

## CURRICULUM VITAE

JEFFREY LEE BARNES, PH.D.

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### GENERAL INFORMATION

#### Personal Data

1. Citizenship Status: United States of America
2. Social Security No.:
3. Married, two children

#### Education:

1974 B.S.	Biology, Zoology	Oklahoma State University, Stillwater, OK
1978	Ph.D. Experimental Pathology	University of Maryland, School of Medicine, Graduate Program, Baltimore, Maryland

#### Postgraduate Training:

1978-1981	Postdoctoral Fellow	Nephrology, Department of Medicine, Division of Renal Diseases/Department of Pathology University of Texas Health Science Center, San Antonio, Texas
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#### Non-Academic Appointments:

1999-Current	Chief Science Officer	Probetex, Inc, San Antonio, TX
1986-1990	Assoc. Director Clinical Immunopathology	Department of Pathology, Rhode Island Hospital, Providence, Rhode Island

#### Academic Appointments:

2002-present	Professor	Department of Medicine, Division Nephrology, University of Texas Science Center Health Sci. Ctr. San Antonio, TX
1992-2002	Associate Prof.	Department of Medicine, Division Nephrology, University of Texas Science Center Health Sci. Ctr.

		San Antonio, TX
1990-1992	Assistant Prof.	Department of Medicine, Division Nephrology, University of Texas Science Center Health Sci. Ctr. San Antonio, TX
1990-present	Staff Scientist	Audie L. Murphy VA Hospital, South Texas Veterans Health Care System, San Antonio
1987-1990	Assistant Professor	Department of Pathology and Laboratory Medicine Brown University, Providence, Rhode Island
1981-1986	Research Assistant Professor	Department of Pathology, University of Texas Health Science Center San Antonio, Texas
1980-1981	Instructor	Department of Pathology, University of Texas Health Science Center, San Antonio, Texas

#### **Certification and Licensure (State and Number):**

1. Certification: N/A
2. Recertification: N/A
3. Licensure: N/A
4. E.C.F.M.G: N/A

#### **Honors and Awards:**

- 1979-1981 National Research Service Award (NIH)
- 1981-1984 NIH- New Investigator Research Award
- 1991 NIH- RO1 Award
- 1993 Veterans Administration RAG Award
- 1995 NIH- ROI Award
- 1999 Veterans Administration Merit Award
- 2001- Department of Veterans Affairs Merit Review Subcommittee for Nephrology
- 2002 American Association of Publishers Award for Excellence: Best Book in Medical Science, "Platelets" Michelson ED, Ed. Academic Press, Baltimore. Barnes JL: Renal Disease. (Chapter 30, p446-457, 2002).

#### **RESEARCH**

##### **Areas of Research Interest:**

Pathophysiology of renal diseases: Glomerulonephritis, interstitial fibrosis, extracellular matrix, oxidative stress. Renal development, kidney progenitor cell isolation and regenerative medicine.

## **Current Academic Projects:**

1. Development of tissue products and kits for the study of experimental kidney disease.
2. Commercialization of embryonic kidney cells.
3. Inhibition of inflammatory cells in the protection of renal disease.
4. Extracellular matrix remodeling in glomerular disease
5. Role of platelet secretory proteins in proliferative glomerulopathies.
6. Podocyte function in glomerular disease.
7. Angiotensin II-induced interstitial fibrosis: mechanisms of myofibroblast infiltration.

## **Experience with Experimental Renal Disease Models**

- Anti-Thy-1-induced mesangial proliferative glomerulonephritis.
- Membranous nephritis (anti-Fx1A induced Heymann nephritis).
- anti-GBM glomerulonephritis.
- Immune complex-induced glomerulonephritis in the rat and rabbit.
- Spontaneous lupus nephritis in NZB/W mice.
- Habu venom-induced mesangial proliferative glomerulonephritis.
- e-NOS knockout model of glomerulosclerosis.
- Streptozotocin (STZ)-induced Type I diabetic nephropathy in rats.
- OVE26 spontaneous Type I diabetic nephropathy in mice.
- Spontaneous Type II diabetic nephropathy in db/db mice.
- ZSF spontaneous Type II diabetic nephropathy in rats.
- Spontaneous Type II diabetic nephropathy in the baboon.
- Dietary-induced STZ + high fat type II diabetic nephropathy the rat.
- Calcineurin A isoform knock-out-retardation of renal development in mice.
- Adriamycin-induced chronic kidney disease (rat).
- Adenine-induced chronic kidney disease (rat).
- Polycystic kidney disease in mice, spontaneous.
- Angiotensin II induced mesangial activation.
- Accelerated interstitial fibrosis induced by the combinatorial administration of Habu venom + angiotensin II.
- Unilateral ureteral obstruction model of interstitial fibrosis.
- Eker rat for renal cancer in which four types of renal neoplasm have been identified (clear cell carcinoma, papillary oncocyoma and benign adenoma).
- Renal nephrogenesis in mouse, rat, and baboon.
- Chemical (HgCl<sub>2</sub>)-induced acute renal failure (proximal tubular necrosis).
- Ischemia-induced acute renal failure (rat).
- Renal candidiasis (rat).
- Bromoethylamine hydrobromide (BEA)-induced papillary necrosis in the rat.
- Renal ablation model (rat).
- Bence Jones-induced obstructive nephropathy.

## **Experience with Experimental Disease Models**

- Hepatic reduction (partial hepatectomy)
- Carbon tetrachloride (CCL<sub>4</sub>)-induced acute and chronic liver disease
- Aldosterone induced myocardial fibrosis
- Evaluation of multiorgan effects of hypertension
- Evaluation of multiorgan effects of experimental vaccine

- Tendon and dermal transplant evaluations (Human)
- Bone scaffold implants (Human)

## **Publications:**

### **Probetex:**

#### Manuscripts:

McIntosh LM, JL Barnes, VL Barnes, McDonald JR: Selective CCR2-targeted macrophage depletion ameliorates experimental mesangioproliferative glomerulonephritis. *Clin Exp Immunol* 155:295-303, 2009.

Velagapudi C, Nilsson R-P, Lee, MJ, Burns HS, Ricono, JM, Arar M, Barnes VL, Abboud HE, Barnes JL. Reciprocal induction of simple organogenesis by mouse kidney progenitor cells in three-dimensional co-culture. *Am J Pathol* 180:819-830, 2012. (Cover Photo, February Issue).

Riser BL, Najmabadi F, Garchow K, Barnes JL, Peterson DR, Sukowski EJ: Treatment with matricellular protein CCN3 blocks and/or reverses fibrosis development in obesity with diabetic nephropathy. *Am J Pathol* 184:2908–2921, 2014.

Patel M, Velagapudi C, Burns HS, Doss R, Lee, MJ, Mariappan M, Wagner B, Arar M, Barnes VL, Abboud HE, Barnes JL. Mouse metanephric mesenchymal cell-derived angioblasts undergo vasculogenesis in three-dimensional culture. Submitted 2017.

#### Abstracts:

Hoff C, Piscopo D, Svatek JM, Barnes JL, Riser BL, Holmes CJ: Combined Renoprotective Effect of Captopril and Pravastatin in STZ-Diabetic Rats. *J. Am. Soc. Nephrol.* 14:132A, 2003. (Presented at the Annual Meeting American Society of Nephrology, Renal Week 2003, Nov 12-17, 2003 in San Diego, California).(Baxter Health Care and Probetex, Inc).

