

## CURRICULUM VITAE

**Name:** Elena V. Tourkina

**Office Address:** Department of Medicine  
Division of Rheumatology & Immunology  
96 Jonathan Lucas St, PO Box 250623

**Work Phone:** (843) 792-7319  
**Fax:** (843) 792-7121

**Citizenship:** U.S. citizen

**Education:**

1977	Moscow State University, Moscow, Russia	diploma (Virology)
1986	Moscow State University, Moscow, Russia	Ph.D. (Biochemistry)

**Professional Experience:**

1977-1986	Moscow State University (Graduate Work) Laboratory of Molecular Biology and Bioorganic Chemistry, Moscow, Russia
1986-6/89	Moscow State University (Research Scientist) Laboratory of Molecular Biology and Bioorganic Chemistry, Moscow, Russia
7/89-9/89	Evergreen State College (Visiting Scientist), Olympia, WA
10/90-12/90	Medical University of South Carolina (Visiting Scientist) Department of Biochemistry and Molecular Biology, Charleston, SC
1/91-5/91	Medical University of South Carolina (Postdoctoral fellow) Department of Biochemistry and Molecular Biology, Charleston, SC
6/91-9/93	Medical University of South Carolina (Postdoctoral fellow) Division of Hematology and Oncology, Charleston, SC
9/93-2000	Medical University of South Carolina (Postdoctoral fellow) Division of Rheumatology and Immunology, Charleston, SC
2000-06/04	Instructor, MUSC, Division of Rheumatology and Immunology, Charleston, SC
7/04-present	Research Assistant Professor, Division of Rheumatology and Immunology, Charleston, SC

**Specialty Certification/Licensure:** NA

**Faculty Appointments:**

1986-89	Research Scientist	Moscow State Univ	Mol Biol & Bioorganic Chem
2000	Research Instructor	MUSC	Medicine/Rheumatology&Immunol
2004	Research Assistant Professor	MUSC	Medicine/Rheumatology&Immunol

### **Honors and Awards**

- May, 2004 Visiting Speaker, University of Maryland, Division of Rheumatology and Clinical Immunology, Caveolin-1 in Scleroderma Lung Disease  
July, 2004 Young Investigator Travel award, Eighth International Workshop on Scleroderma Research, Cambridge, UK  
April, 2005 Mentorship award from Winthrop University

### **Memberships in Professional Societies:**

American Association for Cell Biology

### **Extramural Grants**

As PI:

- 1/00-12/01 Regulation of collagen accumulation by PKC isoenzymes, \$150,000, 30% effort  
1/04-12/05 Caveolin-1 in scleroderma lung disease (Tourkina-PI), \$150,000  
07/07 - 06/12 Anti-fibrotic and anti-inflammatory roles of caveolin-1 in lung disease (Tourkina-PI), \$588,281.

As Co-I:

- 9/03-8/07 PKC $\epsilon$ -related proteins in lung fibrosis (Hoffman-PI), \$1,000,000, 75% effort  
9/01-6/03 Curcumin treatment of fibrosis (Hoffman-PI), \$250,000, 75% effort  
1/98-12/99 The Role of Thrombin in Induction of Myofibroblast Phenotype in Scleroderma  
07/01/2007 - 06/30/2008 Lung Disease (Bradley-PI), \$100,000, collaborator without salary

**Lectures and Presentations** during the last 3 years – Identify the name and location of the meeting/conference.

Submitted presentations (e.g., abstract or paper presentations)

Tourkina E, Hoffman S, Bogatkevich G, Hacker S, Ludwicka-Bradley A, Silver S. Regulation of collagen accumulation by PKC isozymes. 40<sup>th</sup> ASCB meeting, San-Francisco, CA, 12/12/2000 (abstract).

Tourkina E, Ludwicka-Bradley A, Silver S, Hoffman S. Altered signaling in scleroderma lung fibroblasts allow curcumin to cause apoptosis and inhibit collagen accumulation. 41<sup>th</sup> ASCB meeting, Washington DC, 12/13/2001 (abstract).

Tourkina E, Hoffman S, Silver RM. Regulation of collagen accumulation through PKC  $\epsilon$  / MAPK signaling is aberrant in scleroderma lung fibroblasts. ACR/ARHP meeting, New Orleans, LA, 10/27/2002 (abstract).

Tourkina E, Bogatkevich G, Silver RM, Hoffman S. Differential PKC-epsilon localization and signaling in normal and scleroderma lung fibroblasts. ASCB Meeting, San Francisco, CA, Dec 2002 (abstract).

Elena V. Tourkina, Ph.D.  
Curriculum Vitae, p. 3

Bogatkevich, G., Tourkina, E., Silver, R.M., and Ludwicka-Bradley, A. Protein kinase C signaling in thrombin-activated lung fibroblasts. 2003, FASEB J., 17, A90, Abstr. 86.2.

Silver, R.M., Hoffman, S., Bonner, M., Tourkina, E., Gooz, P., and Harley, R. Curcumin inhibits the progression of fibrosis in an in vivo model of scleroderma lung disease. American College of Rheumatology 2003 Annual Meeting, Orlando, FL.

Tourkina EV, Gooz P, Silver RM, Hoffman S. Caveolin-1-regulated MAPK cascade is hyperactivated in scleroderma lung fibroblasts. ASCB Meeting, San Francisco, CA, Dec 2003.

May 6, 2004 - Visiting speaker in Division of Rheumatology and Clinical Immunology, University of Maryland School of Medicine, Presentation "Caveolin-1 in Scleroderma Lung Disease"

Tourkina E, Gooz P, Silver RM, Hoffman S. Opposing Effects of PKCa and PKCe on Collagen Expression are mediated via MEK/ERK and Caveolin-1 Signaling. The 8th international Workshop on Scleroderma Research, Trinity College, Cambridge England, Aug 1-4, 2004.

Tourkina E, Bonner M, Gooz P, Silver RM, Hoffman S. Caveolin-1 in Lung Fibrosis and Resolution. 13th International Colloquium on Lung Fibrosis, Oct 17-20, 2004, Banff, Canada.

Mathieu Richard, James Oates, Richard M. Silver, Stanley Hoffman, and Elena Tourkina, Caveolin-1 regulates normal and scleroderma leukocyte functions .American College of Rheumatology 72nd Annual Scientific Meeting, Oct 24-29, 2008, San-Francisco.

#### **Appointments:**

Appointment in the Colledge of Graduate Studies

#### **Community Service:**

She has offered services as Russian translator for various organizations, companies, and visitors to MUSC

#### **Peer Reviewed Publications:**

1. Tourkin, A.I., Tourkina, E.V. Abuladze, A.N., Poglazov, B.F. Proteins of the Bacteriophage T4 baseplate the taken part in contraction impulse. *Molecularnaja Biologia*, v. 19 (6), 1310 , 1985. (In English)
2. Tutikov, F.M., Tourkina, E.V., Tourkin, A.I. Protein composition and termoinactivation of bacteriophages of Methylocyes species. *Microbiology*, v. 56, 312, 1988. (In Russian).
3. Savitskii, A.P., Tourkin, A.I., Tourkina, E.V., Cherednikove, T.V., Ponomarev, G.V., Poglazov, B.F. Photochemical inactivation of viruses with photoimmunotoxin. *Proceeding of the Academy of Science of the USSR*, v. 304 (5), 58, 1989. (In English).

4. Bhalla, K., