NIH GMB Study Section, June 2001

Federal

Environmental Protection Agency, Science Advisory Board, Ammonia Chemical Assessment Advisory Committee, 2014.

C. Selected peer-reviewed publications. (Selected from 74 peer-reviewed publications, 27 chapters and 1 text book)

1. **Weiner ID**, WE Mitch, and JM Sands. Urea and ammonia metabolism and the control of renal nitrogen excretion. *CJASN* doi: CJN.10311013, 2014.
2. Lee HW, JW Verlander, ME Handlogten, K-H Han and **ID Weiner**. Effect of collecting duct-specific deletion of both Rh B Glycoprotein (Rhbg) and Rh C Glycoprotein (Rhcg) on renal response to metabolic acidosis. *Am J Physiol Renal Physiol* 306: F389-F400, 2014. PMC3920025
3. **Weiner ID** and JW Verlander. Ammonia transport in the kidney by Rhesus glycoproteins. *Am J Physiol Renal Physiol* 306: F1107-F1120, 2014. PMC4024734.
4. Bishop JM, HW Lee, ME Handlogten, KH Han, JW Verlander and **ID Weiner**. Intercalated Cell-Specific Rh B Glycoprotein Deletion Diminishes Renal Ammonia Excretion Response to Hypokalemia. *Am J Physiol Renal Physiol* 304: F422-F431, 2013. PMC3566498.
5. Han K-H, HW Lee, ME Handlogten, FM Whitehill, BP Croker, W Clapp, JW Verlander and **ID Weiner**. Expression of the ammonia transporter family member, Rh B Glycoprotein, in the human kidney. *Am J Physiol Renal Physiol* 304: F972-F981, 2013. PMC3625849.
6. Lee HW, JW Verlander, ME Handlogten, KH Han, PS Cooke and **ID Weiner**. Expression of the Rhesus Glycoprotein, Ammonia Transporter Family Members, Rhcg and Rhbg, in Male Reproductive Organs. *J Reprod Fertil* 146: 283-96, 2013.
7. Lee HW, JW Verlander, JM Bishop, ME Handlogten, KH Han and **ID Weiner**. Renal ammonia excretion in response to hypokalemia: effects of collecting duct-specific Rh C Glycoprotein deletion. *Am J Physiol Renal Physiol* 304: F410-F421, 2013. PMC3566493.
8. Verlander JW, D Chu, HW Lee, ME Handlogten and **ID Weiner**. Expression of glutamine synthetase in the mouse kidney: localization in multiple epithelial cell types and differential regulation by hypokalemia. *Am J Physiol Renal Physiol* 305: F701-F713, 2013. PMC3761201.
9. **Weiner ID** and JW Verlander. Renal Ammonia Metabolism and Transport. *Comprehensive Physiology* 3: 201-20, 2013.
10. Lapsia VH and **ID Weiner**. Acid-base disorders. In: McKean, S. C., J. J. Ross, D. D. Dressler, D. J. Brotman, and J. S. Ginsberg, eds., Principles and Practices of Hospital Medicine. New York, McGraw Hill Medical. 2012, pp. 2051-7.
11. **Weiner ID** and JW Verlander. Renal acidification mechanisms. In: Taal, M., G. M. Chertow, P. A. Marsden, K. Skorecki, A. S. Yu, and B. M. Brenner, eds., Brenner and Rector's The Kidney. Philadelphia, PA, Elsevier Saunders. 2012, pp. 293-325.
12. Han KH, HW Lee, ME Handlogten, JM Bishop, M Levi, J Kim, JW Verlander and **ID Weiner**. Effect of Hypokalemia on Renal Expression of the Ammonia Transporter Family Members, Rh B Glycoprotein and Rh C Glycoprotein, in the Rat Kidney. *Am J Physiol Renal Physiol* 301: F823-F832, 2011. PMC3191799.
13. **Weiner ID** and JW Verlander. Role of NH₃ and NH₄⁺ transporters in renal acid-base transport. *Am J Physiol Renal Physiol* 300: F11-F23, 2011. PMC3023229.
14. Bishop JM, JW Verlander, HW Lee, RD Nelson, AJ Weiner, ME Handlogten and **ID Weiner**. Role of the Rhesus glycoprotein, Rh B Glycoprotein, in renal ammonia excretion. *Am J Physiol Renal Physiol* 299: F1065-F1077, 2010. PMC2980396.
15. Han KH, SY Lee, WY Kim, J-A Shin, J Kim and **ID Weiner**. Expression of the ammonia transporter family members, Rh B Glycoprotein and Rh C Glycoprotein, in the developing rat kidney. *Am J Physiol Renal Physiol* 299: F187-F198, 2010. PMC2904167.
16. Lee HW, JW Verlander, JM Bishop, RD Nelson, ME Handlogten and **ID Weiner**. Effect of intercalated cell-specific Rh C Glycoprotein deletion on basal and metabolic acidosis-stimulated renal ammonia excretion. *Am J Physiol Renal Physiol* 299: F369-F379, 2010. PMC2928528.
17. **Weiner ID**. Renal acid-base regulation via ammonia transport in mammals. In: Gerencser, G. A., ed., Epithelial Transport Physiology. New York, NY, Humana Press. 2010, pp. 299-322.
18. **Weiner ID** and JW Verlander. Molecular physiology of the Rh ammonia transport proteins. *Curr Opin Nephrol Hypertens* 19: 471-7, 2010. PMC3662795.