Chaudhuri, A Pena C, Smithson G, Starling G, Spriggs F, Barnes JL, (Barnes VL), Chant J, GiotL. Molecular Mechanisms Underlying Mesangioproliferative Kidney Damage in a Rat Anti-thy1.1 Model of Glomerulonephritis: A Gene Expression Analysis. *J Am Soc Nephrol* 15:435A, 2004. Presented at the Annual Meeting American Society of Nephrology, Renal Week 2004., St. Louis MO, October 30, 2004 (Curagen Corporation and Probetex, Inc.).

McDonald JR, McIntosh LM, Barnes J L, and Su H. Chemokine-Targeted Macrophage Depletion Ameliorates Experimental Mesangioproliferative Glomerulonephritis. *J. Am Soc Nephrol* (2007). Presented at the Annual Meeting American Society of Nephrology, Renal Week 2007, San Francisco, CA., Nov 4, 2007 (Osprey Pharmaceuticals and Probetex, Inc.).

McIntosh LM, Barnes JL., Su H, and McDonald John R: Chemokine-toxin Macrophage Depletion Ameliorates Rat Glomerulonephritis. *Inflamm Res* (2007) 56: Suppl 3, S440. For the 8th World Congress on Inflammation Copenhagen 16<sup>th</sup>-20<sup>th</sup> June 2007 (Osprey Pharmaceuticals and Probetex, Inc.).

Barnes JL., Velagapudi C, Nilsson R-P, Barnes VL, Arar M, Abboud HE. Induction of tubulogenesis by co-culture of mouse kidney metanephric mesenchymal and ureteric bud stem cell lines. *Renal Week 2008*, Philadelphia, PA. *J Am Soc Nephrol*

## **Partners and Customers (Partial List)**

Affymax, Inc.  
Astellas Pharma US  
Almog Diagnostic  
Baxter Health Care  
Bayer Pharma, AG  
Biogen Idec  
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Colorado Histo-Prep  
Genzyme  
Genentec  
Incell Corporation  
KineMed  
LaJolla Pharmaceuticals  
Mission Pharmacal  
Musculoskeletal Transplant Foundation  
Mallinckrodt-Questcor Pharma  
Novartis, Inc  
Novartis International, AG  
Novo Nordisk A/S  
Pfizer  
Phylogeny, Inc  
Premier Laboratory  
Reata Pharmaceuticals  
Reddy Pharmaceuticals  
Regeneron Pharma  
Retrophin  
Sanofi  
Southern Research  
The Jackson Laboratory  
The University of Texas Health Science Center  
TransTech Pharma  
NIH (NIDDK)  
NIEHS  
National Science Foundation  
Veterans Administration  
Numerous Academic Institutions

### **Academic:**

#### **Books and/or chapters; Reviews, editorials:**

1. Barnes JL and McDowell EM: Pathology and Pathophysiology of Acute Renal Failure – A Review. IN: Pathophysiology of Shock Anoxia and Ischemia. Cowley RA, Trump BF (eds.). Williams and Wilkins, Baltimore, p. 324-339, 1982.
2. Barnes JL and Venkatachalam MA: Glomerular Interactions of Exogenous and Endogenous Polycations. IN: The Pathogenicity of Cationic Proteins, Symposium. Lambert PP, Bergmann P and Edwards R (eds). Raven Press, New York. p.281-294, 1983
3. Barnes JL: Binding of Platelet Factor Four (PF4) to Glomerular Polyanion. IN: Glomerular Basement Membrane. 2<sup>nd</sup> International Symposium. Lubec G and Hudson BG (eds). John Libbey, p. 145-150, 1985.

4. Barnes JL and Venkatachalam MA: Pathogenic Potential of the Glomerular Binding of Polycations. IN: Proceedings of the Kurashiki Symposium on Biopathology of Vascular Wall and Glomerular Dysfunction. Seno S, Hamashima Y and Copley A (eds). Academic Press, New York, p. 149-164, 1986.
5. Barnes JL: Influence of polycations on glomerular immune complex localization. Editorial. J Lab Clin Med. 111:136-137, 1988.
6. Barnes JL: Platelets in Renal Disease. IN: Handbook of Immunopharmacology. Tetta C (ed).Academic Press, London, pp 87-118, 1993.
7. Barnes JL, Milani S: The use of in situ hybridization in the investigation of the kidney and renal diseases. Seminars Nephrol 15:9-28, 1995.
8. Barnes JL: Platelets. In: Immunologic Renal Diseases; Neilson EG, Couser WG, Eds. Raven Press, New York (p. 561-574, 1996).
9. Barnes JL: Platelets in glomerular disease. Nephron 77:378-393, 1997.
10. Barnes JL: In situ hybridization in the study remodeling in proliferative glomerulonephritis. Toxicologic Pathology 26:43-51, 1998.
11. Barnes JL: Platelets. In: Immunologic Renal Diseases, 2<sup>nd</sup> edition; Neilson EG, Couser WG, Eds. Raven Press, New York (Chapter 27, 593-608, 2001).
12. Barnes JL: Renal Disease. In: Platelets. Michelson ED, Ed. Academic Press, Baltimore. (Chapter 30, p446-457, 2002). (American Association of Publishers Award for Excellence: Best Book in Medical Science, 2002).
13. Barnes JL and Glass W: Renal interstitial fibrosis: A critical evaluation of the origin of myofibroblasts. In: Experimental Models of Renal Diseases: Pathogenesis and Diagnosis. G. A. Herrera, Ed. S. Karger AG-Medical and Scientific Publishers. Basel Switzerland, Contrib Nephrol. Vol 169, pp 97–123, 2011.
14. Barnes JL and Gorin, Y: Myofibroblast differentiation during fibrosis: Role of NAD(P)H oxidases. (Invited Review), Kidney Int, 79:944-956, 2011.
15. Riser BL, Barnes JL, Varani J. CCN3-based regulation of matricellular signaling: a new approach to the prevention and treatment of fibrotic diseases. J Cell Commun 9(4): 327–339, 2015.

Papers published or in press (papers that are refereed):

1. Barnes JL, McDowell EM, McNeil JS, Flamenbaum W and Trump BF: Studies on the pathophysiology of acute renal failure. IV. Protective effect of dithiothreitol following administration of mercuric chloride in the rat. Virchows Arch B. Cell Path 32:201-232, 1980.
2. Barnes JL, McDowell EM, McNeil JS, Flamenbaum W and Trump BF: Studies on the pathophysiology of acute renal failure. V. Effect of chronic saline loading on the progression of proximal tubular injury and functional impairment following administration of mercuric chloride in the rat. Virchows Arch B Cell Path 32:233-260, 1980.
3. Reineck HJ, Parma R, Barnes JL and Osgood RW: Nephron heterogeneity in renal excretion of sodium and potassium in the rat. Amer J Physiol 239:F187-F193, 1980.
4. Barnes JL, Osgood RW, Reineck HJ and Stein JH: Glomerular alterations in an ischemic model of acute renal failure. Lab Invest 45:378-386, 1981.
5. Barnes JL, Osgood RW, Lee JC, King RD and Stein JH: Host-parasite interactions in the pathogenesis of experimental renal candidiasis. Lab Invest 49:460-467. 1983.
6. Marsland AR, Rammamurythy S and Barnes J: Cryogenic damage to peripheral nerves and blood vessels in the rat. Br J Anesthesiol 55:555-558, 1983.
7. Barnes JL, Radnik RA, Gilchrist EP and Venkatachalam MA: Size and charge selective permeability defects induced in glomerular basement membrane by a polycation. Kidney Int 25:11-19, 1984.
8. Barnes JL, Levine SP and Venkatachalam MA: Binding of platelet factor four (PF4) to glomerular polyanion. Kidney Int 25:759-765, 1984.
9. Barnes JL and Venkatachalam MA: Enhancement of glomerular immune complex deposition by a circulating polycation. J Exp Med 160:286-293, 1984.

