ZHU, QUANSHENG PH.D.

Curriculum Vitae

PERSONAL HISTORY:

Business Address	Department of Medicine
	David Geffen School of Medicine
	University of California, Los Angeles
	7-155 Factor Building
	10833 Le Conte Avenue
	Los Angeles, CA 90095
	Tel: 310-206-6741
	Email: quzhu@mednet.ucla.edu
Immigration Status	US permanent resident

EDUCATION:

2004	*Ph.D.* (Physiology)	University of Alberta
		Edmonton, Canada
1999	*M. Sc.* (Physiology)	University of Manitoba
		Winnipeg, Canada
1996	*M. Sc.* (Biochemistry)	Shanghai Medical University
		Shanghai, China
1989	*M.D.*	Yangzhou Medical University
		Yangzhou, China

RESEARCH AND PROFESSIONAL EXPERIENCES:

2010-present	Adjunct Assistant Professor, Dept. of Medicine, UCLA
2007-2010	Assistant Researcher, Dept. of Medicine, UCLA
2005-2007	Research Associate, Salk Institute for Biological Studies, San Diego
2004-2005	Postdoctoral Fellow, University of California, San Diego
1999-2004	Ph.D. Student, Dept. of Physiology, University of Alberta, Edmonton, Canada
1997-1999	Master Student, Dept. of Physiology, University of Manitoba, Canada
1996-1997	Research Associate, Dept. of Biochemistry, Shanghai Medical University, China
1993-1996	Master Student, Dept. of Biochemistry, Shanghai Medical University, China
1989-1993	Staff Clinician, Division of Dermatology, Jiangsu Hospital, China

PROFESSIONAL MEMBERSHIPS:

2000 – pres Member, Biophysical Society

2000 – pres Regular member, American Society for Biochemistry and Molecular Biology

2005 – pres Member, American Association for the Advancement of Science

2009 – pres Active member, American Society of Nephrology

2009 – pres Member, American Society of Hematology

HONORS AND AWARDS:

1995 Chinese National Academy Award

1999-2001 University of Alberta Ph.D. Scholarship

2001 Mary Louise Imrie Graduate Student Award

2002-2003 Canadian Blood Services Student Fellowship

2002 First Place, 10th Physiology Student Research Day Presentation Award (U of Alberta)

2002 Roche Graduate Poster Award (45th Annual Meeting of CSBMCB, Canada)

2003 Canadian Institutes of Health Research Student Research Day Award

2004-2005 Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellowship

2005-2007 Canadian Institutes of Health Research Postdoctoral Fellowship

2007 Fred Frank Endowment Postdoctoral Award, Salk Institute for Biological Studies

2012 Second Place, UCLA Dept. of Med. Research Day Poster Competition (Junior Faculty)

RESEARCH GRANTS:

Active:

NIH/NIDDK 2R01 DK077162-06A1 Kurtz (PI) 12/20/12-11/30/16

The biology of NBCe1 in health and disease

The goal of this study is to determine the structural and functional properties of NBCe1-A in proximal renal tubular acidosis

Role: co-Investigator

Completed:

1. NIH/NIDDK R01 DK077162 Kurtz (PI) 7/1/2007- 4/30/2012

NBC1 and proximal RTA: pathogenesis and treatment

The goal of this project was to characterize NBC1 structure and function and to determine the role of NBC1 missense mutations in causing proximal tubular acidosis.

Role: co-Investigator

2. Coplon Grant (Satellite Healthcare) Zhu (PI) 8/1/2012 – 7/30/2014

The physiological and pathogenic role of PLA_2R in mediating idiopathic membranous nephropathy

The goal of this project is to determine the molecular mechanism of PLA_2R/integrin $\alpha_3\beta_1$ interaction in mediating idiopathic membranous nephropathy

Role: PI

Pending:

NIH/NIDDK Zhu (PI)

The biological function of PLA_2R and its pathogenic role in mediating idiopathic membranous nephropathy

The goal of this project is to investigate the molecular mechanism of PLA_2R in signal transduction and the biological responses elicited by autoimmune antibody-PLA_2R interaction in human podocytes.

