

CURRICULUM VITAE

BRUCE L. RISER, MS, PhD

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POSITIONS

- 2013-present PRINCIPAL - **BIOPHIA, INC**, Focus: *Consultant in pharmaceutical research and development.*
- 2002-present ADJ. PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS; FIBROSIS LABORATORY
DIRECTOR, **Rosalind Franklin University of Medicine and Science**, North Chicago, IL;
Research: *Identification of novel targets and diagnostics along with site-directed biologic
therapies in fibrosis and scarring, with focus on renal disease and complications of diabetes.*
- 2005-present ADJ. PROFESSOR OF MEDICINE, **Dept. of Medicine, Chicago Medical School**, North
Chicago, IL. Focus: Provide specialty lectures, and laboratory research mentorship to medical
students.
- 2002-2013 DIRECTOR, R&D / SCIENTIFIC AFFAIRS, **Renal Division, Baxter Healthcare Corporation**,
Deerfield, IL; Focus: *Discovery and development of renal and cardiovascular
pharmaceuticals and devices, including dialysis products.*
- 1990-2002 SENIOR STAFF INVESTIGATOR & DIRECTOR OF NEPHROLOGY RESEARCH PROGRAM,
**Dept. of Medicine, Div. of Nephrology and Hypertension, Henry Ford Hospital & Health
Sciences Center**, Detroit, MI. Focus: *Research on mechanisms and novel therapeutic
approaches for chronic kidney disease and fibrosis in diabetes and its translation to the clinic.
Provide research mentorship to nephrology fellows.*
- 1988-1990 SENIOR RESEARCH SCIENTIST, **Division Medicinal Biochemistry / Experimental
Oncology Wellcome Research Laboratories**, NC. Headed Research Program: *Cell adhesion
factor- and neuropeptide- targeted cancer therapeutics.*
- 1985-1988 POSTDOCTORAL, NATIONAL CANCER INSTITUTE FELLOW, **Dept. of Pathology,
University of Michigan Medical School**, Ann Arbor, MI. Research: *Biology of extracellular
matrix, adhesion factors, leukocyte-mediated cytotoxic mechanisms in cancer and
dermatology.*
- 1984-1985 RESEARCH ASSOCIATE II, **Dept. of Surgery, Univ. of Michigan Medical School**; Research:
Viral induced diabetes / cytomegalovirus-mediated disease.
- 1980-1982 INSTRUCTOR, VIROLOGY AND CELL BIOLOGY, **Dept. Epidemiology, Univ. of Michigan
School of Public Health.**
- 1980 DIRECTOR-CLINICAL MICROBIOLOGY, **Regional Medical Labs, Battle Creek, MI.**

EDUCATION

| | | |
|---|----------|-----------------------------------|
| University of Michigan, Medical School, Ann Arbor | Postdoc. | Pathology |
| University of Michigan, School of Public Health | Ph.D. | Cell & Molecular Biol. / Virology |
| University of Michigan, School of Public Health | M.S. | Public Health / Epidemiology |
| Albion College, Albion, MI. | A.B. | Biology / Chemistry |

HONORS (Academics)

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| 2006-2013 | Baxter Research Grant |
| 2000-2004 | American Diabetes Association Award |
| 1998-2007 | Juvenile Diabetes Foundation. International Award |
| 1997-1998 | National Kidney Found. Award |
| 1994-1995 | National Kidney Found. Award |
| 1993-1998 | Henry Ford Hospital Foundation Award |
| 1992-1994 | Juvenile Diabetes Found. International Award |
| 1991 | Young Invest. Award, Forefronts in Nephrology Symposium, International Soc. of Nephrology, Kloster Banz, Germany |
| 1985-1988 | Postdoctoral Fellow, National Cancer Institute, Univ. of Michigan Medical School |
| 1980-86 | Horace H. Rackham Grant, Univ. of Michigan |
| 1982-83 | Francis Payne Predoctoral Fellow Pathology, Univ. of Michigan, School of Public Health |

PROFESSIONAL SOCIETIES AND POSITIONS

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| International CCN Society- <i>BOARD MEMBER</i> | |
| Journal of Cell Signaling and Communication- <i>ASSOCIATE EDITOR</i> | |
| Am. Society of Nephrology | Juvenile Diabetes Foundation |
| Am. Diabetes Association | Am. Assoc. for the Advancement of Science |
| International Society of Nephrology | Am. Society for Investigative Pathology |
| National Kidney Foundation of Illinois- <i>MED. ADVIS. BOARD</i> | |
| American Diabetes Association- <i>EXPO BOARD MEMBER</i> | |