10. Lewis RM, Rice JH, Patton MK, Barnes JL, Nickel AE, Osgood RW, Fried T and Stein JH: Renal ischemic injury in the dog: Characterization and effect of various pharmacologic agents. *J Lab Clin Med* 104:470-479, 1984.
11. Fried TA, Hishida A, Barnes JL and Stein JH: Ischemic acute renal failure in the rat: Protective effect of uninephrectomy. *Am J Physiol* 247:F568-F574, 1984.
12. Lifschitz MD and Barnes JL: Prostaglandin I<sub>2</sub> attenuates ischemic acute renal failure in the rat. *Am J Physiol* 247:F714-F717, 1984.
13. Stein JH, Osgood RW, Barnes JL, Reineck HJ, Pinckard RN and McManus LM: The role of complement in the pathogenesis of postischemic acute renal failure. *Mineral Electrolyte Metab* 11:256-261, 1985.
14. Cushner HM, Barnes JL, Stein JH, and Reineck HJ: Role of volume depletion in the glycerol model of acute renal failure. *Am J Physiol* 250:F315-F321, 1986.
15. Smolens P, Barnes JL and Stein JH: Effect of chronic administration of different Bence Jones proteins on rat kidney. *Kidney Int* 30:874-882, 1986.
16. Smolens P, Barnes JL and Kreisberg R: Hypercalcemia can potentiate the nephrotoxicity of Bence Jones proteins. *J Lab Clin Med* 110:460-465, 1987.
17. Barnes JL, Reznicek MJ, Radnik RA and Venkatachalam MA: Anionization of an antigen promotes glomerular binding and immune complex formation. *Kidney Int* 34:156-163, 1988.
18. Tapp DC, Wortham WG, Addison JF, Hammonds DN, Barnes JL, and Venkatachalam MA: Food restriction retards body growth and prevents end stage renal pathology in remnant kidneys of rats regardless of protein intake. *Lab Invest* 60:184-195, 1989.
19. Barnes JL: Glomerular localization of platelet secretory proteins in mesangial proliferative lesions induced by Habu snake venom. *J Histochem Cytochem* 37:1075-1082, 1989.
20. Barnes JL: Amelioration of Habu snake venom-induced glomerular lesions: Potential role for platelet secretory proteins. *J Lab Clin Med* 114:200-206, 1989.
21. Barnes JL, Hevey, KA: Glomerular mesangial cell migration in response to platelet derived growth factor. *Lab Invest* 62:379-382, 1990.
22. Barnes JL, Camussi G, Tetta C and Venkatachalam MA: Glomerular localization of platelet cationic proteins following immune complex induced platelet activation. *Kidney Int* 27:206, 1985. *Lab Invest* 63:755-761, 1990.
23. Barnes JL, Hevey KA: Glomerular mesangial cell migration: Response to platelet secretory products. *Am J Pathol* 138:859-866, 1991.
24. Fried TA, Hishida A, Ayon MA, Barnes JL, Stein JH: Effect of ringer infusion on ischemic acute renal failure: Caution on interpreting the results of short-term studies. *Renal failure* 13:5-13, 1991.
25. Brem AS, Matheson KL, Barnes JL, Morris DJ: 11-Dehydro-corticosterone: An endogenous aldosterone inhibitor in toad bladder. *Am J Physiol* 261:F873-F879, 1991.
26. Barnes JL, Abboud HE: Temporal expression of autocrine growth factors corresponds to morphologic features of mesangial proliferation in Habu snake venom induced glomerulonephritis. *Am J Pathol* 143:1366-1376, 1993.
27. Brem AS, Bina B, Matheson KL, Barnes JL, Morris DJ: Developmental changes in rat renal 11 $\beta$ -hydroxysteroid dehydrogenase. *Kidney Int* 45: 679-683, 1994.
28. Barnes JL, Hevey KA, Bocanegra RA, Hastings R: Mesangial cell migration precedes proliferation in Habu snake venom-induced glomerular injury. *Lab Invest*, 70:460-467, 1994.
29. Barnes JL, Hastings RR, De La Garza MA: Sequential expression of cellular fibronectin by platelets, macrophages, and mesangial cells in proliferative glomerular disease. *Am J Pathol* 145:585-597, 1994.
30. Barnes JL, Mitchell RJ, Torres ES: Expression of plasminogen activator-inhibitor-1 (PAI-1) during cellular remodeling in proliferative glomerulonephritis. *J Histochem Cytochem* 43:895-905, 1995.
31. Barnes JL, Torres ES, Mitchell RJ, Peters JH: Expression of alternatively spliced fibronectin variants during remodeling in proliferative glomerulonephritis. *Am J Pathol* 147:1361-1371, 1995.