Role: PI

PATENTS PENDING:

Laboratory test for patients with idiopathic membranous nephropathy (UC case 2013-508)

A new treatment for idiopathic membranous nephropathy (UC case 2014-437)

Specific treatment for idiopathic membranous nephropathy (UC case 2015-123)

TEACHING:

UCLA renal basic science research series

Co-director for UCLA renal fellow journal club

Mentor for UCLA undergraduate student research program, SRP99 and SRP199, 2012-present

N231-Advanced pathophysiology course for nursing students, 2013-present

COMMITTEE SERVICE:

2009 Peer Reviewer, American Heart Association Western States Affiliate

2010 Abstract Reviewer, American Society of Nephrology Kidney Week 2010

2012 UCLA Renal Fellowship Candidate Selection Committee

2012 Abstract Reviewer, American Society of Nephrology Kidney Week 2012

JOURNAL REVIEWS:

Journal of Theoretical Biology

Journal of Applied Physiology

Physiological Research

PLOS ONE

POSTER PRESENTATIONS:

1. **Zhu, Q.**, Kroeger, E.A., McMaster, J., Mymin, D., Dembinski, T., Hatch, G.M. and Choy, P.C. (1999) Effects of atorvastatin treatment on the oxidatively modified low density lipoprotein in hyperlipidemic patients. *National Student Research day, Winnipeg, Mar. 1999.*
2. **Zhu, Q.** and Casey, J.R. (2001) Topology of the C-terminal region of the human plasma membrane anion exchanger. *Experimental Biology Meeting, Orlando, Mar. 31-Apr. 4, 2001.*
3. **Zhu, Q.** and Casey, J.R. (2002) Topology of the C-terminal region of the human plasma membrane Cl^-/HCO_3^- anion exchanger, AE1. *46th Biophysical Society Annual Meeting, San Francisco, Feb. 23-27, 2002.*
4. **Zhu, Q.** and Casey, J.R. (2002) Topology of the C-terminal region of human anion exchanger, AE1. *45th Canadian Society for Biochemistry, Molecular and Cell Biology Meeting, Banff, Mar. 21-24, 2002.*
5. **Zhu, Q.** and Casey, J.R. (2002) Topology of the C-terminal region of human plasma anion exchanger, AE1. *Student Research Day, Dept. of Physiology, University of Alberta, Apr. 4, 2002.*
6. **Zhu, Q.** and Casey, J.R. (2003) Structural and functional study on the C-terminal region of human plasma anion exchanger, AE1. *Dept. of Physiology, University of Alberta, Jan. 24, 2003.*
7. **Zhu, Q.** and Casey, J.R. (2003) Identification of pore-lining residues in the membrane domain of human anion exchanger, AE 1. *Experimental Biology Meeting 2003, San Diego, Apr. 11-15, 2003.*
8. **Zhu, Q.** and Panda, S. (2007) Determination of phosphorylation sites in the C-terminal region of mouse melanopsin upon light stimulation. *VII European Symposium of the Protein Society, Stockholm, Sweden , May 12-16, 2007.*
9. **Zhu, Q.**, Kao, L., Liu, W., Newman, D., Abuladze, N., Kurtz, I. (2008) Topology of the C-terminal transmembrane domain of NBCe1-A differs significantly from AE1. *American Society of Nephrology 2008 Kidney Week, Philadelphia, Nov. 4-9, 2008.*
10. **Zhu, Q.**, Rustam, A., Abuladze, N., Liu, W., Kao, L., Pushkin, A., Kurtz, I. (2008) Insight into the structural difference in the TM1 region between human NBCe1-A and AE1. *American Society of Nephrology 2008 Kidney Week, Philadelphia, Nov. 4-9, 2008.*
11. **Zhu, Q.**, Newman, D., Liu, W., Pushkin, A., Kurtz, I. (2008) Characterization of disulfide bond formation in extracellular loop 3 of NBCe1-A. *American Society of Nephrology 2008. Kidney Week, Philadelphia, Nov. 4-9, 2008.*
12. **Zhu, Q.**, Newman, D., Liu, W., Abuladze, N., Kurtz, I. (2009) Cysteines in extracellular loop 3

of NBCe1-A form intra- and inter-molecular disulfide bonds. *Experimental Biology Meeting, New Orleans, Apr. 18-22, 2009.*

