

CURRICULUM VITAE

Name: **Suresh C. Tyagi**

Mailing Address: Department of Physiology
School of Medicine, University of Louisville
500 S Preston Street, 40202 Louisville, Kentucky
E-mail: suresh.tyagi@louisville.edu

Citizenship: USA (Naturalized)

Date of birth: January 1, 1955

Marital Status: Married (Reeta Tyagi)

Children: Three

Educational Qualifications:

Ph.D.	University of Aligarh, India, 1980: Biophysics
M.Phil.	University of Aligarh, India 1977: Chemistry.

Professional Experience:

2003 - present	Vice Chair for Research, Physiology & Biophysics, University of Louisville, Louisville, Kentucky, USA
2003 - present	Stodghill Endowed Chair in Biomedical Sciences, University of Louisville, Louisville, Kentucky, USA
2003 – present	Full professor at University of Louisville, Kentucky, USA
1998 - 2003	Associate professor at University of Mississippi Medical Center.
1992 - 1996	Assistant professor of medicine and biochemistry at University of Missouri, Columbia, USA
1989	Res Associate; SUNY at Stony Brook, NY, USA; Pathology
1987	Post-Doc; SUNY at Stony Brook, NY, USA; Pharmacology

1983

Post-Grad; University College, Cork, Ireland; Bioinorganic Chemistry

Major Research Interests:

Pathophysiology and pharmacology of heart dysfunction; myocardial ischemia and cell damage; remodelling of subcellular organelles in congestive heart failure; energy metabolism in diabetic cardiomyopathy; the muscle biology and extracellular matrix remodeling; role of exercise in mitigation of diabetic complications; the role of H₂S as protective agent.

Teaching Specialities:

1. Cardiovascular Physiology and Pharmacology
2. Cardiovascular remodelling
3. Pathophysiology of Cardiovascular Dysfunction
4. Biochemical and Molecular Mechanisms of Cellular Function

Honours and Awards:

1. 1975-1977 Junior Research Fellowship, University Grants Commission, India
2. 1978-1980 Senior Research Fellowship, University Grants Commission, India
3. 1980-1982 Senior Demonstratorship, University of Cork, Ireland
4. 1991 American Society of Biochemistry & Molecular Biology, Travel Award for 15th International Congress of Biochemistry, Jerusalem, Israel, August 4-8, 1991.
5. 1992 International Union of Biochemistry & Molecular Biology, Travel Award for the 1st conference on the Biochemistry of Diseases, Nayoga, Japan, June 1-6, 1992.
6. 1995 Finalist for American Heart Association, Boots Cardiovascular Research Prize, Feb 1- 4, 1995, Snowbird Conference Center, Salt Lake City, Utah
7. 1995 Travel Fellowship Award, June 29-30, 1995, Seventh International Symposium on Basement Membranes, NIH-NIDDKD
8. 1997 Travel Award, March 4-9, 1997, II International Symposia on Transplant Pathobiology, Southampton, Bermuda.
9. 1998 Science Judge, Power Elementary School, 6-8 grade, 2/5/98; 2/3/00
10. 1998 Finalist for the Goldblatt Award in Hypertension at the American Heart Association council on high blood pressure research meeting, 9/14/98-9/18/98, Philadelphia, PA
11. 2000 AstraMerck Travel Award to European Society of Cardiology, Annual Meeting, 8/26- 8/30, 2000, Amsterdam, Holland.
12. 2001 AstraZeneca APOLLO faculty award, New York Waldoff Hilton Hotel, 9/28-30, 2001.

13. 2001 Fellowship American Heart Association (FAHA)
14. 2001 Medal of merit award, XVII World Congress of International Society for Heart Research, Winnipeg Canada
15. 2002 Fellowship American Physiological Society (FAPS), cardiovascular section
16. 2002 Nominated for 2004 Cannon Award.
17. 2003 Science Judge for Mississippi Junior Academy of Science projects, Jan 31, 2003, Williams Carey College, Hattiesburg, MS
18. 2007 Judge for High School Science for Jefferson County High Schools, Kentucky, February 19, 2007, Executive Inn Hotel West, Louisville, Kentucky.