32. Barnes JL, Woodruff KA, Levine SP, Abboud HE: Inhibition of mesangial cell proliferation by platelet factor 4 (PF4). *J Am Soc Nephrol* 7:991-998, 1996.
33. Troyer DA, Chandrasekar B, Barnes JL, Fernandes G: Calorie restriction decreases platelet-derived growth factor-A and thrombin receptor mRNA expression in autoimmune murine lupus nephritis. *Clin Exp Immunol* 108:58-62, 1997.
34. Grandaliano G, Barnes JL, Woodruff K, Abboud HE: Thrombin regulated PDGF expression in glomerular endothelial cells. *J Am Soc Nephrol* 9:583-589, 1998.
35. Barnes JL, Mitchell RJ, Kanalas JJ, Barnes VL: Differential expression of thrombospondin and cellular fibronectin during remodeling in proliferative glomerulonephritis. *J Histochem Cytochem* 47:533-543, 1999.
36. Barnes VL, Musa J, Mitchell RJ, Barnes JL: Expression of embryonic fibronectin isoform EIIIA parallels  $\alpha$ -smooth muscle actin in maturing and diseased kidney. *J Histochem Cytochem* 47:787-797, 1999.
37. Ha T-S, Barnes JL, Stewart JL, Ko CW, Miner JH, Abrahamson DR, Sanes JR, Kasinath BS: Regulation of renal laminin in mice with type II diabetes. *J Am Soc Nephrol* 10:1931-1939, 1999.
38. Arar M, Xu Y, Elshihabi I, Barnes JL, Ghosh Choudhury, G, Abboud HE: Platelet-derived growth factor receptor / regulates migration and DNA synthesis in metanephric mesenchymal cells. *J Biol Chem* 275:9527-9533, 2000.
39. Gooch JL, Barnes JL, Garcia S, Abboud HE: Calcineurin phosphatase is activated in diabetes and is required for glomerular hypertrophy and extracellular matrix accumulation. *Am J Physiol* 284: F144-F154, 2003.
40. Ricono J, Xu Y-C, Arar M, Jin D-C, Barnes JL, Abboud HE: Morphological insights into the origin of glomerular endothelial and mesangial cells and their precursors. *J Histochem Cytochem*, 51, 141-150, 2003.
41. Muthukumar A, Zaman K, Lawrence R, Barnes JL, Fernandes G: Food restriction and fish oil suppress atherogenic risk factors in lupus-prone (NZB  $\times$  NZW) F<sub>1</sub> mice. *J Clin Immunol* 23:23-33, 2003.
42. Yee J, Cortes P, Barnes JL, Alviani R, Biederman JI, Szamosfalvi B: Rat mesangial  $\alpha$ -endosulfine. *Kidney International*, 65:1731-1739, 2004.
43. Gooch JL, Pergola PE, Guler R, Abboud HE, Barnes JL: Differential expression of calcineurin A isoforms in the diabetic kidney. *J Am Soc Nephrol* 15:1421-1429, 2004.
44. Muthukumar A, Sun D, Zaman K, Barnes JL, Haile D, Fernandes G: Age associated alterations in costimulatory molecules in peripheral blood in lupus-prone mice are attenuated by food restriction in n-6 and n-3 fatty acids. *J Clin Immunol* 24:471-480, 2004.
45. Ye P, Habib SL, Ricono JM, Kim N-H, Choudhury GG, Barnes JL, Abboud HE, Arar MY: Fibronectin induces ureteric bud cell branching and cellular cord and tubule formation. *Kidney Int* 66:1356-1364, 2004.
46. Gooch JL, Toro JJ, Guler RL, Barnes JL: Calcineurin A- $\beta$  but not A- $\alpha$  is required for normal kidney development and function. *Am J Pathol* 165:1755-1765, 2004.
47. Feliars D, Duraisamy S, Barnes JL, Ghosh Choudhury G, Kasinath BS: Translational regulation of vascular endothelial growth factor expression in renal epithelial cells by angiotensin II. *Am J Physiol, Renal Physiology* 288: F521 - F529, 2005.
48. Heinrich J, Bsoul S, Barnes JL, Woodruff K, Abboud S: CSF-1, Rankl, and OPG regulate osteoclastogenesis during murine tooth eruption. *Archives of Oral Biology* 50:897-908, 2005.
49. Gorin Y, Block K, Hernandez J, Bhandari J, Wagner B, Barnes JL, Abboud HE: Nox4 NAD(P)H oxidase mediates hypertrophy and fibronectin expression in the diabetic kidney. *J Biol Chem* 280:39616-39626, 2005.
50. Danda RS, Habiba NM, Rincon-Choles H, Bhandari BK, Barnes JL, Abboud HE, Pergola PE: Kidney involvement in a non genetic rat model of type 2 diabetes. *Kidney Int.* 68:2562-2571, 2005.
51. Faulkner JL, Szykalski LM, Springer F, Barnes JL: Origin of interstitial fibroblasts in an accelerated model of angiotensin II (Ang II)-induced renal fibrosis. *Am J Pathol* 167:1193-1205,



2005. Article highlighted in the Journal Club section of *Kidney International* by Detlef Schlondorff. *Kidney Int* 69: 647-648, 2006.
52. Rincon-Choles H, Vasylyeva, TL, Pergola, E, , Bhandari B, Bhandari K, Zhang J-H, Wang W, Gorin Y, Barnes JL, Abboud HE: ZO-1 Expression and phosphorylation in diabetic nephropathy. *Diabetes* 55:894-900, 2006.
  53. Gooch JL, Guler RL, Barnes JL, Toro JJ: Loss of calcineurin A-alpha results in altered trafficking of AQP2 and in nephrogenic diabetes insipidus. *J Cell Sci*, 119:2468-2476, 2006.
  54. Sataranatarajan K, Mariappan MM., Lee MJ, Feliers D, Ghosh Choudhury G, Barnes JL, Kasinath BS. Regulation of elongation phase of mRNA translation in diabetic nephropathy - amelioration by rapamycin. *Am J Pathol* 171:1733-1744, 2007.
  55. Cortez D, Feldman M, Srinivas, Valente A, Steffensen B, Vincenti M, Barnes, J, Chandrasekar B: Interleukin-17 stimulates MMP1 expression in primary human cardiac fibroblasts via p38 MAPK and ERK1/2-dependent C/EBP $\beta$  NF-kB, and AP-1 activation . *Am J Physiol*, 293:H3356-H3365, 2007.
  56. Habib SL, Simone S, Barnes JL, and Abboud HE: Tuberin haploinsufficiency is associated with the loss of OGG1 in rat kidney tumors. *Mol Cancer* 7:10, 2008.
  57. McIntosh LM, Barnes JL, Barnes VL, McDonald JR. Selective CCR2-targeted macrophage depletion ameliorates experimental mesangioproliferative glomerulonephritis *Clin Exp Immunol* 155:295-303, 2009.
  58. Geng H, Lan R, Guichun W; Siddiqi A; Naski M, Brooks A, Barnes J, Saikumar P, Weinberg J, Venkatachalam, MA. Inhibition of autoregulated TGF $\beta$  signaling simultaneously enhances proliferation and differentiation of kidney epithelium and promotes repair following renal ischemia. *Am J Pathol* 174:1291-1308, 2009.
  59. Eid AA, Gorin Y, Fagg BM, Maalouf R, Barnes JL, Block K, Abboud HE: Mechanisms of podocyte injury in diabetes: Role of cytochrome P450 and NADPH oxidases. *Diabetes* 58:1201-11 2009.
  60. Bondi CD, Manickam N, Lee D Y, Block K, Gorin Y, Abboud HE, Barnes JL. NAD(P)H oxidase mediates TGF-b1-induced activation of kidney myofibroblast. *J Am Soc Nephrol* 21: 93-102, 2010.
  61. Lee M-J, Feliers D, Sataranatarajan K, Mariappan MM, Lia, Barnes JL, Choudhury GG, Kasinath BS: Resveratrol ameliorates high glucose-induced protein synthesis in glomerular epithelial cells. *Cell Signaling* 22: 65-20, 2010.
  62. Halade G V, Rahman M, Bhattacharya A, Barnes JL, Chandrasekar B, Fernandes G: Docosahexaenoic acid-enriched fish oil attenuates kidney disease and prolongs median and maximal life span of autoimmune lupus-prone mice. *J Immunol* 184:5280-5286, 2010
  63. Dey N, Gosh-Choudhury N, Das F, Li X, Venkatesan B, Barnes JL, Kasinath BS, Ghosh-Choudhury G: PRAS40 acts as a nodal regulator of high glucose-induced TORC1 activation in glomerular mesangial cell hypertrophy. *J Cell Physiol* 225:27-41, 2010.
  64. Day RT, Cavaglieri Rde C, Tabatabaimir H, Mantravadi V, Lee MJ, Barnes JL, Kasinath BS, Feliers D: Acute hyperglycemia rapidly stimulates VEGF mRNA translation in the kidney. Role of angiotensin type 2 receptor (AT2). *Cell Signal*. 22:1849-1857, 2010.
  65. Eid AA, Fagg BM, Block K, Kasinath BS, Ghosh-Choudhury G, Gorin Y, Barnes JL, Abboud HE: AMP-activated protein kinase (AMPK) negatively regulates Nox4-dependent activation of p53 and epithelial cell apoptosis in diabetes. *J. Biol. Chem* 285: 37503-37512, 2010.
  66. Mariappan MM, D'Silva K, Lee M-J, Sataranatarajan K, Barnes JL, Choudhury GG, Kasinath BS: Ribosomal biogenesis induction by high glucose requires activation of upstream binding factor in kidney glomerular epithelial cells" (F-00207-2010R1), *Am J Physiol Renal Physiol* 300: F219-F230, 2011.
  67. Barnes JL and Glass W: Renal interstitial fibrosis: A critical evaluation of the origin of myofibroblasts. In: *Experimental Models of Renal Diseases: Pathogenesis and Diagnosis*. G. A. Herrera, Ed. S. Karger AG-Medical and Scientific Publishers. Basel Switzerland, *Contrib Nephrol*. Vol 169, pp 97-123, 2011
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70. Rincon-Choles H, Lee S, Shade RE, Rice KS, Karey KD, Abboud HE, Comuzzie AG, Barnes JL: Renal histopathology of a baboon model with type-2 diabetes. *Toxicologic Pathol*, 40: 1020–1030 2012. PMC3477873.
71. Ghosh P, Shu Z-J, Zhu B, Lu, Z, Ikeno Y, Barnes JL, Pergola PE, Katz MS, Yeh C-K, Kamat A: Role of beta-adrenergic receptors in regulation of hepatic fat accumulation during aging. *J Endocrinology* 213:251-261, 2012. PMC3539306
72. Wagner B, Tan C, Lee DY, Barnes JL, Ahuja S, Davis TL, Gorin Y, Jimenez. F. Nephrogenic systemic fibrosis: Evidence for oxidative stress and bone marrow derived fibrocytes in skin, liver, and heart lesions using a 5/6 nephrectomy rodent model. *Am J Pathol* 181 (6):1941-1952, 2012. 23041060
73. Sataranatarajan K, Feliers D, Mariappan M, Lee HJ, Lee M-J, Day RT, Yelamanchilli H, Choudhury GG, Barnes JL, Van Remmen H, Richardson A, Kasinath BS. Molecular events in matrix protein metabolism in the aging kidney. *Aging Cell* 11:1065–1073, 2012.
74. Halade GV, Williams PJ, Veigas J, Barnes JL, Fernandes G. Concentrated fish oil (Lovaza®) extends lifespan and attenuates kidney disease in lupus-prone short-lived (NZBXNZW) F1 mice. *Exp Biol Med* 238: 610-622, 2013.
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79. Ibrahim MK, Barnes JL, Anstead GM, Jimenez F, Osterholzer J, Travi BL Ahuja SS, White, A, Melby PC: Deficiency of lymph node resident dendritic cells and dysregulation of DC chemoattractants in a malnourished mouse model of visceral leishmaniasis. *Infection and Immunity*, In Press. 2014.
80. Manickam N\*, Patel M\*, Griendling KK, Gorin Y, Barnes JL. Rho/Rho kinase mediates TGF- $\beta$ 1-induced kidney myofibroblast activation through Poldip2/Nox4-derived reactive oxygen species. *Am J Physiol Physiol-Renal* 307: F159-F171, 2014. \* contributed equally to this manuscript PMID: 24872317. PMCID: PMC4101629. (Accompanying Editorial Focus: Zhan M. and Kanwar YS. Hierarchy of molecules in TGF- $\beta$ 1 signaling relevant to myofibroblast activation and renal fibrosis. *Am J Physiol-Renal* 307: F159-F171, 2014).
81. Riser BL, Najmabadi F, Garchow K, Barnes JL, Peterson DR, Sukowski EJ: Treatment with the matricellular protein CCN3 (nov) blocks and/or reverses fibrosis development in obesity with diabetic nephropathy. *Am J Pathol* 184:2908-2921, 2014. PMID:25193594.
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83. Thakur S, Viswanadhapalli S, Kopp JB, Shi Q, Barnes JL, Block K, Gorin, Y, Abboud HE: Activation of AMP-activated protein kinase prevents TGF $\beta$ -1-induced epithelial-mesenchymal transition and myofibroblast activation. *Am J Pathol* 185:2168-2180, 2015. PMID:26071397 PMCID:PMC4530134