13. **Zhu, Q.**, Liu, W., Newman, D., Pushkin, A., Kurtz, I. (2009) Topology determination of the transmembrane domain of the electrogenic sodium bicarbonate cotransporter NBCe1-A. *Experimental Biology Meeting, New Orleans, Apr. 18-22, 2009.*
14. **Zhu, Q.**, Kao, L., Liu, W., Abuladze, N., Kurtz, I. (2009) Topology of the C-terminal transmembrane region of NBCe1-A differs from AE1. *Experimental Biology Meeting, New Orleans, Apr. 18-22, 2009.*
15. **Zhu, Q.**, Kao, L., Newman, D., Azimov, R., Liu, W., Abuladze, N., Pushkin, A. and Kurtz, I. (2009) Topological localization of NBCe1-A residues mutated in patients with pRTA. *UCLA DOM Research Day, Oct. 3, 2009.*
16. **Zhu, Q.**, Newman, D., Liu, W., Pushkin, A., Kurtz, I. (2009) C-terminal membrane topology of NBCe1-A differs from AE1. *American Society of Nephrology 2009 Kidney Week, San Diego, Oct. 27-Nov. 1, 2009.*
17. **Zhu, Q.**, Rustam, A., Abuladze, N., Liu, W., Kao, L., Pushkin, A., Kurtz, I. (2009) Topological localization of NBCe1-A residues mutated in patients with pRTA. *American Society of Nephrology 2009 Kidney Week, San Diego, Oct. 27-Nov. 1, 2009.*
18. **Zhu, Q.**, Kao, L., Azimov, R., Newman, D., Liu, W., Abuladze, N., Pushkin, A. and Kurtz, I. (2010) NBCe1-A residues mutated in patients with pRTA: A Topological Analysis. *Experimental Biology Meeting, Anaheim, Apr. 24-28, 2010.*
19. **Zhu, Q.**, Kao, L., Liu, W., Newman, D. and Kurtz, I. (2010) Determination of the intracellular lipid/aqueous interface of integrin alpha 2b *in vivo*. *Experimental Biology Meeting, Anaheim, Apr. 24-28, 2010.*
20. **Zhu, Q.**, Azimov, R., Kao, L., Newman, D., Kurtz, I. (2010) The C-terminal transmembrane region of NBCe1-A: structural properties and functional role. *American Society of Nephrology 2010 Kidney Week, Denver, Nov. 16-21, 2010.*
21. **Zhu, Q.**, Kao, L., Newman, D., Kurtz, I. (2010) The C-terminal tail of the NBCe1-A dimer is structured: relevance to CAII binding. *American Society of Nephrology 2010 Kidney Week, Denver, Nov. 16-21, 2010.*
22. **Zhu, Q.**, Kao, L., Newman, D., Liu, W., Azimov, R., Abuladze, N. and Kurtz, I. (2011) Extracellular loop 3 of NBCe1-A are closely associated at the dimer interface. *Experimental Biology Meeting, Washington, Apr. 9-13, 2011.*
23. **Zhu, Q.**, Shao, X., Andre, M., Azimov, R., Liu, W., Kao, L., Newman, D. and Kurtz, I. (2011) Unraveling the pathogenic mechanism of T485S mutation in NBCe1-A mediated proximal renal

tubular acidosis. *UCLA DOM Research Day, Sep. 24, 2011.*

24. **Zhu, Q.**, Azimov, R., Kao, L., Newman, D., Liu, W., and Kurtz, I. (2011) The N-terminal of NBCe1-A-TM1 tightly interacts with the cytoplasmic domain. *American Society of Nephrology 2011 Kidney Week, Philadelphia, Nov. 8-13, 2011.*
25. **Zhu, Q.**, Kao, L., Newman, D., Liu, W. and Kurtz, I. (2011) TM 5 and 6 play an essential role in forming the NBCe1-A dimer interface. *American Society of Nephrology 2011 Kidney Week, Philadelphia, Nov. 8-13, 2011.*
26. **Zhu, Q.**, Kao, L., Azimov, R., Newman, D., Liu, W. and Kurtz, I. (2011) Interplay between glycosylation and disulfide bonding defines NBCe1-A extracellular topography. *American Society of Nephrology 2011 Kidney Week, Philadelphia, Nov. 8-13, 2011.*
27. **Zhu, Q.**, Newman, D., Kao, L., Liu, W., Azimov, R. and Kurtz, I. (2012) Insight into the structural differences in transmembrane segment 1 between NBCe1-A and AE1. *Experimental Biology 2012 Meeting, San Diego, Apr. 21-25, 2012.*
28. **Zhu, Q.**, Kao, L., Azimov, R., Liu, W., Newman, D. and Kurtz, I. (2012) The cysteines in NBCe1-A extracellular loop 3 form intramolecular disulfide bonds that determines the transporter surface topography. *Experimental Biology 2012 Meeting, San Diego, Apr. 21-25, 2012.*
29. **Zhu, Q.**, Kurtz, L., Kao, L. and Newman, D. (2012) Integrin $\alpha_{IIb}\beta_3$ inside-out activation: an *in situ* conformational analysis reveals a new mechanism. *UCLA DOM Research Day, Oct. 6, 2012.*
30. **Zhu, Q.**, Azimov, R., Kao, L., Liu, W. Newman, D., Abuladze, N. and Kurtz, I. (2012) Missense mutation S427L alters the orientation of NBCe1-A-TM1 causing proximal renal tubular acidosis. *UCLA DOM Research Day, Oct. 6, 2012.*
31. **Zhu, Q.** and Kao, L. (2013) A new pathogenic mechanism of autoimmune antibody induced idiopathic membranous nephropathy. *UCLA DOM Research Day, Oct. 5, 2013.*
32. **Zhu, Q.,** Shao. X., Kao, L., Newman, D., Weinstein, A., Liu, W. and Kurtz, I. (2013) Missense mutation T485S alters NBCe1-A electrogenicity causing proximal renal tubular acidosis. *UCLA DOM Research Day, Oct. 5, 2013.*
33. **Zhu, Q.** and Kao, L. (2013) PLA_2R tightly associates with integrin $\alpha_3\beta_1$ in the podocyte membrane: A new insight into IMN pathogenesis. *American Society of Nephrology 2013 Kidney Week, Atlanta, Nov. 5-10, 2013*
34. **Zhu, Q.**, Kao, L., Azimov, R., Newman, D., Abuladze, N. and Kurtz, I. (2014) Interplay between disulfide bonding and N-glycosylation defines SLC4 Na^+-coupled transporter extracellular topography. *American Society of Nephrology 2014 Kidney Week, Philadelphia, Nov. 11-16, 2014*

INVITED TALKS:

