

## CURRICULUM VITAE

**NAME:** Maria (Izakowska) Trojanowska, Ph.D.

**OFFICE ADDRESS:** Dept. of Medicine,  
Division of Rheumatology  
96 Jonathan Lucas Street, Suite 912  
P.O. Box 250623  
Charleston, SC 29425

**PHONE:** (843) 792-7921

### EDUCATION:

<u>Years</u>	<u>Training</u>	<u>Location</u>
1973	M.Sc. Degree	Warsaw University Faculty of Biology Warsaw, Poland
1980	Ph.D. Degree	Polish Academy of Science Institute of Biochemistry and Biophysics, Warsaw, Poland
1981-1985	Postdoctoral Fellow	MUSC, Dept. of Biochemistry Laboratory of Dr. Jim Karam

### FACULTY APPOINTMENTS:

<u>Years</u>	<u>Rank</u>	<u>Dept.</u>	<u>Institution</u>
1986-1991	Instructor in Medicine	Medicine	MUSC
1991-1996	Assistant Professor	Medicine	MUSC
1996	Associate Professor	Medicine	MUSC
2000	Tenure	Medicine	MUSC
2003	Professor	Medicine	MUSC

### HONORS

1983 Award of Polish Minister of Health for achievement in "Study of Mutagenicity of Thiram"

### MEMBERSHIP IN PROFESSIONAL/SCIENTIFIC SOCIETIES:

The American Society for Cell Biology  
American Association for the Advancement of Science  
International Cytokine Society  
The American Society for Matrix Biology

### EDITORIAL POSITIONS:

Ad hoc reviewer, Nucleic Acid Research  
Ad hoc reviewer, Journal of Biological Chemistry

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Ad hoc reviewer, Gene  
Ad hoc reviewer, FEBS Letters  
Ad hoc reviewer, American Journal of the Respiratory Cell and Molecular Biology  
Ad hoc reviewer, Molecular Medicine  
Ad hoc reviewer, Archives Dermatological Research  
Ad hoc reviewer, Journal of Investigative Dermatology  
Ad hoc reviewer, Arthritis and Rheumatism  
Ad hoc reviewer, American Journal of Pathology  
Ad hoc reviewer, Matrix Biology  
Ad hoc reviewer, Faseb J

**EXTRAMURAL GRANTS/AWARD AMOUNT:**

**As PI (prior support):**

1987-1989 Molecular cloning of scleroderma specific genes. (PI) \$27,525, South Carolina Biomedical Research Approp.

1990-1991 Persistent effects of TGF- $\beta$  on human fibroblasts: possible role in scleroderma. (PI) \$44,115, Scleroderma Federation

1992-1993 Regulation of collagen type I expression in scleroderma. (PI) \$25,000, United Scleroderma Foundation

1994-1995 Regulation of collagen transcription by TGF $\beta$ . (PI) \$35,000, United Scleroderma Foundation

1995-2001 RGK Foundation (subproject PI) \$140,000 (\$20,000/year)

1996-1997 TGF $\beta$  signaling in fibrosis (PI) \$35,000, Scleroderma Federation

1999-2001 Zarkin Fellowship - Joanna Ladykowska, M.D. Ph.D., recipient; Maria Trojanowska, Ph.D., mentor - \$34,000/year, Scleroderma Foundation

2001-2002 The role of Ets factors in the mechanism of fibrosis (PI) Scleroderma Foundation, \$100,000

2002-2003 Cytomegalovirus and human fibrosis (PI, replaced LeRoy), Scleroderma Foundation, \$150,000

2003-2006 Mechanism of endothelial cell damage in scleroderma (PI) National Institutes of Health, R21 AR050798-02

2003-2007. MCRC for Rheumatic Diseases in African-Americans (Silver-Director) \$863,116. Project A Leader: Maria Trojanowska, Ph.D. for Sphingosine kinase in systemic sclerosis. NIAMS P20 AR049459-04

**As PI Currently Active:**

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R01 1994-2013 The molecular mechanisms of fibrosis. (PI), National Institutes of Health, AR42334-14.

1998-2013 TGF $\beta$  receptor signaling in scleroderma (PI) , National Institutes of Health, R01 AR44883-10.