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85. Sataranatarajan K, Ikeno Y, Bokov A, Feliars D, Yalamanchili H, Lee HJ, Mariappan M, Tabatabai-Mir H, Diaz V, Prasad S, Javors M, Ghosh Choudhury G, Hubbard GB, Barnes JL, Richardson A, Kasinath BS. Rapamycin increases mortality in db/db mice, a mouse model of type-2 diabetes. In Press, *J Gerontol A Biol Sci Med Sci*. 2015 Oct 5. pii: glv170. [Epub ahead of print]
86. Nayak BK, Shanmugasundaram K, Friedrichs WE, Cavaglieri RC, Patel M, Barnes JL, and Block K: HIF-1 mediates renal fibrosis in OVE26 type 1 diabetic mice. *Diabetes* 65: 1387-1397, 2016.
87. Drel V, Tan C, Barnes JL, Gorin Y, Lee D-Y and Wagner B. Centrality of bone marrow in the severity of gadolinium–based contrast–induced systemic fibrosis. In Press, *FASEB J*, 2016.

#### Invited Lectures:

1. Gordon Research Conference on Basement Membranes, Proctor Academy, Andover, NH, June 14-18, 1982. (participant)
2. Barnes JL, Venkatachalam MA: “Glomerular interactions of exogenous and endogenous polycations”, First International Symposium on the Pathogenic Role of Cationic Proteins Interaction with Biological Membranes. Brussels, Belgium, October 15, 1982. (lecture)
3. Barnes JL: “Binding of platelet factor 4 to glomerular polycation”, Second International Symposium on the Glomerular Basement Membrane. Vienna, Austria, September 5, 1983. (lecture)
4. Barnes JL: “Glomerular Interactions of Exogenous and Endogenous Polycations”, Laboratorio Di Immunopatologia Istituto Di Medicina Interna, Divisione Di Nefrologia e Dialysis, Ospedale Maggiore S.G., Battista, Torino, Italy, September 3, 1983. (lecture)
5. Barnes JL: “Glomerular immune injury”, Renal Combined Conference, Department of Medicine, Division of Renal Disease, University of Texas Health Science Center at San Antonio, Texas, October, 1983. (seminar)
6. Barnes JL: “Glomerular interactions of exogenous and endogenous polycations”, Research in Progress Seminar, Department of Pathology, University of Texas Health Science Center at San Antonio, Texas, November 22, 1983. (seminar)
7. Barnes JL: “Immune injury”, Renal Combined Conference, Department of Medicine, Division of Renal Diseases, University of Texas Health Science Center at San Antonio, Texas, January 4, 1984. (seminar)
8. Barnes JL and Venkatachalam MA: “Glomerular permeability to macromolecules. Recent concepts”, Satellite Symposium of IX International Congress of Nephrology on Glomerular Function: Regulation in Normal and Pathophysiologic Conditions. Sumner Auditorium. Scripps Institute of Oceanography. La Jolla, CA, June 16-18, 1984. (lecture)
9. Barnes JL: “Role of Polycationic Mediators in Glomerular Disease”, Research Conference, Department of Physiology, University of Texas Health Science Center at San Antonio, Texas, February 6, 1985. (seminar)
10. Barnes JL: “Role of Platelets and Polycationic Mediators in Glomerular Disease”. The 18<sup>th</sup> Annual Meeting of the American Society of Nephrology, Rivergate Convention Center, New Orleans, Louisiana, December 17, 1985. (invited lecture)
11. Barnes JL: “Role of Platelets and Polycationic Mediators in Glomerular Disease”, Department of Pathology, University of Texas Health Science Center at San Antonio, Texas, February 25, 1986. (seminar)