1. **Zhu, Q.** and Casey, J.R. Structural and functional analysis of human plasma anion exchanger, AE1. *Dept. of Cell Biology, The Scripps Research Institute, San Diego, Sep. 29, 2003.*
2. **Zhu, Q.** and Casey, J.R. Structural and functional analysis of human plasma anion exchanger, AE1. *Dept. of Pathology, Harvard Medical School, Harvard, Boston, Oct. 13, 2003*
3. **Zhu, Q.** and Casey, J.R. Structural and functional analysis of human plasma anion exchanger, AE1. *Dana Farber Cancer Institute, Harvard Medical School, Harvard, Boston, Oct. 14, 2003*
4. **Zhu, Q.**, and Casey J.R. Structural and functional characterization of human anion exchanger 1. *UCLA Renal Research Meeting, Jul. 20, 2007*
5. **Zhu, Q.**, Kao, L., Liu, W., Abuladze, N., Kurtz, I. Topology of the C-terminal transmembrane region of NBCe1-A differs from AE1. *Experimental Biology Meeting, New Orleans, Apr. 20, 2009*
6. **Zhu, Q.,** Liu, W., Kao, L., Newman, D., Kurtz, I. C-terminal membrane topology of NBCe1-A differs from AE1. *American Society of Nephrology 2009 Kidney Week, San Diego, Oct. 29, 2009*
7. **Zhu, Q.,** Liu, W., Kao, L., Rustam, A., Newman, D., Kurtz, I. Structural and functional characterization of NBCe1-A. *53rd Annual Meeting of the Canadian Society of Biochemistry, Molecular and Cellular Biology, Banff, Canada, Apr. 15-18, 2010*
8. **Zhu, Q.** Proximal Renal Tubular Acidosis: Molecular Mechanisms. *UCLA DOM Research Day, Oct. 2, 2010*
9. **Zhu, Q.** Unraveling a new transport mechanism of SLC4A4 guided by a novel bioinformatics analysis. *UCLA DOM Research Day, Oct.6, 2012*
10. **Zhu, Q.**, Kao, L., Liu, W., Newman, D., Azimov, R. and Kurtz, I. Extracellular Loop 3 forms a domain-like structure on the surface of NBCe1-A. *American Society of Nephrology 2012 Kidney Week, San Diego, Nov. 2, 2012*
11. **Zhu, Q.**, Azimov, R., Kao, L., Liu, W. Newman, D., Abuladze, N. and Kurtz, I. Missense mutation S427L impairs NBCe1-A transport function by altering the orientation of transmembrane segment 1. *American Society of Nephrology 2012 Kidney Week, San Diego, Nov. 2, 2012.*
12. **Zhu, Q.** Molecular mechanism of phospholipase A_2 receptor in mediating idiopathic membranous nephropathy. *12th Norman S. Coplon Extramural Grant Program Annual Symposium, San Francisco, May 4, 2013*
13. **Zhu, Q.,** Shao. X., Kao, L., Newman, D., Weinstein, A., Liu, W. and Kurtz, I. Missense mutation T485S alters NBCe1-A electrogenicity causing proximal renal tubular acidosis. *American Society of Nephrology 2013 Kidney Week, Atlanta, Nov. 9, 2013*
14. **Zhu, Q.** Molecular mechanism of phospholipase A_2 receptor mediated idiopathic membranous

nephropathy. *13th Norman S. Coplon Extramural Grant Program Annual Symposium, San Francisco, April 12, 2014*

15. **Zhu Q.** The pathogenic mechanism of PLA_2R in mediating idiopathic membranous nephropathy. *UCLA Division of Pediatric Nephrology, Sept. 12, 2014.*
16. **Zhu Q.** The molecular pathogenic mechanism of primary membranous nephropathy. *Renal Ground at Harbor Hospital, Torrance, California, Sept. 29, 2014.*
17. **Zhu Q.**, Kao, L., Lam, V., Waldman, M. and Glassock. R.J. The immunodominant epitope in PLA_2R mediating idiopathic membranous nephropathy is located in the CysR-FnII-CTLD1 region. *American Society of Nephrology 2014 Kidney Week, Philadelphia, Nov. 14, 2014.*

BIBLIOGRAPHY:

RESEARCH PAPERS

A. RESEARCH PAPERS - PEER REVIEWED

1. **Zhu, Q.** and Zha, XL. (1996) Structure and biological significance of phospholipid transfer proteins. *Chemistry of Life*, 16 (2): 19-21
2. Yuan, ST., Hu, XQ., **Zhu, Q.**, Lu, JP., Lin, ZH. and Zha, XL. (1996) Preliminary studies of the possible mechanisms of the low choline diet on experimental hepatocarcinogenesis. *J Clin. Exp. Pathol.*, 12 (1): 57-60
3. **Zhu, Q.**, Yuan, ST., Hu, XQ. and Zha, XL. (1997) Effects of 3'-Me-DAB on the metabolism of phospholipids in rat liver. *Acta Academiae Medicinae Shanghai*, 24 (6): 409-412
4. **Zhu, Q.** and Zha, XL. (1997) PMA stimulated hydrolysis of phosphatidylcholine in CRBH7919 cell and its enzymatic basis. *Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao (Shanghai),* 29 (6): 553-559
5. Choy, P.C., Mymin, D., **Zhu, Q.**, Dakshinamurti, K. and O. K. (2000) Atherosclerosis risk factors: The possible role of homocysteine. *Mol. Cell. Biochem.*, 207 (1-2): 143-1485
6. **Zhu, Q.**, McMaster, J., Mymin, D., Dembinski, T., Hatch, G.M., Choy, P.C. and Kroeger, E.A. (2000) Effects of atorvastatin treatment on the oxidatively modified low-density lipoprotein in hyperlipidemic patients. *Mol. Cell. Biochem.*, 207 (1-2): 9-17
7. Lee, D.P., Deonarine, A.S., Kienetz, M., **Zhu, Q.**, Skrzypczak, M., Chan, M. and Choy, P.C. (2001) A novel pathway for lipid biosynthesis: the direct acylation of glycerol. *J. Lipid Res.*, 42 (12): 1979-1986
8. Taylor, A.M., **Zhu, Q.** and Casey, J.R. (2001) Cysteine-directed cross-linking localizes regions of the human erythrocyte anion exchange protein (AE1) relative to the dimeric interface. *Biochem. J.*, 359: 661-668

9. **Zhu, Q.**, Lee, D.W.K and Casey, J.R. (2003) Novel topology in C-terminal region of the human plasma membrane anion exchanger, AE1. *J. Biol. Chem.*, 278 (5): 3112-20
10. **Zhu, Q.** and Casey, J.R. (2004) The substrate anion selectivity filter in the human erythrocyte Cl^- /HCO_3^- exchange protein, AE1. *J. Biol. Chem.*, 279 (22): 23565-73
11. **Zhu, Q.** and Casey, J.R. (2007) Topology of transmembrane proteins by scanning cysteine accessibility mutagenesis methodology. *Methods,* 41 (4): 439-450.
12. **Zhu, Q.**, Azimov, R., Kao, L., Newman, D., Liu, W., Abuladze, N., Pushkin, A. and Kurtz, I. (2009) NBCe1-A transmembrane segment 1 lines the ion translocation pathway. *J. Biol. Chem.*, 284 (13): 8918-29
13. Tsirulnikov K, Abuladze N, Koag MC, Newman D, Scholz K, Bondar G, **Zhu Q**, Avliyakulov NK, Dekant W, Faull K, Kurtz I, Pushkin A. (2010) Transport of N-acetyl-S-(1,2-dichlorovinyl)-l-cysteine, a metabolite of trichloroethylene, by mouse multidrug resistance associated protein 2 (Mrp2). *Toxicol. Appl. Pharmacol.*, 244 (2): 218-25
14. **Zhu, Q.**, Kao, L., Newman, D., Azimov, R., Liu, W., Abuladze, N., Pushkin, A. and Kurtz, I. (2010) Topological localization and structural importance of the NBCe1-A residues mutated in pRTA. *J. Biol. Chem.*, 285 (18): 13416-26
15. **Zhu, Q.**, Azimov, R., Kao, L., Newman, D., Liu, W., Abuladze, N., Pushkin, A., Zhang, C. and Kurtz, I. (2010) Structural and functional characterization of the C-terminal transmembrane region of NBCe1-A. *J. Biol. Chem.*, 285 (48): 37178-87
16. Kurtz, L., Kao, L., Newman, D., Kurtz, I. and **Zhu, Q.*** (2012) Integrin $\alpha_{IIb}\beta_3$ inside-out activation: an *in situ* conformational analysis reveals a new mechanism. *J. Biol. Chem.,* 287 (27): 23255-65. *Corresponding author
17. **Zhu, Q.***, Liu, W., Kao, L., Azimov, R., Newman, D., Abuladze, N. and Kurtz, I. (2013) Topology of NBCe1 protein transmembrane segment 1 and structural effect of proximal renal tubular acidosis (pRTA) S427L mutation. *J. Biol. Chem.*, 288 (11): 7894-906. *Corresponding author
18. **Zhu, Q.*,** Shao. X., Kao, L., Newman, D., Weinstein, A., Liu, W. and Kurtz, I. (2013) Missense mutation T485S alters NBCe1-A electrogenicity causing proximal renal tubular acidosis**.** *American Journal of Physiology,* 305 (4): C392-405 (with Editorial Commentary). *Corresponding author
19. Jones KA, Hatori M, Mure LS, Bramley JR, Artymyshyn R, Hong SP, Marzabadi M, Zhong H, Sprouse J, **Zhu Q**, Hartwick AT, Sollars PJ, Pickard GE, Panda S. (2013) Small-molecule antagonists of melanopsin-mediated phototransduction. *Nat Chem Biol.,* 9 (10): 630-5.
20. Kurtz I, **Zhu Q.** (2013) Structure, function, and regulation of the SLC4 NBCe1 transporter and its