Fellowships:

1. Fellowship: 2000-AHA; 2002-APS (Cardiovascular Section);
2. Member of APS-Fellowship Committee (2003-2006)

Offices Held in Professional Societies:

National Societies:

1. Sigma Xi, National Honor Scientific Research Society
2. American Heart Association Council on High Blood Pressure Research
3. AHA Council on Arteriosclerosis, Thrombosis and Vascular Biology
4. American Society of Biochemistry and Molecular Biology
5. American Association for the Advancement of Science The Muscle Society
6. American Physiological Society
7. Mississippi Academy of Sciences

International Societies:

1. International Society for Heart Research

Appointments on Professional Journals:

Editorial Board Member:

- 1999- American Journal of Physiology (Heart & Circulatory Physiology)
 2000- Clinical & Experimental Hypertension
 2003- Molecular & Cellular Biochemistry
 2004-2007 Journal of Molecular and Cellular Cardiology
 2011- Amino Acids 2011- Journal of Biophysical Chemistry
 2011- Indian Journal of Biochemistry and Biophysics

Ad Hoc Reviewer:

- 1996- Circulation 1996- Hypertension 2005- Circulation Research 2006- Microcirculation

Current Research Interests:

1. Pathophysiology of Membrane Defects in Ischemic Heart Disease
2. Remodelling of Subcellular Organelles in Congestive Heart Failure
3. Signal Transduction Mechanisms in Heart Function in Health and Disease
4. Stress induced Cardiovascular Disease

5. Pathophysiology and Therapeutics of Diabetic Cardiomyopathy

LIST OF PUBLICATIONS BY S.C. TYAGI**FULL LENGTH PAPERS BY N.S. DHALLA IN REFEREED JOURNALS**

1. **Tyagi SC** & Khan AA. Studies on the interaction of chromium (III) with anthranilic acid: A kinetic study, *Ind J Chem*, 16A:657-660, 1978.
2. **Tyagi SC** & Khan AA. Studies on the composition and kinetics of the complex formed by the interaction of hexaaquochromium (III) with salicylic acid, *J Inorg Nucl Chem*, 40: 1899-1901, 1978.
3. **Tyagi SC** & Khan AA. Studies on the kinetics and mechanism of the interaction of hexaaquochromium (III) with phthalic acid, *J Chem Soc Dalton Trans*, 420-422, 1978.
4. **Tyagi SC** & Khan AA (1979) Studies on the composition and kinetics of the complex formed by the interaction of chromium (III) with p-hydroxy benzoic acid, *Inorg Chem*, 18:1515-1517, 1979.
5. **Tyagi SC** & Khan AA. Studies on the kinetics and mechanism of complex formed by the interaction of chromium (III) with acetate ions, *J Inorg Nucl Chem*, 41:1447-1450, 1979.
6. Fereday RJ, Hodgson P, **Tyagi S** & Hathaway BJ. The molecular structure and electronic properties of nitrate-bis(2,2'-bipyridyl) copper(II) nitrate monohydrate, *J Chem Soc Dalton Trans*, 10:2070-2077, 1981.
7. Fereday RJ, Hodgson P, **Tyagi S** & Hathaway BJ. A reinterpretation of the molecular structure of [Cu(II)(bipy)₂(NO₃)₂].H₂O, A distorted Cu(II) stereochemistry, *Inorg Nucl Chem Lett*, 17(7/8):243-246, 1981.
8. **Tyagi S** & Hathaway BJ. The molecular and electronic properties of mono-thiocyanato bis(2,2'-bipyridyl)copper(II) tetrafluoroborate" *J Chem Soc Dalton Trans*, 10:2029-2033, 1981.
9. Fitzgerald W, Murphy B, **Tyagi S**, Walsh B, Walsh A & Hathaway BJ. The single crystal electronic and EPR spectra of Cu(II) doped bis(2,2'-bipyridyl) nitrito Zinc(II) nitrate and bis(2,2'-bipyridyl) nitritocopper(II) tetrafluoroborate: A fluxional CuN₂N₂O₂ chromophore, *J Chem Soc Dalton Trans*, 12:2271-2279, 1981.