12. Barnes JL: "Role of Platelet Polycationic Mediators in Glomerular Disease", Department of Medicine, University of Utah School of Medicine, Salt Lake City, Utah, April 1, 1986. (seminar)
13. Barnes JL: "Role of Platelet Polycationic Mediators in Glomerular Disease", Department of Medicine, Boston University, Boston, MA, March 27, 1986. (seminar)
14. Barnes JL: "Role of Platelet Polycationic Mediators in Glomerular Disease", Department of Pathology, Rhode Island Hospital, Providence, RI, November 19, 1986. (seminar)
15. Barnes JL: "Role of Platelet Polycationic Mediators in Glomerular Disease", Department of Internal Medicine, Yale University, West Haven, CT, June 23, 1987. (seminar)
16. Barnes JL: "Role of Platelet Secretory Proteins in Glomerular Disease", Department of Orthopaedics, Rhode Island Hospital, Providence, RI, October 30, 1987. (seminar)
17. Barnes JL: "Role of Platelet Secretory Proteins in Glomerular Disease", Department of Medicine, Division of Renal Diseases, Rhode Island Hospital, Providence, RI, November 19, 1987.
18. Barnes JL: "Role of Platelet Secretory Proteins in Proliferative Glomerulonephritis", Department of Pathology, Rhode Island Hospital, Providence RI, April 18, 1988. (seminar)
19. Barnes JL: "Antigen Charge: Its Role in Glomerular Binding and Immune Complex Formation", Division of Nephrology, Cornell University Medical College/Rogosin Kidney Center, New York, NY, November 16, 1988. (seminar)
20. Barnes JL: "Association of Platelet Secretory Proteins with Glomerular Proliferative Lesions Induced by Habu Snake Venom", Department of Medicine, Renal Division, Boston University, Boston MA, February 2, 1989. (seminar)
21. Barnes JL: "Techniques in *In Situ* Hybridization", Department of Pathology, Rhode Island Hospital, Providence, RI, April 10, 1989. (seminar)
22. Barnes JL: "Association of Platelet Secretory Proteins with Glomeruloproliferative Lesions Induced by Habu Snake Venom", Department of Pathology, University of Oklahoma Health Sciences Center, Oklahoma city, OK, July 20, 1989.
23. Barnes JL: "Mesangial Proliferative Glomerulonephritis", Department of Pathology, Rhode Island Hospital, Providence, RI, October 16, 1989.
24. Barnes JL: "Platelet Secretory Proteins as Mediators of Proliferative Glomerulonephritis", GRECC Veterans Administration Hospital, San Antonio, Texas October 17, 1991.
25. Barnes JL: "Mesangial Cell Migration: An Early Event in Mesangial Proliferative Glomerulonephritis", Department of Pathology, University of Texas Health Science Center, San Antonio, Texas, November 23, 1992.
26. Barnes JL: "Fibronectin Isoforms in Glomerular Remodeling", Department of Medicine, University of Texas Health Science Center, San Antonio, Texas, March 1996.
27. Barnes JL: In situ Hybridization in the Study of the Kidney and Renal Diseases. Presented at the 16<sup>th</sup> International Symposium of the Society of Toxicologic Pathologists, June 23, 1997, Beaver Creek, CO.
28. Barnes JL: "Alternatively Spliced Fibronectin (Fn-EIIIA) Parallels Cell Activation in Renal Maturation and Disease", Department of Medicine, University of Texas Health Science Center, San Antonio, Texas, November 17, 1998.
30. Barnes JL: Histopathological Analysis of Experimental Renal Disease. Department of Internal Medicine, Division of Nephrology and Hypertension, Henry Ford Hospital & Medical Centers, Detroit, MI, January 24, 2002.
31. Barnes JL: Origin of Interstitial Fibroblasts in an Accelerated Model of Angiotensin II (All)-induced Interstitial Fibrosis. Department of Medicine Research Seminar Series, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, April 29, 2003.
32. Barnes JL "Histological Techniques in the Study of the Kidney and Renal Disease". Techniques in Experimental Nephrology Seminar Series, Division of Nephrology, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, June 5, 2003.
33. Barnes JL "Applications of In Situ Hybridization in Experimental Nephrology". Techniques in Experimental Nephrology Seminar Series, Division of Nephrology, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, June 5, 2003.

34. Barnes JL "Origin of Interstitial Fibroblasts in an Accelerated Model of Angiotensin II (Ang II)-induced Renal Fibrosis". Department of Pathology, Eastern Virginia Medical School, Norfolk, VA. December 17, 2004.
35. Barnes JL "Research in the Laboratory of Jeffrey L. Barnes, Ph.D." Presented to the Clinical Nephrology Fellows Division of Nephrology, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, February 22, 2006.
36. Barnes JL: Reactive Oxygen Species in Experimental Renal Fibrosis. Department of Medicine Research Seminar Series, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, May 22, 2007.
37. Barnes JL "Research in the Laboratory of Jeffrey L. Barnes, Ph.D." Presented to the Clinical Nephrology Fellows Division of Nephrology, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, May 23, 2007.
38. Barnes JL: Cellular Mechanisms in Experimental Renal Fibrosis. Department of Medicine, Division of Cardiology Research Seminar Series, Department of Medicine, UTHSCSA, San Antonio, TX August 14, 2007.
39. Barnes JL: "Renal Interstitial Fibrosis" Grand Rounds, Department of Medicine, UTHSCSA, San Antonio, TX. January 28, 2009.
40. Barnes JL "Role of NAD(P)H Oxidase (Nox4) in Renal Myofibroblast Differentiation and Fibrosis" Department of Medicine Research Conference, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, April 26, 2011
41. Barnes JL. "Histopathology of Renal Disease" Chronic Kidney Disease Division. Boehringer-Ingelheim Corporation, Ridgefield CT May 9, 2011.
42. Barnes JL. "Histopathology of Renal Disease- II" Chronic Kidney Disease Division. Boehringer-Ingelheim Corporation, Ridgefield CT May 9, 2012.
43. Barnes JL. "Role of NOX4 in myofibroblast activation in the kidney" Invited Speaker: Gordon Research Conference Nox Family NADPH Oxidases. NOX Biology and its Translation to Human Disease and Therapy. Waterville Valley Resort Waterville Valley, NH. June 3-8, 2012.
44. Barnes JL. "Regulation of Myofibroblast Differentiation in Experimental Renal Fibrosis". VA/GRECC Research Forum Rm W200 Audie Murphy Division STVHCS, San Antonio, TX, December 5, 2012.
45. Barnes JL. "Histopathological Approaches to Experimental Renal Disease" Early Drug Discovery Immunology, Astellas Research Institute of America, Chicago, IL, April 9, 2013. Barnes JL. "Renal Fibrosis: New Insights in NADPH Oxidase (Nox4) Signaling of Myofibroblast Differentiation. Department of Medicine Research Conference, Department of Medicine University of Texas Health Science Center, San Antonio, TX, October 7, 2014.
46. Barnes JL. "Vasculogenesis by Mouse Renal Progenitor Cells in 3-Dimensional Culture" Division of Nephrology Research Conference, Department of Medicine, University of Texas Health Science Center, San Antonio, TX, November 12, 2015.
47. SBIR/STTR Proposal Preparation for NIH Greehey Children's Cancer Research Institute, Room 2.150 8403 Floyd Curl Drive, San Antonio August 2 - 3, 2016. Featuring comments by Dr. Jeffrey Barnes, Dr. Charles Bowden, Dr. Ken Hargreaves, and Dr. John Roache of the UT Health Science Center, San Antonio. Moderated by Becky Aistrup.