19. Han KH, K Mekala, V Babida, HY Kim, ME Handlogten, JW Verlander and **ID Weiner**. Expression of the gas transporting proteins, Rh B Glycoprotein and Rh C Glycoprotein, in the murine lung. *Am J Physiol Lung Cell Mol Physiol* 297: L153-L163, 2009. PMC2711812.
20. Kim HY, JW Verlander, JM Bishop, BD Cain, KH Han, P Igarashi, HW Lee, ME Handlogten and **ID Weiner**. Basolateral expression of the ammonia transporter family member, Rh C Glycoprotein, in the mouse kidney. *Am J Physiol Renal Physiol* 296: F545-F555, 2009. PMC2660195.
21. Lee HW, JW Verlander, JM Bishop, P Igarashi, ME Handlogten and **ID Weiner**. Collecting duct-specific Rh C Glycoprotein deletion alters basal and acidosis-stimulated renal ammonia excretion. *Am J Physiol Renal Physiol* 296: F1364-F1375, 2009. PMC2692449.
22. Lim SW, KO Ahn, WY Kim, DH Han, C Li, JY Ghee, KH Han, HY Kim, ME Handlogten, J Kim, CW Yang and **ID Weiner**. Expression of ammonia transporters, Rhbg and Rhcg, in chronic cyclosporine nephropathy in rats. *Nephron Experimental Nephrology* 110: e49-e58, 2008.
23. Han KH, HY Kim, BP Croker, S Reungjui, SY Lee, J Kim, ME Handlogten, CA Adin and **ID Weiner**. Effects of ischemia-reperfusion injury on renal ammonia metabolism and the collecting duct. *Am J Physiol Renal Physiol* 293: F1342-F1354, 2007.
24. Kim HY, C Baylis, JW Verlander, KH Han, S Reungjui, ME Handlogten and **ID Weiner**. Effect of reduced renal mass on renal ammonia transporter family, Rh C glycoprotein and Rh B glycoprotein, expression. *Am J Physiol Renal Physiol* 293: F1238-F1247, 2007.
25. **Weiner ID** and LL Hamm. Molecular mechanisms of renal ammonia transport. *Annu Rev Physiol* 69: 317-40, 2007.
26. Han KH, BP Croker, WL Clapp, D Werner, M Sahni, J Kim, HY Kim, ME Handlogten and **ID Weiner**. Expression of the ammonia transporter, Rh C Glycoprotein, in normal and neoplastic human kidney. *J Am Soc Nephrol* 17: 2670-9, 2006.
27. Mak DO, B Dang, **ID Weiner**, JK Foskett and CM Westhoff. Characterization of transport by the kidney Rh glycoproteins, RhBG and RhCG. *Am J Physiol Renal Physiol* 290: F297-F305, 2006.
28. Seshadri RM, JD Klein, S Kozlowski, JM Sands, YH Kim, ME Handlogten, JW Verlander and **ID Weiner**. Renal expression of the ammonia transporters, Rhbg and Rhcg, in response to chronic metabolic acidosis. *Am J Physiol Renal Physiol* 290: F397-F408, 2006.
29. Seshadri RM, JD Klein, T Smith, JM Sands, ME Handlogten, JW Verlander and **ID Weiner**. Changes in the subcellular distribution of the ammonia transporter Rhcg, in response to chronic metabolic acidosis. *Am J Physiol Renal Physiol* 290: F1443-F1452, 2006.
30. Han KH, WY Kim, JW Verlander, **ID Weiner** and J Kim. Ultrastructural Localization of the Ammonium Transporter Protein, RhBG, in the Intercalated Cell of Rat Kidney Collecting Duct. *Korean J Anat* 38: 167-72, 2005.