10. Ray N, **Tyagi S** & Hathaway BJ. Synthesis and properties of Cu(chelate)IX₂ complexes, the X-Ray molecular structure and electronic properties of mono(2,2'-bipyridylamine) Copper(II) dibromide, *J Chem Soc Dalton Trans*, 1:143-146, 1982.
11. Fitzgerald W, Foley J, McSweeney D, Ray N, Sheehan D, **Tyagi S** & Hathaway BJ. The electronic properties and molecular structure of mono(2,2'-bipyridyl)-u-oxalato copper(II) dihydrate and mono(2,2'-bipyridyl)oxalato mono-hydrate copper(II) dihydrate, *J Chem Soc Dalton Trans*, 1117-1121, 1982.
12. Ray N, **Tyagi S** & Hathaway BJ. (Di-2-pyridylamine) acetate-catenate-u-perchlorate-copper(II) hydrate, *Acta Cryst*, B38:1574-1577, 1982.
13. Clifford F, Counihan E, Fitzgerald W, **Tyagi S**, Hathaway B, Seff K & Simmons C. The molecular structure of [Cu(phen)2OOCCH₃]X complexes-pseudo-cis distorted octahedral structure and fluxional copper(II) stereochemistries, *J Chem Soc Chem Commun*, 196-198, 1982.
14. Billing DE, Dudley R, Foley J, Fitzgerald W, Nicholls P, Slade RC, **Tyagi S** & Hathaway BJ. The electronic properties and stereochemistries of tris potassium/nitrito copper (II), *J Chem Soc Dalton Trans*, 1439-1441, 1982.
15. **Tyagi S** & Hathaway BJ. Molecular structure and electronic properties of bis (2,2'-bipyridyl)cyanato copper(II) nitrate dihydrate, *J Chem Soc Dalton Trans*, 199-203, 1983.
16. O'Leary A, **Tyagi S** & Hathaway BJ. The possibility of an electronic criterion of stereochemistry of bis (chelate) copper(II) complex, *Inorg Chim Acta*, 76:L89-L90, 1983.
17. Simmons CJ, Clearfield A, Fitzgerald W, **Tyagi S** & Hathaway BJ. The X-ray crystal structure and electronic properties of [Cu(bipy)2(ONO)]NO₃ (bipy=2,2'-bipyridyl) at 298 and 165 oK, A fluxional cis-distorted octahedral CuN₄O₂ chromophore, *J Chem Soc Chem Commun*, 189-190, 1983.
18. Simmons C, Clearfield A, Fitzgerald W, **Tyagi S** & Hathaway BJ. Fluxional behavior of a pseudo-Jahn-Teller complex: The X-ray structure of [Cu(bipy)2(ONO)]NO₃ at 165 and 296oK, *Inorg Chem*, 22:2463-2466, 1983.
19. Foley J, Kenefick D, Phelan D, **Tyagi S** & Hathaway BJ. The molecular structure and electronic properties of bis (2,2'-bipyridyl)-catenate-u-tetrafluoroborate Copper(II) tetrafluoroborate and bis(2,2'-bipyridyl)-catenate-u-perchlorate Copper(II) perchlorate, *J Chem Soc Dalton Trans*, 2333-2338, 1983.