2005-2010 PO1 for “Role of ETS Genes in Transformation and Differentiation” (D. Watson, PI) Project 3 Leader: Trojanowska for “Fli1 and Ets1 in stromal activation in breast cancer” NCI CA78582-06

**As Co-PI (prior support):**

1986-1991 A Study of Scleroderma. (Co-PI) \$738,222 DC, NIH AR30431

1989-1990 The role of the alveolar macrophage in the pathogenesis of scleroderma lung disease (Co-PI) \$25,000. Scleroderma Research Foundation

2001-2003 Role of ETS Genes in Transformation and Differentiation, Dennis Watson-PI, NIH Program Project 1PO1 CA78582-01, Co-PI on supplement.

**As co-PI currently active:**

2002-2007 Pharmacology Training Grant (mentor)

2004-2009 VHL and FGFR signaling in angiogenesis R01 CA109860 (Hsu PI)

2005-2009 Mechanism of H. pylori-induced hypochlorhydria R01 DK064371-01 (Smolka PI)

2005-2009 Training Grant in inflammatory and fibrosing diseases T32 AR050958-01 (co-director with Gilkeson)

2006-2010 Lipoproteins, CTGF, and diabetic vascular and renal disease. R01 HL077195-01 (Jaffa PI)

**Pending**

The role of sphingosine kinase metabolites in fibrosis 1R01 AR057995-01

**ACADEMIC COMMITTEE ACTIVITIES:**

<b>University:</b>	Graduate Committee, Dept. of Microbiology & Immunology	1995-present
	International Affairs Committee	1997-2001
	University Research Committee	1999-2003
	DOD Hollings Cancer Center grant reviewer	2002, 2005

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University Diversity Committee	2003-2005
HSF Teaching Excellence Award Selection Committee	2004-
Promotion and Tenure Committee	2006-
MSTP Steering Committee	2006-

**EXTERNAL COMMITTEE ACTIVITIES:**

1998-2006 Member, NIAMS Special Emphasis Panel RFA-AR-98-002, NIAMS Special Emphasis Panel for P01 AR033740-12, NIAMS Special Emphasis Panel for Scleroderma SCOR, NIAID Special Emphasis Panel for Autoimmunity Program Projects, NIAMS RO3 Panel, ZRG1 F10 (Fellowships), ad hoc NIAMS ACTS

1998-2002	Member, Arthritis Foundation Cell Biology Study Section
1998-2003	Member, Scleroderma Foundation Study Section
1999-present	Ad hoc reviewer, VA Merit Review grants
2002-2005	Scleroderma Fibroblast Repository
2003	Member, DOD Breast Cancer Cell Biology Study Section
2005	Reviewer for Medical Research Council, UK
2005	Reviewer for Arthritis Research Campaign, UK
2006-	Member, NIAMS Arthritis, Connective Tissue, and Skin Study Section
2008-	Reviewer, NSF
2008-	Member, Scleroderma Foundation Study Section

**MAJOR TEACHING RESPONSIBILITIES:**

Postdoctoral Trainees Supervised:

1985-1987	Kazuhiko Takehara
1987-1989	Lingtao Wu
1987-1989	Osamu Ishikawa
1989-1991	Akio Yamakage
1989-1991	Kanako Kikuchi
1990-1992	Christoph Hartl
1991-1994	Takeshi Tamaki
1992-1994	Yoshiro Ichiki
1993-1995	Kazunori Ohnishi
1993-1997	Joanna Stepniakowska
1994-1997	Hironobu Ihn
1996-1997	Tamihiro Kawakami
1996-1999	Fumijaki Shirasaki
1997-2002	Margaret Markiewicz
1998-2001	Madoka Sato

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1998-2002	Joanna Czuwara
2000-2003	Masahide Kubo
2000-2003	Masayoshi Yamanaka
2000-2005	Jaspreet Pannu
2001-2002	Monika Gooz
2002-2006	Huiping Pei
2003-present	Sashidar Nakarakante
2003-2004	Eileen McGuffie
2004-2006	Masayoshi Yamasaki
2004-present	Sergei Znoyko
2004-present	Shizong Bu
2004-present	Bagrat Kapanadze
2004-present	Andrea Bujor
2006-2009	Yoshihide Asano
2006-present	Stefania Lenna

Graduate Students Supervised:

1991-1994	Manuel Lubinus
1994-1998	Huda Makhluף (mentor)
1994-1998	Stephen Bellum
1997-2002	Elizabeth Gore (mentor)
1997-2002	Daniel Shegogue (mentor)
1998-2000	Sientay Lo (mentor)
1998-2001	Taetia Phillips
1999-2002	Tracy McGaha
2000-2005	Yair Adereth
2001-2004	Mark Slomiany
2002-2003	Monica Arman (visiting from Univ. of Barcelona)
2003-2004	Christina Brown Fieber
2004-2006	Grant Bledsoe
2004-present	Angela Edwards (mentor)
2004-2007	John Svenson
2004-2007	Sarah Gallant
2005-present	Erin Morris (mentor)
2005-present	Embree Mildred
2005- 2006	Sangeetha Chyandrasekaran
2006- 2008	Kristen Champion
2006-present	Hazitha Samuel (mentor)
2006-present	Loretta Hoover
2007-2009	Rany Abdallah
2007-2009	Julie Woolworth
2007-2009	Arindan Saha

**Curriculum Vitae**  
**Maria Trojanowska**

Courses: Cytokines course for graduate students - 1997  
Topics in Cancer Research@ course for graduate students - 1998, 1999, 2002  
Advanced Cell Biology course for graduate students – 1999, 2000  
Mechanisms of Inflammation - 2006

Judge, Student Research Day – 1997-2006  
Qualifying Exam Committee - 1999-2001

**INVITED LECTURES:**

Guest Speaker, Symposium on Connective Tissue Research, Maebashi, Japan, 1992  
Invited Speaker, Third International Workshop on Scleroderma, Chicago, IL, June 12-14, 1994  
Abstract selected for minisymposium, FASEB Meeting, Atlanta, April 9-13, 1995  
Speaker, Scleroderma-1995 Symposium, Warsaw, Poland, May 20-21, 1995  
Invited speaker, The Sixth South Carolina Statewide Research Conference Wild Dunes, Isle of Palms, SC, January 2-4, 1997  
Invited lecture, Department of Anatomy and Cell Biology, MUSC, February 4, 1997  
Invited lecture, Division of Gastroenterology, MUSC, February 6, 1997  
Invited lecture, Endocrinology Seminar Series, MUSC, April 25, 1997  
Invited lecture, Department of Medicine, University of Illinois at Chicago, November 18, 1997  
Invited lecture, CMSB - Hollings Cancer Center, MUSC, November, 1998  
Invited lecture, Meharry College, Nashville, TN, April 8, 1999  
Invited Lecture, Mount Sinai, New York, February, 2000  
Invited Lecture, The 64<sup>th</sup> Annual Meeting of the East Japan Dermatological Society, Utsonomiya, October, 2000  
Invited Lecture, Tokyo University, October, 2000  
Invited Lecture, Kanazawa University, November, 2000  
Invited Speaker, 7<sup>th</sup> International Workshop on Scleroderma Research, May, 2002  
Invited Lecture, Boston University, August, 2002  
Invited Lecture, Thomas Jefferson University, Philadelphia, October, 2002  
Invited Lecture, University of Illinois, Chicago, May 2003  
Invited Lecture, University of Ancona, Italy, June 2003

**Curriculum Vitae**  
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Speaker, 2<sup>nd</sup> Charleston Ceramide Conference, Como, Italy, June 2003

Invited Lecture, Medical Academy of Warsaw, Warsaw, Poland, June 2003

Invited lecture, Important unanswered questions in the biomedical sciences seminar series, MUSC October 2003

Abstract selected for oral presentation, ACR Annual Meeting, Orlando 2003

Invited Symposium Speaker, ASN “Renal week 2003”, San Diego 2003

Invited lecture, Important unanswered questions in the biomedical sciences seminar series, MUSC October 2004

Invited Lecture, Biogen-IDEA, Boston MA, 2005

Invited Lecture , 2<sup>nd</sup> International Rare Lung Diseases Conference, Cincinnati, Ohio, 2005

Invited Symposium Speaker, American Academy of Asthma, Allergy, and Immunology Meeting, Miami, March 2006

Invited Speaker, 5<sup>th</sup> Tracleer International Scientific Advisory Board (INSAB) Meeting, Athens, Greece, April 2006

Invited Speaker, The 9<sup>th</sup> International Workshop on Scleroderma Research, Boston, August 5-9, 2006