## TEACHING:

### Instructional Development:

Attendee- Workshop in Molecular Biology, BRL, Boston University, Boston, MA 1987

Attendee- "Concepts in Molecular Biology" Am Assoc Pathol & U S Canad Acad Pathol. Oct 30- Nov 2, 1988, Bethesda MD

Attendee- "Optical Microscopy in the Biological Sciences" Course- June 10-17, 2000. The University of Texas Health Science Center, San Antonio, TX  
 Attendee: "Optical Microscopy in Renal Research" Indiana Center for Biological Microscopy, September 15-20, 2003.

**Classroom/Laboratory:**

1981- 1986	General Pathology for Allied Health Professions (Dental, Physical Therapy, Pharmacology Programs) (UTHSCSA)	11-1-hour lectures, 50 hours of teaching laboratories
1983- 1986	General and Systemic Pathology for Medical Students (UTHSCSA)	30 hours of teaching laboratories
1979- 1980	Member, Supervising Committee for Graduate Dissertation (Anatomy) of Diane Haley, (UTHSCSA)	
1986- 1990	Topics in Immunology and Pathology to Residents and Staff (RIH)	4 lectures
1987- 1990	Organizer of Pathology Research Seminars	Department of Pathology (RIH)
1994	Lecture: "Anatomy of the Kidney"	Renal Fellows Division of Nephrology
1996	Lecture: "Renal Vasculature"	Renal Fellows Division of Nephrology
1996- present	Annual Lecture: "Anatomy of the Kidney"	Renal Fellows Division of Nephrology
1999-present	Organizer of Research Journal Club	Faculty, Fellows, & Staff Division of Nephrology

Supervised Medical Student  
 Research Rotations (UTHSCSA):

1983	Bill Reading
1984	Mary Reznicek
1993	David Anderson

**Consultantships:**

1998: Medical Science Systems, Inc.  
 1997-Present: Probetex, Inc.

2000-Present: InCell Corp, LLC  
2002-Present: Baxter Health Care Renal Division  
2003-2005: Curagen Corporation  
2005-Present: Osprey Pharmaceuticals Ltd.  
2011-Present: Boehringer Pharmaceuticals

## **Research Support (Grants and Contracts):**

### **Probetex:**

National Institutes of Health, NIDDK, SBIR Phase I  
Tissue Products and Kits from Renal Disease (R43 DK061834)  
Veronique L. Barnes PI: Probetex, Inc.  
Jeffrey L. Barnes, Ph.D. Consultant: UTHSCSA, Nephrology  
04/01/04-03/31/05 - \$100,000 The goals of this project were to validate antiserum and tissue products from three models of immune-mediated renal disease,- Anti-Thymocyte mesangioproliferative GN, Anti-GBM crescentic GN, Anti-FX1A ) Heymann antigen) membranous GN. To establish a plan for the subsequent expansion and commercialization of tissue products and services.

Role: Co-investigator

SBIR Phase II, Veronique L. Barnes (PI) 09/30/06-06/29/09  
NIH, NIDDK R 43 DK061834-02  
Role: Co-investigator  
National Institutes of Health, NIDDK, SBIR Phase II  
Tissue Products and Kits from Renal Disease (R44 DK061834)  
Veronique L. Barnes PI: Probetex, Inc.  
Hanna E. Abboud, MD, Co-investigator: UTHSCSA, Nephrology  
Jeffrey L. Barnes, Ph.D. Consultant: UTHSCSA, Nephrology  
09/30/06-09/29/08 - \$ 688,614

This Phase II grant focuses on large-scale production of reagents and tissue products (tissue sections, protein lysates, purified RNA, derived from the six models of kidney disease collectively representing the most common forms of renal disease presented clinically (i.e. mesangioproliferative glomerulonephritis, Crescentic anti GBM disease, Membranous nephritis, Types 1 and 2 diabetic nephropathy and lupus nephritis). Also, the company will prepare and validate seven kidney cell lines (glomerular mesangial, epithelial, and endothelial cells and embryonic stem cells) for commercialization under the direction of Hanna Abboud, M.D. through a consortium agreement with UTHSCSA.

National Institutes of Health, NIDDK, STTR Phase I  
Commercialization of Embryonic Kidney Cell Lines (R41DK077436-01)  
Jeffrey L. Barnes, Ph.D. PI: Probetex, Inc.  
Hanna E. Abboud, MD, Co-PI: UTHSCSA, Nephrology  
Veronique L. Barnes, MD: Probetex, Inc. Co-investigator  
08/01/07-07/31/08 - \$148,785

National Institutes of Health, NIDDK, STTR Phase II  
Commercialization of Embryonic Kidney Cell Lines (R42DK077436-02)  
Jeffrey L. Barnes, Ph.D. PI: Probetex, Inc.  
Hanna E. Abboud, MD, Co-PI: UTHSCSA, Nephrology  
Veronique L. Barnes, MD: Probetex, Inc. Co-investigator  
08/01/07-07/31/12 - \$743,000

The goals of this project are to validate and commercialize three existing kidney embryonic primordial cell lines licensed to Probetex from the University of Texas Health Science Center. The aims are to further characterize the differentiation potential of embryonic mesenchymal and ureteral bud cell lines derived from kidney primordia; To isolate and characterize new embryonic cell lines derived from the nephrogenic zone of embryonic metanephric kidney; and to establish a cell bank of embryonic kidney cell lines created during Phase I.

Completed:

National Science Foundation

Partnership for Innovation grant (2003) Awarded to SynreCom (Synergistic E-Commerce) in cooperation with the Electronic Commerce and information Systems Department of the School of Business, Our Lady of the Lake University, TEKSA Innovations Corporation and participating companies. SynreCom is a unique blending of Texas resources that exists to build intellect and confidence in underprivileged students in the community. The program offered these young adults technical skills, access to social services, and unlimited exposure and interaction with professionals. The students worked with Probetex to design and launch the company's web site ([www.probetex.com](http://www.probetex.com)). The site is an important tool in communication and marketing, where the company lists its mission, line of services and products.

Role: Participating Company

**Academic:**

National Institutes of Health (National Institute of Diabetes and Digestive Kidney Diseases)

Jeffrey L. Barnes, Ph.D. PI

New Investigator Research Award

Role of Polycationic Mediators in Glomerulonephritis

1/1/81-12/31/84 - \$107,000

Principal Investigator #AM 30393

National Institutes of Health (National Institute of Diabetes and Digestive Kidney Diseases)

Renewal RO1

Jeffrey L. Barnes, Ph.D. PI

1/1/85-6/30/91 - \$333,000

Principal Investigator #DK 38758

Abbott Laboratories

Clinical Trials Involving the Abbott IMX

6/15/88-5/14/89 - \$13,135

Abdalla Rifai and Jeffrey L. Barnes

Co-Principal Investigators

Department of Veterans Affairs, Research Advisory Group (RAG)

Role of Platelet Secretory Proteins in Proliferative Glomerulonephritis

4/1/91-3/31/93 - \$59,000

Southern Arizona Foundation

Jeffrey L. Barnes, Ph.D. PI

Amelioration of Proliferative Glomerulonephritis by

Prostaglandin E<sub>1</sub> (PGE<sub>1</sub>) Therapy



6/15/91-6/14/92 - \$21,539

The National Kidney Foundation of Texas  
Jeffrey L. Barnes, Ph.D. PI  
Platelet Released Adhesive Proteins as Mediators of Mesangial  
Proliferative Glomerulonephritis  
7/1/91-6/30/92 - \$5,000