20. **Tyagi S** & Hathaway BJ. A comment on the molecular structure and electronic properties of bis (2,9-dimethyl-1,10-phenanthroline)nitrate Copper(II) trichloroacetate trichloroacetic acid, *J Chem Soc Dalton Trans*, 2693-2694, 1983.
21. Foley J, **Tyagi S** & Hathaway BJ. The molecular structure and electronic properties of bis(2,2'-bipyridyl) copper(II) bis hexafluorophosphate: A unique tetrahedral 2,2'-bipyridyl ligand, *J Chem Soc Dalton Trans*, 1-5, 1984.
22. Alcock NM, Duggan M, Murray A, **Tyagi S**, Hathaway B & Hewat A. Low temperature molecular structure (203 and 123oK) and electronic properties of diammonium hexaaquocopper(II) disulphate: A fluxional CuO6 chromophore, *J Chem Soc Dalton Trans*, 7-14, 1984.
23. **Tyagi S**, Hathaway BJ, Kremer S, Dtratemeier H & Reinen D. Molecular structure of bis(2,2'-bipyridyl) mono chloro copper(II) hexafluorophosphate monohydrate at 298oK and EPR spectra of some bis (2,2'-bipyridyl)copper(II) complexes to 4.2°K, *J Chem Soc, Dalton Trans*, 2087-2091, 1984.
24. Simmons CJ, Clearfield A, Fitzgerald W, **Tyagi S** & Hathaway BJ. Fluxional behavior of a pseudo Jahn-Teller complex, calculation of conformational energy differences from X-Ray data, *Trans Amer Crystallogr Assoc*, 20:155-158, 1984.
25. **Tyagi SC**. Thermodynamics of spectroelectrochemical electron transfer in a meso-tetrasulphonated phenyl porphyrin iron(III)-apomyoglobin complex, *Ind J Biochem & Biophys*, 24:55-60, 1987.
26. **Tyagi SC**. Oxidation-reduction electron transfer of tetrasulphonated phthalocyanine cobalt(II)-apomyoglobin and tetrasulphonated phthalocyanineiron (II)-apomyoglobin, *Ind Acad Sci (Chem Sci)*, 98:279-287, 1987.
27. **Tyagi SC**. Ligand binding and autoxidation of tetrasulphonated phthalocyanine iron(II)-apomyoglobin complex, *Inorg Chim Acta (Bioinorg Chem)*, 151:29-31, 1988.
28. **Tyagi SC**. Kinetics and Mechanism of Electron Transfer Between meso-tetrasulfonated phenyl porphyrin Iron (III)-apomyoglobin and Fe(EDTA)2-, *Ind J Biochem & Biophys*, 26:209-212, 1989.
29. Wu FY-H & **Tyagi SC**. Fluorescence resonance energy transfer studies on the proximity relationship between the intrinsic metal ion and substrate binding sites of Escherichia coli RNA polymerase, *J Biol Chem*, 262:13147-13154, 1987.
30. **Tyagi SC** & Wu FY-H. Synthesis and characterization of fluorescent dinucleotide substrates for the DNA-dependent RNA polymerase from Escherichia coli, *J Biol Chem*, 262:10684-10688, 1987.

31. **Tyagi SC** & Simon SR. Inhibitors Directed to Binding Domains in Neutrophil Elastase, *Biochemistry*, 29:9970-9977, 1990.
32. **Tyagi SC** & Simon SR. Interaction of Hydrophobic Polyanionic Chelators with Neutrophil Elastase, *Biochem & Cell Biol*, 69:624-629, 1991.
33. **Tyagi SC** & Simon SR. Parinaric acids as probes of binding domains in neutrophil elastase, *J Biol Chem*, 266:15185-15191, 1991.
34. **Tyagi SC**. Reversible Inhibition of Neutrophil Elastase by Thiol-Modified Alpha-1 Protease Inhibitor, *J Biol Chem*, 266:5279-5285, 1991.
35. **Tyagi SC**. Spin-labeled nucleotide substrates for DNA-dependent RNA polymerase from *Escherichia coli*, *J Biol Chem*, 266:17936-17940, 1991.
36. **Tyagi SC** & Carter CA. Continuous assay of the hydrolytic activity of HIV-1 Protease, *Anal Biochem*, 200:143-148, 1992.
37. **Tyagi SC**. Inhibitors of HIV-1 Protease, *Biochem & Cell Biol*, 70:309-315, 1992.
38. **Tyagi SC**. Proximity between nucleotide/dinucleotide and metal ion binding sites in DNA-dependent RNA polymerase from *Escherichia coli*, *Biochemistry*, 31:6447-6453, 1992.
39. **Tyagi SC** & Simon SR. Role of disulfide exchange in α 1-protease inhibitor, *Biochemistry*, 31:10584-10590, 1992.
40. **Tyagi SC**, Matsubara L, Ratajska A, Weber KT. Identification and localization of myocardial collagenases(s), *Clin Res*, 40:757A, 1992.
41. Guarda E, Myers PR, Brilla CG, **Tyagi SC** & Weber KT. Endothelial cell-induced modulation of cardiac fibroblast collagen metabolism, *Cardiovasc Res*, 27:1004-1008, 1993.
42. **Tyagi SC**, Matsubara L & Weber KT. Direct extraction and estimation of callagenase(s) activity by zymography in microquantities of rat myocardium and uterus, *Clin Biochem*, 26:191-198, 1993.
43. **Tyagi SC** & Simon SR. Regulation of neutrophil elastase activity by elastin-derived peptide, *J Biol Chem*, 268:16513-16518, 1993.
44. **Tyagi SC**, Ratajska A & Weber KT. Myocardial Matrix Metalloproteinase(s): Activation and localization, *Mol Cell Biochem*, 126:49-59, 1993.
45. Guardo E, Katwa LC, Myers PR, **Tyagi SC** & Weber KT. Alteration of cardiac fibroblast collagen metabolism by endothelin. *Cardiovasc Res*, 27:2130-4, 1993.