SCIENTIFIC REVIEW

Lancet
Current Stem Cell Therapy
Clinical Chemistry
Am. Journal Pathology
Journal Am. Society of Nephrology
Clinical JASN
Kidney International
Diabetes
Hypertension
Peritoneal Dialysis International
Life Sciences
Cancer Cell International
Nephrology Dialysis and Transplantation
Current Stem Cell Review and Therapy
National Kidney Foundation (Grant review)
Diabetes Fonds Nederland (Grant review)
Health Research Board of Ireland (Grant review)

PUBLICATIONS

PEER REVIEWED ARTICLES

1. Batchev, AC, BL **Riser**, EG Hellner, SEG Fligiel, J Varani: Phorbol ester binding and phorbol ester-induced arachidonic acid metabolism in a highly responsive murine fibrosarcoma cell line and in a less responsive variant. *Clin Exper Metastasis* 4:51-61, 1986.
2. Ginsburg, I, SEG Fligiel, RG Kunkel, BL **Riser**, J Varani: Phagocytosis of *Candida albicans* enhance malignant behavior of murine tumor cells. *Science* 238:1573-1575, 1987.
3. **Riser**, BL, J Varani, TE Carey, SEG. Fligiel and VM Dixit: Thrombospondin binding and thrombospondin synthesis by human squamous carcinoma and melanoma cells: Relationship to biological activity. *Exper Cell Research* 174:319-329, 1988.
4. Varani, J, BJ Nickoloff, BL **Riser**, RS Mitra, VM Dixit: Thrombospondin-induced adhesion of human keratinocytes. *J Clin Invest* 81:1537-1544, 1988.
5. Nickoloff, BJ, RS Mitra, BL **Riser**, VM Dixit, J Varani: Modulation of keratinocyte motility: Correlation with production of extracellular matrix molecules in response to growth promoting and antiproliferative factors. *Am J Path* 132:543-551, 1988.
6. **Riser**, BL, KA Laybourn, J Varani: Treatment of mice with anti-asialo GM1 antibody or poly I:C: Effects on metastasis dissociable from modulation of macrophage antitumor activity. *Natural Immunity and Cell Growth Regulation* 7:307-315, 1988.
7. Steinmuller D, JD Tyler, ME Snider, RL Noble, BL **Riser**, HF Maassab, SJ Galli: Tissue destruction resulting from the interaction of cytotoxic T cells and their targets. *Ann NY Acad Sciences* 532: 106-118, 1988.
8. Nickoloff, BJ, BL **Riser**, RS Mitra, VM Dixit, J Varani: Inhibitory effect of gamma interferon on cultured human keratinocyte thrombospondin production, distribution and biological activity. *J Invest Derm* 91:213-218, 1988.
9. Varani J, BL **Riser**, LA Hughes, TE Carey, SEG Fligiel, VM Dixit: Characterization of thrombospondin synthesis, secretion and cell surface expression by human tumor cells. *Clin Exp Metastasis* 7:265-276, 1989.
10. McClenic, BK, RS Mitra, BL **Riser**, BJ Nickoloff, VM Dixit, J Varani: Production and utilization of extracellular matrix components by human melanocytes. *Exper Cell Research* 180:314-325, 1989. .
11. **Riser**, BL, R Mitra, D Perry, V Dixit, J Varani: Monocyte killing of human squamous epithelial cells: Role for thrombospondin. *Cancer Research* 49:6123-6129, 1989.
12. **Riser**, BL, J Varani, BJ Nickoloff, VM Dixit: Thrombospondin binding by human keratinocytes: Modulation under conditions which alter thrombospondin biosynthesis. *Dermatologica* 186:60-65, 1990.
13. **Riser**, BL, HF Maassab: Differential interaction of virulent and attenuated influenza virus strains in ferret alveolar macrophages: Possible role in pathogenesis. *J Infect Dis* 161:699-705, 1990.
14. Varani, J, CG Taylor, BL **Riser**, DK Schumaker, K-Y Yeh, M Dame, DF Gibbs, RF Todd III, F Dumler, J Bromberg, PD Killen: Mesangial cell killing by leukocytes: Role of leukocyte oxidants and proteolytic enzymes. *Kidney Int* 42: 1169-1177, 1992.
15. **Riser**, BL, P Cortes, X Zhao, J Bernstein, F Dumler, RG Nairns: Intraglomerular pressure and mesangial stretching stimulate extracellular matrix formation in the rat. *J Clin Invest* 90: 1932-1943, 1992.
16. Cortes, P, BL **Riser**, X Zhao, RG Narins: Glomerular volume expansion and mesangial cell mechanical strain: Mediators of glomerular pressure injury. *Kidney Int* 45:S11-S16, 1994.
17. Heilig, C, LA Concepcion, BL **Riser**, S Freytag, P Cortes: Overexpression of glucose transporters in rat mesangial cells cultured in a normal glucose milieu mimics the diabetic phenotype. *J Clin Invest* 96: 1802-1814, 1995.