role in causing proximal renal tubular acidosis. *Curr Opin Nephrol Hypertens.,* 22 (5): 572-83.

21. Kurtz I, **Zhu Q.** (2013) Proximal renal tubular acidosis mediated by mutations in NBCe1-A: unraveling the transporter's structure-functional properties. *Front Physiol.,* 4: 350.
22. Kao, L., Lam, V., Waldman, M., Glassock, R.J. and **Zhu, Q.*** (2014) Identification of the immunodominant epitope region in phospholipase A_2 receptor-mediating autoantibody binding in idiopathic membranous nephropathy. *Journal of the American Society of Nephrology,* published ahead of print September 9, 2014, doi: 10.1681/ASN.2013121315 (with Editorial Commentary), *Corresponding author
23. **Zhu, Q.***, Kao, L., Azimov, R., Abuladze, N., Newman, D. and Kurtz, I. (2015) Interplay between disulfide bonding and N-glycosylation defines SLC4 Na^+-coupled transporter extracellular topography. *J. Biol. Chem.*, published ahead of print January 7, 2015, doi: 10.1074/jbc.M114.619320 *Corresponding author

B. RESEARCH PAPERS - PEER REVIEWED (SUBMITTED)

1. **Zhu, Q.** (2015) Anti-PLA_2R autoantibody: A new biomarker for idiopathic membranous nephropathy. *Immunology, Endocrine and Metabolic Agent in Medicinal Chemistry*, invited review

CHAPTERS

1. Yelamanchili, S.V., Piamonte, V., Nayak, S.K., Tanaka, N., **Zhu, Q.,** Jones, K. Le, H., Panada, S. (2007) Melanopsin signaling and non-visual ocular photoreception. *Signal Transduction in the Retina,* CRC Press, Taylor & France Group, Edited by Fliesler, S.J., and Kisselev, O.G. 8, 165-194

PAPERS IN PREPARATION (RESEARCH COMPLETED)

1. Kao, L., Waldman, M., Glassock, R.J. and **Zhu, Q.** (2015) PLA_2R tightly associates with integrin $\alpha_3\beta_1$ in the podocyte membrane: A new insight into IMN pathogenesis. In preparation
2. Andre, M.L., Kurtz, I. and **Zhu, Q.** (2015) Pinpoint the functional critical region in a target protein by whole human genome mutational analysis. In preparation