46. **Tyagi SC**, Simon SR & Carter CA. Effect of salt and pH on the structure and function of HIV-1 proteinase dimerization, *Biochem Cell Biol*, 72:175-181, 1994.
47. **Tyagi SC** & Simon SR. Hydrophobic binding sites of elastin-derived peptide on neutrophil elastase, *Biochem & Cell Biol*, 72:419-427, 1994.
48. **Tyagi SC**, Kumar SG & Glover G. Induction of tissue inhibitor and matrix metalloproteinase by serum in human heart-derived fibroblast and endomyocardial endothelial cells, *J Cell Biochem*, 58:360-371, 1995.
49. **Tyagi SC**, Meyer L, Schmaltz RA, Reddy HK & Voelker DJ. Proteinases and Restenosis in Human Coronary Artery: Extracellular Matrix Production Exceeds the Expression of Proteolytic Activity, *Atherosclerosis*, 116:43-57, 1995.
50. **Tyagi SC**, Kumar SG, Banks J & Fortson W. Co-expression of Tissue Inhibitor and Matrix Metalloproteinase in Myocardium, *J Mol Cell Cardiol*, 27:2177-2189, 1995.
51. Reddy HK, Sigusch H, Zhou G, **Tyagi SC**, Janicki JS & Weber KT. Coronary Vascular Hyperpermeability and ang II, *J Lab Clin Med*, 126:307-315, 1995.
52. **Tyagi SC** & Cleutjens JPM. Myocardial collagenase: purification and structural characterization, *Canad J Cardiol*, 12:165-171, 1995.
53. Zhou G, Kandala JC, **Tyagi SC**, Katwa LC & Weber KT. Effects of angiotensin II and aldosterone on collagen gene expression and protein turnover in cardiac fibroblasts, *Mol Cell Biochem*, 154:171-178, 1996.
54. Katwa LC, **Tyagi SC**, Campbell SE, Lee SJ, Cilila GT & Weber KT. Valvular interstitial cells express aspartyl protease cathepsin D, *Intern J Biochem & Cell Biol*, 28:807-821, 1996.
55. **Tyagi SC**, Kumar SG & Borders S. Reduction-Oxidation (Redox) State Regulation of Extracellular Matrix Metalloproteinases and Tissue Inhibitors in Cardiac Normal and Transformed Fibroblast Cells, *J Cell Biochem*, 61:139-151, 1996.
56. **Tyagi SC**, Kumar SG, Alla SR, Reddy HK, Voelker DJ & Janicki JS. Extracellular Matrix Regulation of Metalloproteinase and Antiproteinase in Human Heart Fibroblast Cells, *J Cell Physiol*, 167:137-147, 1996.
57. **Tyagi SC**, Campbell SE, Reddy HK, Tjahja E & Voelker DJ. Matrix metalloproteinase activity expression in infarcted, noninfarcted and dilated cardiomyopathic human hearts, *Mol Cell Biochem*, 155:13-21, 1996.
58. **Tyagi SC**, Meyer L, Kumar SG, Schmaltz RA, Reddy HK & Voelker DJ. Induction of tissue inhibitor of metalloproteinase and its mitogenic response to endothelial cells in human atherosclerotic and restenotic lesions, *Canad J Cardiol*, 12:353-362, 1996.