18. Heilig C., C Zaloga, M Lee, X Zhao, BL **Riser**, P Cortes: Immunogold localization of high affinity GLUT isoforms in normal rat kidney. *Lab Invest* 73: 674-684, 1995.
19. Dumler, F, C Cortes, BL **Riser**: Effect of misoprostol on mesangial cell growth and collagen metabolism. *Am J. Ther* 2:922-927,1995
20. Cortes, P, X Zhao, BL **Riser**, RG Narins: Regulation of glomerular volume in normal and partially nephrectomized rats. *Amer J Physiol.; Renal, Fluid & Electrolyte Physiol* 270: F356-370, 1996.
21. **Riser**, BL, P Cortes, C Heilig, J Grondin, S Ladson-Wofford, D Patterson, RG Narins: Cyclic Stretching force selectively upregulates transforming growth factor-beta isoforms in cultured rat mesangial cells. *Am J Path* 148:1915-1923, 1996.
22. Cortes, P, X Zhao, BL **Riser**, RG Narins: The role of mechanical strain in the pathogenesis of diabetic nephropathy. *Kidney Int* 51:57-68, 1997.
23. **Riser**, BL, P Cortes, K Asano, A Barbero, RG Narins: Mechanical strain- and high glucose-induced alterations in mesangial cell collagen metabolism: role of TGF- β . *J Am Soc Nephrol* 9:827-836, 1998.
24. Cortes, P, BL **Riser**, J Yee, K Asano, A Barbero, RG Narins: Effects of oral antihyperglycemic agents on extracellular matrix synthesis by mesangial cells. *Kidney Int* 54:1985-1998, 1998.
25. Asano, K, P Cortes, J Garvin, BL **Riser**, A Rodriguez-Barbero, RG Narins, J Yee: Characterization of the rat mesangial cell type-2 sulfonylurea receptor. *Kidney Int* 55:2289-2298, 1999.
26. **Riser**, BL, S Ladson-Wofford, A Sharba, P Cortes, K Drake, CJ Guerin, J Yee, M Choi, PR Segarini, RG Narins: TGF- β 1 receptor expression and binding in rat mesangial cells: modulation by glucose and cyclic mechanical strain, *Kidney Int* 54:428-439,1999.
27. **Riser**, BL, M DeNichilo, P Cortes, C Baker, J Yee, RG Narins: Regulation of connective tissue growth factor (CTGF) activity in cultured rat mesangial cells and its expression in experimental diabetic glomerulosclerosis. *J Amer Soc Nephrol* 11:25-38, 2000.
28. Cortes, P, J Yee, BL **Riser**, CJ Guerin, A Rodriguez-Barbero, C Rucker, M. Mendez: F-actin fiber distribution in glomerular cells: structural and functional implications. *Kidney Int* 58:2452-2461, 2000.
29. **Riser**, BL, J Varani, P Cortes, J Yee, M Dame, A K Sharba: Cyclic stretch of mesangial cells upregulates intercellular adhesion molecule-1 (ICAM-1) and leukocyte adherence: a possible new mechanism for glomerulosclerosis *Am J Pathology* 158:11-17, 2001
30. **Riser**, Bl, P Cortes: Connective tissue growth factor and its regulation: a new element in diabetic glomerulosclerosis. *Renal Failure* 23:459-470, 2001
31. Ader S, SW Kang, S Field, DR Cha, L Barbra, L Stricker, G Stricker, B **Riser**, J LaPage, CC Nast: Glomerular mRNAs in human type 1 diabetes: Biochemical evidence for microalbuminuria as a manifestation of diabetic nephropathy. *Kidney Int* 60:2330-2336, 2001.
32. Szamosfalvi, B, P Cortes, R Alviani, K Asano, BL Riser, G. Zasuwa, J Yee: Putitive subunits of the rat mesangial cell K_{ATP} : A type 2B sulfonylurea receptor and an inwardly rectifying K^+ channel. *Kidney Int* **61**, 1739-1749, 2002
33. Adler S., SW Kang, S. Field, DR Cha, L Barbra, L Striker, G Striker, BL **Riser**, J LaPage, CC Nast: Can glomerular mRNAs in human Type 1 diabetes be used to predict transition from normoalbuminuria to microalbuminuria? A case report. *Am J Kid Dis* 40:184-188, 2002.
34. Brigstock, DR, R Goldschmeding, K-i Katsube, S C-T Lam, L F Lau, K Lyons, C Naus, B Perbal, B **Riser**, M Takigawa, H Yeger: Proposal for a unified CCN nomenclature: *J Clin Path: Mol Path* 56: 127-128, 2003
35. **Riser**, BL, P Cortes, M DeNichilo, PV Deshmukh and PS Chahal, A. K. Mohammed, Yee, D. Kahkonen: Urinary CCN2 (CTGF): as a possible predictor of diabetic nephropathy: Preliminary report, *Kidney Int.* 64:451-458, August, 2003.
36. Cooker, LA, F Najmabadi, D Peterson and BL **Riser**: TNF-alpha, but not IFN-gamma regulates CCN2 (CTGF), collagen type I and proliferation in mesangial cells: possible roles in the progression of renal fibrosis. *Am J Renal Physiology*, 293: F157-F165, 2007.