Invited Speaker, The American Society for Matrix Biology/Special Interest Group, Nashville, November 1-4, 2006

Abstract selected for Concurrent Session presentation, The American Society for Matrix Biology/Special Interest Group, Nashville, November 1-4, 2006

Invited Speaker, American College of Rheumatology Scientific Meeting, Washington, DC, November 10-15, 2006

Invited Speaker, International Workshop on Systemic Sclerosis, Milan Italy, March 7-10, 2007

Invited Speaker, Dr. LeRoy Memorial International Workshop on Scleroderma, Tokyo Japan, May 18-20, 2007

Invited Lecture, Kumamoto University, Japan, May 22, 2007

Invited Speaker, Connective Tissue Disease Workshop, Florence Italy, October 6-7, 2007

Invited Lecture, New York University Medical Ctr, New York, May 16, 2008

Invited Speaker, American College of Rheumatology Scientific Meeting, San Francisco, October 26-29, 2008

Invited lecture, Boston University, December 4, 2008

## **BIBLIOGRAPHY**

### Peer Reviewed

1. Bagdasarian MM, Izakowska M, Bagdasarian M. Suppression of the dnaA phenotype by mutations in the rpoB cistron of ribonucleic acid polymerase in S. typhimurium and E. coli. *J Bacteriol* 1977;130:577-582.
2. Trojanowska M. The role of the RNA polymerase in the initiation of DNA replication in bacteria. Doctoral Dissertation, 1980.
3. Zdzenicka M, Zielenska M, Trojanowska M, Szymczyk T, Bignami M, Carere A. Microbial short-term assays with thiram in vitro. *Mutat Res* 1981;89:1-7.
4. Zdzenicka M, Zielenska M, Trojanowska M, Szymczyk T. Mutagenic action of maneb and zineb (in Polish). *Bromatol Chem* 1981;39:17-25.
5. Trojanowska M, Miller ES, Karam J, Stormo G, Gold L. The bacteriophage T4 regA gene: primary sequence of a translational repressor. *Nucleic Acid Res* 1984;12:5979-5993.
6. Miller ES, Karam J, Dawson M, Trojanowska M, Gauss P, Gold L. Translational repression: Biological activity of plasmid-encoded bacteriophage T4 regA protein. *J Molec Biol* 1987;194:397-410.
7. Takehara K, Trojanowska M, Grotendorst GR, LeRoy EC. Ascorbate effects on type I procollagen synthesis by human adult skin fibroblasts: different migration positions of type I procollagen chains on SDS polyacrylamide gel after incubation with ascorbate. *Collagen Rel Res* 1987;6:455-466.
8. Konat M, Trojanowska M, Gantt G, Hogan EL. Expression of myelin protein genes in quaking mouse brain. *J Neuroscience Res* 1988;20:19-22.
9. Trojanowska M, Wu L, LeRoy EC. Elevated expression of c-myc protooncogene in scleroderma fibroblasts. *Oncogene* 1988;3:477-481.
10. Ishikawa O, Yamakage A, LeRoy EC, Trojanowska M. Persistent effects of TGF- $\beta$  on extracellular matrix gene expression in human dermal fibroblasts. *BBRC* 1990;169:232-238.
11. Ishikawa O, LeRoy EC, Trojanowska M. The mitogenic effect of transforming growth factor  $\beta$ 1 on human fibroblasts involves the induction of platelet-derived growth factor  $\alpha$  receptors. *J Cell Physiol* 1990;145:181-186.
12. Yamakage A, Kikuchi K, Smith EA, LeRoy EC, Trojanowska M. Upregulation of PDGF $\alpha$  receptors by TGF- $\beta$  in scleroderma fibroblasts. *J Exp Med* 1992;175:1227-1239.
13. Kikuchi K, Yamakage A, Smith EA, LeRoy EC, Trojanowska M. Differential modulation of bFGF receptors by TGF- $\beta$  in adult skin, scleroderma skin and newborn foreskin fibroblasts. *J Invest Dermatol* 1992;99(2):201-205.
14. Kikuchi K, Hartl CW, Smith EA, LeRoy EC, Trojanowska M. Direct demonstration of transcriptional activation of collagen gene expression in systemic sclerosis fibroblasts: insensitivity to TGF $\beta$ 1 Stimulation. *BBRC* 1992;187(1):45-50.
15. Ludwicka A, Trojanowska M, Smith EA, Baumann M, Strange C, Korn J, Piela T, LeRoy EC, Silver RM. Growth and characterization of fibroblasts obtained from bronchoalveolar lavage of scleroderma patients. *J Rheumatol* 1992;19:1716-1723.