59. **Tyagi SC**, Haas SJ, Kumar SG, Reddy HK, Voelker DJ, Hayden MR, Demmy TL, Schmaltz RA & Curtis JJ. Post-transcriptional regulation of extracellular matrix metalloproteinase in human heart end-stage failure secondary to ischemic cardiomyopathy, *J Mol Cell Cardiol*, 28:1415-1428, 1996.
60. **Tyagi SC**. Role of Oxidative Mixed-Disulfide Formation in Elastase-Serine Proteinase Inhibitor (Serpin) Complex, *Biochem & Cell Biol*, 74:391-401, 1996.
61. **Tyagi SC**, Kumar SG, Cassatt S & Parker JL. Temporal expression of extracellular matrix metalloproteinase and tissue plasminogen activator in the development of collateral vessels in canine model of coronary occlusion, *Canad J Physiol & Pharmacol*, 74:983-995, 1996.
62. **Tyagi SC**, Kumar SG, Voelker DJ, Reddy HK, Janicki JS & Curtis JJ. Differential gene expression of extracellular matrix components in dilated cardiomyopathy, *J Cell Biochem*, 63:185-198, 1996.
63. **Tyagi SC**, Kumar S & Katwa L. Differential regulation of extracellular matrix metalloproteinase and tissue inhibitor by heparin and cholesterol in fibroblast cells, *J Mol Cell Cardiol*, 29:391-404, 1997.
64. Katwa LC, Campbell SE, **Tyagi SC**, Lee SJ, Cicila GT, Weber KT. Cultured myofibroblasts generate angiotensin peptides de novo, *J Mol Cell Cardiol*, 29:1375-1386, 1997.
65. **Tyagi SC**, Smiley LM, Mujumdar VS, Clonts B, Parker JL. Reduction-oxidation (redox) and vascular tissue level of homocyst(e)ine in human coronary atherosclerotic lesions and role in vascular extracellular matrix remodeling and vascular tone, *Mol Cell Biochem*, 181:107-116, 1998.
66. Johnson PJ, **Tyagi SC**, Katwa LC, Ganjam VK, Moore LA, Kreeger JM, Messer NT. Activation of extracellular matrix metalloproteinases in equine laminitis, *Veterinary Record*, 142:392-396, 1998.
67. Katwa LC, Sun Y, Campbell SE, **Tyagi SC**, Dhalla AK, Kandala JC, Weber KT. Pouch tissue and angiotensin peptide generation, *J Mol Cell Cardiol*, 30:1401-1413, 1998.
68. **Tyagi SC**, Lewis K, Pikes D, Marcello A, Mujumdar V, Smiley L, Moore CK. Stretch induced membrane type matrix metalloproteinases and tissue plasminogen activator in cardiac fibroblast cells, *J Cell Physiol*, 176:374-382, 1998.
69. **Tyagi SC**. Homocysteine redox receptor and regulation of extracellular matrix components in vascular cells, *Am J Physiol*, 274:C396-C405, 1998.