G.D.Searle and Company  
Amelioration of Proliferative Glomerulonephritis by Prostaglandin  
Analogue Misoprostol  
9/1/91-8/30/93 - \$130,000  
Hanna E. Abboud, Principal Investigator  
Jeffrey L. Barnes, Co-Investigator

Veterans Administration Merit Review  
Jeffrey L. Barnes, Ph.D. PI  
Role of platelet secretory proteins in proliferative glomerulonephritis  
11/1/92-10/31/94 - \$239,189

National Institutes of Health (National Institute of Diabetes  
and Digestive Kidney Diseases)  
Jeffrey L. Barnes, Ph.D. PI  
Role of polycationic mediators in glomerulonephritis  
12/1/91-11/30/95 - \$337,492

Veterans Administration Merit Review  
Jeffrey L. Barnes, Ph.D. PI  
Role of Platelet Secreting Proteins in Proliferative Glomerulonephritis  
04/1/95-03/31/2000 - \$568,160

Southern Arizona Foundation  
Macrophage-derived Fibronectin and Thrombospondin in Cell Remodeling in Crescentic  
Glomerular Disease  
Jeffrey L. Barnes, Ph.D. PI  
07/01/95-06/30/96 - \$13,800

Research Enhancement Award Program (REAP)  
Veterans Administration  
Gene Therapy of Glomerulonephritis  
10/1/99-03/31/2004 - \$1,250,000  
Hanna E. Abboud, Principal Investigator  
Jeffrey L. Barnes, Co-Investigator (Program of 5 Co-investigators)  
Veterans Administration Merit Review  
Jeffrey L. Barnes, Principal Investigator  
Fibronectin in Mesangial Cell Function  
04/01/99-03/31/2004 - \$832,800

George O'Brien Kidney Research Center Grant  
National Institutes of Health, NIDDK  
Jeffrey L. Barnes, Ph.D.,  
Co- Investigator Core B: Transgenic Animal and Morphology Core (Director) 04/1/03-  
03/31/08- \$499,225

George O'Brien Kidney Research Center Grant  
National Institutes of Health, NIDDK  
Jeffrey L. Barnes, Ph.D., Co-Investigator  
Genetics of Diabetic Nephropathy in the Baboon  
04/1/03-03/31/05- \$144,666  
Juvenile Diabetes Research Foundation, Goutam Ghosh Choudhury, PI  
PTEN, Akt kinase and Diabetic Nephropathy  
Jeffrey L. Barnes, Ph.D., Co- Investigator  
02/01/04-01/31/07

National Institutes of Health, NIDDK, Goutam Ghosh Choudhury, PI  
Mechanism of Renal Cell Injury in Diabetes  
Jeffrey L. Barnes, Ph.D., Co- Investigator  
08/01/04-07/31/08 - \$135,000

American Heart Association- Texas Affiliate, Grant-In Aid 0555006Y  
Role of PDGF BB on Myofibroblast Migration and Proliferation Early During the  
Progression of Renal Fibrosis  
Jeffrey L. Barnes, Ph.D. Principal Investigator  
07/01/05-06/30/07 \$124,000

Veterans Administration Merit Review  
Jeffrey L. Barnes, Principal Investigator  
Oxidative Stress and Intersitital Fibrosis  
07/01/2007-06/30/2011 - \$633,000

University:

Office of the Vice President of Research  
Bridge funding \$5,000/ month- \$30,000  
Jeffrey L. Barnes, Principal Investigator  
Fibronectin in Mesangial Cell Function

**SERVICE**

**Professional Affiliations:**

1. Current Professional and Scientific Organizations and Societies (\*-require election or examination for membership):
  - American Association for the Advancement of Science
  - \*American Association of Pathologists
  - \*American Heart Council on Kidney in Cardiovascular Disease
  - \*American Society of Nephrology
  - \*International Society of Nephrology
  - \*Renal Pathology Society
  - \*Society of Toxicologic Pathologist
2. Past and Current Positions and/or Offices Held in Professional Organizations:

None
3. Other Professional Activities (National and State Consultants, Review Panels and Committees, Editorial Boards, Continuing Education Lectures Presented, etc.):

Journal Reviewer :

American Journal of Kidney Diseases  
American Journal of Pathology  
American Journal of Physiology  
European Journal of Pharmacology  
Journal of the American Society of Nephrology  
Journal of Clinical Investigation  
Journal of Histochemistry and Cytochemistry  
Journal of Laboratory and Clinical Medicine  
Kidney International  
Laboratory Investigation  
Life Sciences  
Microvascular Research

1991 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
1993 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
1995 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
1996 Reviewer, American Heart Assoc., Texas Affiliate  
1996 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
1997 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
2000-01 Reviewer, American Heart Assoc., Western States Affiliate  
2001 Ad Hoc Reviewer, Veterans Administration Merit Review - Grant Application  
2001-04 Member, Department of Veterans Affairs Merit Review Subcommittee for  
Nephrology (Merit Review Study Section)

**Community Activities (American Cancer Society, American Lung Association, etc.):**

American Heart Association, Kidney Council  
San Antonio Pipes and Drums, Scottish Society, San Antonio, TX

**Committees:**

1986 Session Co-Chairman, Immunology/Pathology, Annual Meeting of the  
American Society of Nephrology, Washington, D.C.  
1989 Session Co-Chairman, Pathophysiology of Renal Disease, Annual Meeting  
of the American Society of Nephrology, Washington, D.C.  
1990 Session Co-Chairman, Immunology/Pathology, Annual Meeting of the  
American Society of Nephrology, Washington, D.C.  
1988-1990 Education Committee, Department of Pathology, Rhode Island Hospital  
1988 Clinical Pathology Committee (Ad Hoc), Department of Pathology,  
Rhode Island Hospital  
1989-1990 Professional Committee, Department of Pathology, Rhode Island  
Hospital  
1993-1996 Institutional Animal Care and Use Committee (Ex Officio, VA Hospital  
representative)  
1993-2000 Animal Studies Subcommittee, Veterans Administration Medical Center  
1995-2000 Total Quality Improvement Council (TPY) Veterans Admin. Medical Ctr.  
1997-2000 Chairman, Animal Studies Subcommittee, Veterans Admin. Medical  
Center

- 1999-2004 Member (Associate Chair) Research Enhancement Award Program (REAP) Committee.  
2004-present Member, George O'Brien Steering Committee

**Administrative Responsibilities:**

Department, Division, Clinical Service, Coordinator, etc.:

- 1999-2004: Associate Director of Research Enhancement Award Program "Gene Therapy of Glomerulonephritis" Research Service/ /Division of Nephrology, B300 AMLD/STVHCS  
1999-2004: Director of Divisional Morphology Core (V.A. Research Enhancement Award Program (REAP), Research Service/Division of Nephrology, B300 AMLD/STVHCS  
2004-present: Director, Morphology Core, George O'Brien Kidney Center, Division of Nephrology Department of Medicine, UTHSCSA  
1999-present: Chief Science Officer, Probetex, Inc.

Staff and Personnel Currently Supervised:

Probetex:

Rune-Par Nilsson, Ph.D., Associate Director of Research  
Malini Mariappan, Ph.D. Project Manager  
DeAnn Cope, Senior Research Assistant  
Myung-Ja Lee, Ph.D. Project Manager  
Hannah Burns, BS Research Assistant

University:

Corry Bondi, Sr. Research Assistant  
Fredyne Springer, Histotech IV  
Christina Spencer, Sr. Research Assoc.  
Mandakini Patel, PhD