37. Haydont, V, BL **Riser**, C Bourgier, J Aigueperse, and MC Vozenin-Brotons: Specific signals involved in the long-term maintenance of radiation-induced fibrogenic differentiation: a role for CCN2 and low concentration of TGF- β 1. *Am. J. Physiol Cell*, 294: C1331-41, 2008.
38. **Riser**, BL, F Najmabadi, B Perbal, DR Peterson, JA Rambow, ML Riser, E Sukowski, H Yeger and SC Riser: CCN3 (Nov) is A Negative Regulator of CCN2 (CTGF) and a Novel Endogenous Inhibitor of the Fibrotic Pathway in an In Vitro Model of Renal Disease. *Am. J. Pathology*, 174:1725-1734 2009
39. FWK Tam, BL **Riser**, K Meeran, J Rambow, CD Pusey and AH. Frankel: Urinary monocyte chemoattractant protein-1 (MCP-1) and connective tissue growth factor (CCN2) as prognostic markers for progression of diabetic nephropathy, *Cytokine*, 47, 1:37-42 2009
40. **Riser**, BL, F Najmabadi, B Perbal, JA Rambow, ML Riser, E Sukowski, H Yeger and SC Riser, DR Peterson: CCN3/CCN2 regulation and the fibrosis of diabetic renal disease. *J Cell Commun Signal*, 1:39-50, 2010
41. Cozzolino, M, ML Biondi, E Banfi, BL **Riser**, F Mehmeti, D Cusi and M Gallieni: CCN2 (CTGF) gene polymorphism is a novel prognostic risk factor for cardiovascular outcomes in hemodialysis patients. *Blood Purif*, 30:272-276, 2010
42. O'Neill, C, KA Lomashvili, HH Malluche, MC Faugere and BL **Riser**, Treatment with pyrophosphate inhibits uremic vascular calcification. *Kidney Int*, 79:512-517, 2011
43. **Riser**, BL, FC Barreto, R Rezg, PW Valaitis, CS Cook, JA White, JH Gass, J Maizel, L Louvet, TB Druke, CJ Holmes and ZA Massy: Daily peritoneal administration of sodium pyrophosphate in a dialysis solution prevents the development of vascular calcification in a mouse model of uremia. *Nephrology, Dial and Transplant*, 26 10:3349-57, 2011
44. **Riser**, BL, N Bhagavathula, P Perone, K Garchow, Y Xu, GJ Fisher, F Najmabadi, D Attili and J Varani. Gadolinium-induced fibrosis is counter-regulated by CCN3 in human dermal fibroblasts: a model for potential treatment of nephrogenic systemic fibrosis. *J Cell Commun Signal*, 6:97–105, 2012
45. Tsoutsman, T, X Wang, K Garchow, BL **Riser**, S Twigg and C Semsarian: CCN2 plays a key role in extracellular matrix gene expression in severe hypertrophic cardiomyopathy and heart failure. *J. Mol. and Cellular Cardiology*, on line June 13, 2013
46. Barreto, FC, RB de Oliveira, J Benchitrit, L Louvet, R Razeg, S Poirot, V Jorgetti, TB Druke, BL **Riser** and ZA Massy. Effects of pyrophosphate delivery in a peritoneal dialysis solution on bone tissue of apolipoprotein-E knockout mice with chronic kidney disease *J. Bone and Mineral Metabol.* Jan 21, 2014 [Epub ahead of print]