70. Mujumdar VS, **Tyagi SC**. Temporal Regulation of Extracellular Matrix Components in Transition from Compensatory Hypertrophy to Decompensatory Heart Failure, *J Hypertension*, 17:261-270, 1999.
71. Tummalapalli CM, **Tyagi SC**. Response of vascular smooth muscle cells to extracellular matrix degradation, *J Cell Biochem*, 75:515-527, 1999.
72. **Tyagi SC**, Smiley LM, Mujumdar VS. Homocyst(e)ine impairs endocardial endothelial function, *Canad J Physiol & Pharmacology*, 77:950-957, 1999.
73. Mujumdar VS, Hayden MR, **Tyagi SC**. Homocysteine induces calcium secondary messenger in vascular smooth muscle cells, *J Cell Physiol*, 183:28-36, 2000.
74. Miller A, Mujumdar V, Shek E, Guillot J, Angelo M, Pakmer L, **Tyagi SC**. Hyperhomocysteinemia induces multiorgan damage, *Heart & Vessels*, 15(3):135-143, 2000.
75. Tummalapalli CM, Heath BJ, **Tyagi SC**. Tissue inhibitor of metalloproteinase-4 instigates apoptosis in transformed cardiac fibroblasts, *J Cell Biochem*, 80(4):512-521, 2001.
76. Henegar JR, Bigler SA, Henegar LK, **Tyagi SC**, Hall JE. Functional and structural changes in the kidney in the early stages of obesity, *J Am Soc Nephrol*, 12:1211-1217, 2001.
77. Mujumdar VS, Aru GM, **Tyagi SC**. Induction of oxidative stress by homocyst(e)ine impairs endothelial function, *J Cell Biochem*, 82(3):491-500, 2001.
78. Mujumdar VS, Smiley LM, **Tyagi SC**. Activation of matrix metalloproteinase dilates and decreases cardiac tensile strength, *Intern J Cardiol*, 79(2-3):277-286, 2001.
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80. Miller A, Mujumdar V, Palmer L, Bower JD, **Tyagi SC**. Reversal of endocardial endothelial dysfunction by folic acid in homocysteinemic hypertensive rats, *Am J Hyperten*, (15):157-163, 2002.
81. Mujumdar VS, Tummalapalli CM, Aru GM, **Tyagi SC**. Mechanism of constrictive vascular remodeling: a role of PPAR, *Am J Physiol*, 282:C1009-C1015, 2002.
82. Sood HS, Cox MJ, **Tyagi SC**. Generation of Nitrotyrosine Precedes the Activation of Matrix Metalloproteinase in Left Ventricle of Hyperhomocysteinemia Rats, *Antioxidant & Redox Signaling*, 4(5):799-804, 2002.
83. Miller AD, **Tyagi SC**. Mutation in collagen gene induces cardiomyopathy in transgenic mice, *J Cell Biochem*, 85(2):259-267, 2002.

84. Cox MJ, Sood HS, Hunt MJ, Chandler D, Henegar JR, Aru GM, **Tyagi SC**. Apoptosis in left ventricle of chronic volume overload causes endocardial endothelial dysfunction in rats, *Am J Physiol*, 282:H1197-H1205, 2002.
85. Hunt MJ, Aru GM, Hayden MR, Moore CK, Hoit BD, **Tyagi SC**. Induction of oxidative stress and disintegrin metalloproteinase in human heart end-stage failure, *Am J Physiol*, 283(2):L239-245, 2002. *An editorial on this paper, L237-L238, 2002.*
86. Hunt MJ and **Tyagi SC**. Peroxisome proliferators compete and ameliorate homocysteine-mediated endocardial endothelial cells activation, *Am J Physiol*, 283:C1073-C1079, 2002.
87. Hoit BD, Takeishi Y, Cox MJ, Gabel M, Kirkpatrick D, Walsh RA, **Tyagi SC**. Remodeling of the left atrium in pacing-induced cardiomyopathy, *Mol Cell Biochem*, 238:145-150, 2002.
88. Reinhardt D, Sigusch HH, Henbe J, **Tyagi SC**, Korfer R, Figulla HR. Cardiac remodeling in end stage heart failure: upregulation of MMP irrespective of the underlying disease and evidence for a direct inhibitory effect of ACE inhibitors on MMP, *Heart*, 88(5):525-530, 2002.
89. Sood HS, Hunt MJ, **Tyagi SC**. Peroxisome proliferator ameliorates endothelial dysfunction in a murine model of hyperhomocysteinemia, *Am J Physiol*, 284:L333-L341, 2003.
90. Camp T, Smiley L, Hayden MR, **Tyagi SC**. Mechanism of Matrix accumulation and glomerulosclerosis in spontaneously hypertensive rats, *J Hyperten*, 21(9):1719-1727, 2003. *An editorial on this paper, page:1627-1630, 2003.*
91. Camp TM, Tyagi SC, Senior RM, Hayden MR, **Tyagi SC**. Gelatinase B (MMP-9) an apoptotic factor in diabetic transgenic mice, *Diabetologia*. 46(10):1438-1445, 2003.
92. Reddy KH, Tjahja IE, Campbell SE, Janicki JS, Hayden MR, **Tyagi SC**. Expression of MMP activity in idiopathic dilated cardiomyopathy: A marker of cardiac dilatation. *Mol Cell Biochem*, 264:183-191, 2004.
93. Smiley LM, Camp TM, Lucchesi PA, **Tyagi SC**. Peroxisome proliferator ameliorates endocardial endothelial and muscarinic dysfunction in spontaneously hypertensive rats, *Antioxidants & Redox Signaling*, 6(2):367-374, 2004.
94. Camp TM, Tyagi SC, Aru GM, Hayden MR, Mehta JL, **Tyagi SC**. Doxycycline ameliorates ischemic and border zone remodeling and endothelial dysfunction after MI in rats, *J Heart Lung Transplant*, 23:729-736, 2004.