31. Handlogten ME, SP Hong, L Zhang, AW Vander, ML Steinbaum, M Campbell-Thompson and **ID Weiner**. Expression of the ammonia transporter proteins, Rh B Glycoprotein and Rh C Glycoprotein, in the intestinal tract. *Am J Physiol Gastrointest* 288: G1036-G1047, 2005.
32. Handlogten ME, SP Hong, CM Westhoff and **ID Weiner**. Apical ammonia transport by the mouse inner medullary collecting duct cell (mIMCD-3). *Am J Physiol Renal Physiol* 289: F347-F358, 2005.
33. Kim YH, JW Verlander, SW Matthews, I Kurtz, WK Shin, **ID Weiner**, LA Everett, ED Green, S Nielsen and SM Wall. Intercalated cell H⁺/OH⁻ transporter expression is reduced in *Slc26a4* null mice. *Am J Physiol Renal Physiol* 289: F1262-F1272, 2005.
34. Handlogten ME, SP Hong, CM Westhoff and **ID Weiner**. Basolateral ammonium transport by the mouse inner medullary collecting duct cell (mIMCD-3). *Am J Physiol Renal Physiol* 287: F628-F638, 2004.
35. **Weiner ID**. The Rh gene family and renal ammonium transport. *Curr Opin Nephrol Hyper* 13: 533-40, 2004.
36. Verlander JW, RT Miller, AE Frank, IE Royaux, YH Kim and **ID Weiner**. Localization of the ammonium transporter proteins, Rh B Glycoprotein and Rh C Glycoprotein, in the mouse kidney. *Am J Physiol Renal Physiol* 284: F323-F337, 2003.
37. **Weiner ID**, RT Miller and JW Verlander. Localization of the ammonium transporters, Rh B Glycoprotein and Rh C Glycoprotein in the mouse liver. *Gastroenterology* 124: 1432-40, 2003.
38. **Weiner ID**. Foreword. *Acta Physiologica Scandinavica* 179: 323, 2003.

Research Support

Ongoing

Grant: H/HCO₃ transport by the collecting duct, NIH R01 DK045788-19 (6/19/2014 – 4/30/2018), 30% time commitment

PI: I. David Weiner, M.D.

The purpose on this project is to define the role of glutamine synthetase in the renal response to metabolic acidosis, hypokalemia and dietary protein restriction.

Grant: Molecular mechanisms of renal ammonia metabolism, Department of Veterans Affairs Merit Review Program, 1I01BX000818, 7/1/2011- 6/30/2015, 25% time commitment

PI: I. David Weiner, M.D.

The purpose of this project is to define the role of Rhbg in renal ammonia metabolism using cell-specific gene deletion models and examining basal metabolism, and metabolism in response to metabolic acidosis and hypokalemia. The current application is the competitive renewal of this project.

Completed within the past three years

Grant: H/HCO₃ transport in the collecting duct. NIH R01-DK45788. Dates: 6/1/2009 – 5/30/2014.

PI: I. David Weiner, M.D.

The purpose of this project was to define the regulation of expression of the ammonia transporter family member, Rhcg, in the kidney in response to metabolic acidosis and hypokalemia through the study of mice with renal epithelial cell-specific Rhcg deletion.