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16. Feldman S, Trojanowska M, Smith EA, LeRoy EC. Differential responses of human papillary and reticular fibroblasts to platelet-derived growth factor. *Am J Med Sci* 1993;305:203-207.
17. Lubinus M, Meier KE, Smith EA, Gause KC, LeRoy EC, Trojanowska M. Independent effects of platelet-derived growth factor isoforms on mitogen-activated protein kinase activation and mitogenesis in human dermal fibroblasts. *J Biol Chem* 1994;269:9822-9825.
18. Ichiki Y, Smith EA, LeRoy EC, Trojanowska M. Different effects of bFGF and TGF $\beta$  on the expression of the two PDGF receptors in scleroderma and healthy fibroblasts. *J Invest Dermatol* 1995;104:124-127.
19. Tamaki T, Onishi K, Hartl C, LeRoy EC, Trojanowska M. Characterization of a GC-rich region containing Sp1 binding sites as a constitutive responsive element of the  $\alpha$ 2(I) collagen in human fibroblasts. *J Biol Chem* 1995;270:4299-4304.
20. Ludwicka A, Ohba T, Trojanowska M, Yamakage A, Strange C, Smith EA, LeRoy EC, Sutherland S, Silver RM. Elevated levels of PDGF and TGF $\beta$  in bronchoalveolar lavage fluid from patients with scleroderma. *J Rheumatol* 1995;22:1876-1883.
21. Makhlef H, Stepniakowska J, Smith EA, Hoffman S, LeRoy EC, Trojanowska M. IL-4 upregulates tenascin synthesis in scleroderma and healthy human dermal fibroblasts. *J Invest Dermatol* 1996;107:856-859.
22. Ihn H, Ohnishi K, Tamaki T, LeRoy EC, Trojanowska M. Transcriptional regulation of the human  $\alpha$ 2(I) collagen gene: combined action of upstream stimulatory and inhibitory cis-acting elements. *J Biol Chem* 1996;271:26717-26723.
23. Ichiki Y, Smith EA, LeRoy EC, Trojanowska M. Basic FGF inhibits basal and TGF $\beta$ -induced collagen  $\alpha$ 2(I) gene expression in scleroderma and normal fibroblasts. *J Rheumatol* 1997; 24:90-95.
24. Ihn, H., Ichiki, Y., LeRoy, E.C., Trojanowska, M. Oncostatin M stimulates transcription of the human  $\alpha$ 2(I) collagen gene via the Sp1/Sp3-binding site. *J Biol Chem*. 1997; 272:24666-24672.
25. Ihn, H., and Trojanowska, M. Sp3 is a transcriptional activator of the human  $\alpha$ 2(I) collagen gene. *Nucleic Acids Research* 1997; 25:3712-3717.
26. Kawakami, T., Ihn, H., Xu, W., Smith, E., LeRoy, C., Trojanowska, M. Increased expression of TGF $\beta$  receptors by scleroderma fibroblasts: Evidence for contribution of autocrine TGF $\beta$  signaling to scleroderma phenotype. *J. Invest. Dermatol.* 1998; 110:47-51.
27. Chen S-J, Yuan W, Levenson A, Mori Y, Trojanowska M, Varga J. Stimulation of type I collagen transcription in human skin fibroblasts by TGF-b: involvement of Smad 3. *J. Invest. Dermatol.* 112:49-57, 1999.
28. Shirasaki F, Makhlef H, Watson D, LeRoy EC, Trojanowska M. ETS transcription factors cooperate with Sp1 to activate human tenascin-c promoter. *Oncogene* 18:7755-7764, 1999.
29. Levy MT, Trojanowska M, Reuben A. The effect of oncostatin M on collagen production by human hepatic stellate cells in culture. *J Hepatology* 32:218-226, 2000.
30. Chen S-J, Yuan W, Lo S, Trojanowska M, Varga J. Interaction of Smad3 with a proximal Smad-binding element of the human  $\alpha$ 2(I) procollagen gene promoter mediates transcriptional activation by TGF- $\beta$ . *J Cellular Physiol.* 279:2829-2837, 2000.