ABSTRACTS

1. **Zhu, Q.** and Casey, J.R. (2001) Topology of the C-terminal region of the human plasma membrane anion exchanger, AE1. *FASEB J*, 15, A502
2. **Zhu, Q.** and Casey, J.R. (2002) Topology of the C-terminal region of the human plasma membrane Cl/HCO_3^- anion exchanger, AE1. *Biophysical J.* 82 (1), 569a

3. **Zhu, Q.** and Casey, J.R. (2002) Topology of the C-terminal region of human anion exchanger, AE1. *45th CSBMCB Annual Meeting,* Banff, Canada
4. **Zhu, Q.** and Casey, J.R. (2003) Identification of pore-lining residues in the membrane domain of human anion exchanger, AE 1. *FASEB J*, 17, A465
5. **Zhu, Q.** and Panda, S. (2007) Determination of phosphorylation sites in the C-terminal region of mouse melanopsin upon light stimulation. *VII European Symposium of the Protein Society,* Stockholm, Sweden
6. **Zhu, Q.**, Newman, D., Liu, W., Pushkin, A., Kurtz, I. (2008) Characterization of disulfide bond formation in extracellular loop 3 of NBCe1-A. *J Am Soc Nephrol,* 19, 344A
7. **Zhu, Q.**, Azimov, R., Abuladze, N., Liu, W., Kao, L., Pushkin, A., Kurtz, I. (2008) Insight into the structural difference in the TM1 region between human NBCe1-A and AE1. *J Am Soc Nephrol,* 19, 350A
8. **Zhu, Q.**, Kao, L., Liu, W., Newman, D., Abuladze, N., Kurtz, I. (2008) Topology of the C-terminal transmembrane domain of NBCe1-A differs significantly from AE1. *J Am Soc Nephrol,* 19, 350A
9. **Zhu, Q.**, Newman, D., Liu, W., Abuladze, N., Kurtz, I. (2009) Cysteines in extracellular loop 3 of NBCe1-A form intra- and inter-molecular disulfide bonds. *FASEB J.* 23, 800.10
10. **Zhu, Q.**, Liu, W., Newman, D., Pushkin, A., Kurtz, I. (2009) Topology determination of the transmembrane domain of the electrogenic sodium bicarbonate cotransporter NBCe1-A. *FASEB J.* 23, 800.7
11. **Zhu, Q.**, Kao, L., Liu, W., Abuladze, N., Kurtz, I. (2009) Topology of the C-terminal transmembrane region of NBCe1-A differs from AE1. *FASEB J.* 23, 800.8
12. **Zhu, Q.**, Newman, D., Liu, W., Pushkin, A., Kurtz, I. (2009) C-terminal membrane topology of NBCe1 A differs from AE1. *J Am Soc Nephrol,* 20, 139
13. **Zhu, Q.**, Azimov, R., Abuladze, N., Liu, W., Kao, L., Pushkin, A., Kurtz, I. (2009) Topological localization of NBCe1-A residues mutated in patients with pRTA. *J Am Soc Nephrol,* 20, 377A
14. **Zhu, Q.**, Kao, L., Azimov, R., Newman, D., Liu, W., Abuladze, N., Pushkin, A. and Kurtz, I. (2010) NBCe1-A residues mutated in patients with pRTA: A Topological Analysis. *FASEB J.* 24, 815.2
15. **Zhu, Q.**, Kao, L., Liu, W., Newman, D. and Kurtz, I. (2010) Determination of the intracellular lipid/aqueous interface of integrin alpha 2b *in vivo.* *FASEB J.* 24, LB142
16. **Zhu, Q.**, Azimov, R., Kao, L., Newman, D., Kurtz, I. (2010) C-terminal transmembrane region of NBCe1-A: structural properties and functional role. *J Am Soc Nephrol,* 21, 251A

17. **Zhu, Q.**, Kao, L., Newman, D., Kurtz, I. (2010) The C-terminal tail of the NBCe1-A dimer is structured: relevance to CAII binding. *J Am Soc Nephrol,* 21, 251A
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