BOOKS CHAPTERS and REVIEWS

1. **Riser** BL: Interactions Between Influenza Virus and Ferret Alveolar Macrophages, Doctoral Dissertation, University Microfilms, Ann Arbor, MI, 1986.
2. **Riser** BL, J Varani: Squamous carcinoma cells synthesize, bind and use thrombospondin as an adhesion factor. In: *Head and Neck Oncology Research* GT Wolf, TE Cary (ed.) Kugler and Ghedini, Amsterdam: The Netherlands, 1988.
3. Cortes, P and BL **Riser**: The nature of the glomerulus: pressure-induced and metabolic aberrations. In: *The Kidney and Hypertension in Diabetes Mellitus*. Third Edition. CE Mogensen (ed), Kluwer Academic Publishers, 1996.
4. Cortes, P, B **Riser**, RG Narins: Glomerular hypertension and progressive renal disease: the interplay of mesangial cell stretch, cytokine formation and extracellular matrix synthesis. Physical Forces and Organ Remodeling. In: *Contrib Nephrol Progression of Chronic Renal Disease*, 118:229-233, H Koide, I Ichikawa (ed.) Karger, Basel, 1996.
5. Cortes, P, B **Riser**, Jerry Yee, RG Narins: Mechanical strain of glomerular mesangial cells in the pathogenesis of glomerulosclerosis: clinical implications. In: *Nephrol Dialysis Transpl*, 14:1351-1354, 1999.

6. **Riser, BL, P Cortes, J Yee:** Modeling the effects of vascular stress in mesangial cells. In: *Current Opinion Nephrol and Hypertension, Circulation and Hemodynamics*. 9: 43-47, B Brenner, L Dworkin, MR Hammerman (ed) Lippincott Williams & Wilkins, London, 2000.
7. **Riser, BL, P Cortes:** Pressure-induced and metabolic alterations in the glomerulus: Role in cytokine activity and progressive sclerosis. In: *The Kidney and Hypertension in Diabetes Mellitus*. Fifth Edition, 1-12. CE Mogensen (ed), Kluwer Academic Publishers, Boston, 2000.
8. **Riser, BL, S. Karoor, D. Peterson:** CCN genes and the kidney. In *CCN proteins: a New Family of Cell Growth and Differentiation Regulators*, Bernard Perbal and Masaharu Takigawa (ed), Imperial College Press, May, 2005.
9. **Riser, BL:** CCN2 (CTGF) in the pathogenesis of diabetic renal disease: A target for therapeutic intervention. In: *Contemporary Diabetes: The Diabetic Kidney*, CE Mogensen & P. Cortes (eds), Humana Academic Publishers, Totowa, NJ, June 2006.
10. **Riser, BL, F Najmabadi, B Perbal, JA Rambow, ML Riser, E Sukowski, H Yeger and SC Riser, DR Peterson:** CCN3 (NOV): A Negative Regulator of CCN2 (CTGF) Activity and an Endogenous Inhibitor of Fibrosis. In *CCN Proteins in Health and Disease*, B. Perbal (ed) Springer, 2010.

PATENTS

Holds more than 20 patents in a variety of therapeutic, diagnostic, and drug formulation areas with fibrosis and renal/cardiovascular disease as a focus, but includes kidney dialysis, cancer, skin scarring and others.