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31. Douillet CD, Velarde V, Christopher JT, Mayfield RK, Trojanowska M, Jaffa AA. Mechanisms through which bradykinin promotes fibrosis in vascular smooth muscle cells: role of TGF- $\beta$  and MAPK pathways. *Am J Physiol*, 279:2829-2837, 2000.
32. Czuwara-Ladykowska J, Gore E, Shegogue D, Smith EA, Trojanowska M. Differential regulation of TGF $\beta$  receptor type I and II by PDGF in human dermal fibroblasts. *British J Dermatol* 145, 569-575, 2001.
33. Czuwara-Ladykowska J, Shirasaki F, Jackers P, Watson DK, Trojanowska M. Fli1 inhibits collagen type I production in dermal fibroblasts via a Sp1-dependent pathway. *J Biol Chem* 276:20839-20848, 2001.
34. Czuwara-Ladykowska J, Makiela B, Smith EA, Trojanowska M, Rudnicka L. The inhibitory effects of topoisomerase I inhibitor, camptothecin, on collagen synthesis in fibroblasts from patients with systemic sclerosis. *Arthritis Rheum* 3:311-318, 2001.
35. Ihn H, Ihn Y, and Trojanowska M. Sp1 phosphorylation induced by serum stimulates the human  $\alpha$ 2(I) collagen gene expression. *J. Invest. Dermatol* 117:301-308, 2001
36. Chen R, Huang C, Trojanowska M, and Paul RV. Blockade of the effects of transforming growth factor- $\beta$  1 on mesangial cells by over-expressing of Smad7. *J. Am. Soc. Nephrol.* 13:887-893, 2002.
37. Czuwara-Ladykowska J, Sementchenko V, Watson DK, and Trojanowska M. Ets1 is an effector of the TGF-beta signaling pathway and antagonist of the profibrotic effects of TGF-beta. *J Biol Chem* 277:20399-20408, 2002
38. Sato M, Shegogue D, Gore E, Smith E, McDermott P, and Trojanowska M. Role of p-38 MAPK in TGF- $\beta$  stimulation of collagen production by scleroderma and healthy dermal fibroblasts. *J Invest Dermatol.* 118:704-711, 2002.
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40. Sohara N, Znoyko I, Levy MT, Trojanowska M, and Reuben A. Reversal of activation of human myofibroblast-like cells by culture on a basement membrane-like substrate. *J Hepatol* 37:214-221, 2002.
41. Gore-Hyer E, Shegogue D, Markiewicz M, Lo S, Hazen-Martin D, Greene E, Grotendorst G, Trojanowska M. TGF- $\beta$  and CTGF have overlapping and distinct fibrogenic effects on human renal cells. *Am J Phys* 238:F707-F716, 2002.
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43. Sato M, Markiewicz M, Bielawska A, Obeid L, Hannun Y, and Trojanowska M. Modulation of Transforming Growth Factor- $\beta$  (TGF- $\beta$ ) signaling by endogenous sphingolipid mediators. *J Biol Chem*, 278:9276-9282, 2003
44. Kubo M, Czuwara-Ladykowska J, Moussa O, Markiewicz M, Smith EA, Silver RM, Jablonska S, Blaszczyk M, Watson, D, and Trojanowska M. Persistent downregulation of collagen transcription suppressor Fli1 in fibrotic scleroderma skin, *Am J Pathol*, 163:571-581, 2003