95. Cox MJ, Hawkins UA, Hoit BD, **Tyagi SC**. Attenuation of oxidative stress and remodeling by cardiac inhibitor of metalloproteinase protein transfer, *Circulation*, 109(17):2123-2128, 2004.
96. Shastry S, **Tyagi SC**. Homocysteine induces metalloproteinase and shedding of β -1 integrin in microvessel endothelial cells, *J Cell Biochem*, 93:207-213, 2004.
97. Shastry S, Tyagi N, Hayden, MR, **Tyagi SC**. Proteomic analysis of Hcy-inhibition of microvascular endothelial cells angiogenesis, *Cell Mol Biol*, 50(8):931-7, 2004.
98. Carroll JF, **Tyagi SC**. Extracellular matrix remodeling in heart of homocysteinemic obese rabbit, *Am J Hypertens*, 18(5):692-698, 2005.
99. Moshal KS, Tyagi N, Henderson B, Ovechkin AV, **Tyagi SC**. Protease activated receptor and endothelial-myocyte uncoupling in chronic heart failure, *Am J Physiol Heart Circ Physiol*. 288(6):H2770-7, 2005.
100. Tyagi N, Moshal KS, Lominadze D, Ovechkin AV, **Tyagi SC**. Homocysteine-dependent cardiac remodeling and endothelial-myocyte coupling in a 2 kidney, 1 clip Goldblatt hypertension mouse model. *Can J Physiol Pharmacol*. 83(7):583-594, 2005.
101. Moshal KS, Tyagi N, Moss V, Henderson B, Steed M, Ovechkin A, Aru GM, **Tyagi SC**. Early induction of matrix metalloproteinase-9 transduces signaling in human heart end stage failure, *J Cell Mol Med*, 8(3):704-713, 2005.
102. Shastry S, Moning L, Tyagi N, Steed M, **Tyagi SC**. GABA receptors and nitric oxide ameliorate constrictive collagen remodeling in hyperhomocysteinemia, *J Cell Physiol*, 205(3):422-7, 2005.
103. Tyagi N, Moshal KS, Ovechkin AV, Rodriguez W, Steed M, Henderson B, Roberts AM, Joshua IG, **Tyagi SC**. Mitochondrial mechanism of oxidative stress and systemic hypertension in hyperhomocysteine, *J Cell Biochem*, 96(4):665-671, 2005.
104. Passmore JC, Joshua IG, Rowell PP, **Tyagi SC**, Falcone JC. Reduced Alpha Adrenergic Mediated Contraction of Renal Proliferative Blood Vessels as a Function of Gender and Aging, *J Cell Biochem*, 96(4):672-681, 2005.
105. Tyagi N, Sedoris KC, Moshal KS, Ovechkin AV, **Tyagi SC**. Mechanisms of Homocysteine-Induced Oxidative stress, *Am J Physiol, Heart & Circulatory Physiol*, 289(6):H2649-56, 2005
106. Ovechkin AV, Tyagi N, Rodriguez WE, Hayden MR, Moshal KS, **Tyagi SC**. Role of MMP-9 in endothelial apoptosis in chronic heart failure in mice. *J Appl Physiol*, 99(6):2398-405, 2005.

107. Moshal KS, Sen U, Tyagi N, Henderson B, Steed M, Ovechkin AV, **Tyagi SC**. Regulation of Hcy-induced MMP-9 by extracellular regulated protein kinase-1/2 (ERK-1/2) pathway, *Am J Physiol Cell Physiol*, 290(3):C883-91, 2006.
108. Lominadze D, Roberts AM, Tyagi N, Moshal KS, **Tyagi SC**. Homocysteine causes cerebrovascular leakage in mice. *Am J Physiol Heart & Circulatory Physiol*, H1206-13, 2006.
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