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45. Atamas, SP, Luzina IG, Choi J, Tsymbalyuk N, Carbonetti NH, Singh IS, Trojanowska M, Jimenez SA, and White B. Pulmonary and activation-regulated chemokine stimulates collagen production in lung fibroblasts. *Am J Respir Cell Mol Biol* 29:1-7, 2003
46. Jinnin M, Ihn H, Asano Y, Yamane K, Trojanowska M, and Tamaki K. Tenascin-C upregulation by TGF- $\beta$  in human dermal fibroblasts involves Smad3, Sp1, and Ets1, *Oncogene*, 23:1656-1667, 2004
47. Markiewicz M, Smith E, Rubinchik S, Dong J-Y, Trojanowska M, LeRoy EC. The 72-kilodalton IE-1 protein of human cytomegalovirus (hCMV) is a potent inducer of connective tissue growth factor (CTGF) in human dermal fibroblasts. *Clin and Exp Rheumatol*, 22 (suppl 33):S31-S34, 2004
48. Shegogue D and Trojanowska M. mTOR regulates collagen message stability via a PI3-kinase-independent pathway. *J Biol Chem*, 279(22):23166-75, 2004.
49. Arman M, Calvo J, Trojanowska M, Cockerill PN, Santana M, Lopez-Cabrera M, Vives J, and Lozano F. Functional characterization of the human CD 5 promoter: important role of Ets transcription factors in CD5 expression in T cells. *J Immunol*, 172:7519-7529, 2004.
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52. Sato M, Shegogue D, Hatamachi A, Yamazaki S, and Trojanowska M. Lysophosphatidic acid inhibits TGF-beta-mediated stimulation of type I collagen mRNA stability via an ERK-dependent pathway in dermal fibroblasts. *Matrix Biol.* 23:353-361, 2004
53. Znoyko I, Sohara N, Spicer SS, Trojanowska M, Reuben A. Comparative studies of oncostatin M expression in the tissues of adult rodents. *Anat. Rec.*, 283:182-186, 2005
54. Bhattacharyya B, Ghosh AK, Pannu J, Mori Y, Takagawa S, Chen G, Trojanowska M, Gilliam AC, Varga J Fibroblast expression of the coactivator p300 governs the intensity of profibrotic response to TGF- $\beta$ , *Arthritis&Rheum*, 52:1248-1258, 2005
55. Tourkina E, Gooz P, Pannu J, Bonner M, Scholz D, Hacker S, Silver RM, Trojanowska M, and Hoffman S. Opposing effects of protein kinase C alpha and protein kinase C epsilon on collagen expression by human lung fibroblasts are mediated via MEK/ERK and caveolin-1 signaling, *J Biol Chem*, 280:13879-13887, 2005
56. Sohn M, Tan Y, Wang B, Klein RL, Trojanowska M and Jaffa AA Mechanisms of Low-Density Lipoprotein-Induced Expression of Connective Tissue Growth Factor in Human Aortic Endothelial Cells, *Am J Physiol Heart Circ Physiol.* 290:H1624-34, 2005
57. Bu S, Yamanaka M, Pei H, Bielawska A, Bielawski J, Hannun Y, Obeid L, and Trojanowska M. Dihydrospingosine-1-phosphate stimulates MMP1 gene expression via activation of Erk1/2-Ets1 pathway in human fibroblasts, *Faseb J*, 20(1):184-186, 2005
58. Znoyko I, Sohara N, Spicer SS, Trojanowska M, and Reuben A. Expression of oncostatin M receptors in normal and cirrhotic human liver. *J Hepatol*, 43:893-900, 2005

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59. Jinnin M, Ihn H, Asano Y, Yamane K, Trojanowska M, and Tamaki K. Platelet derived growth factor induced tenascin-C transcription is phosphoinositide 3-kinase/Akt-dependent and mediated by Ets family transcription factors. *J. Cell Phys*, 206:718-727, 2006
60. Jinnin M, Ihn H, Asano Y, Yamane K, Trojanowska M, and Tamaki K. Upregulation of tenascin-C by IL-13 in human dermal fibroblasts via the phosphoinositide 3-kinase/Akt and the protein kinase C signaling pathways. *J Invest Dermatol*, 126:551-560, 2006
61. Znoyko I, Trojanowska M, and Reuben A. Collagen binding alphabeta1 and alpha1beta1 integrins play contrasting roles in regulation of Ets-1 expression in liver myofibroblasts. *Mol Cell Biochem* 282: 89-99, 2006
62. Gardner H, Shearstone J, Bandaru R, Crowell T, Lynes M, Trojanowska M, Pannu J, Kubo M, Smith E, Jablonska S, Blaszczyk M, Tan F, Mayes M. Gene profiling of scleroderma fibroblasts reveals robust signatures of disease which are imperfectly reflected in the transcripts profiles of explanted fibroblasts. *Arthritis Rheum*, 54:1961-1973, 2006
63. Pannu J, Gardner H, Shearstone J, Smith E, and Trojanowska M. Increased TGF- $\beta$  Receptor Type I levels lead to upregulation of matrix gene program: A model for scleroderma, *Arthritis Rheum* 54:3011-3021, 2006
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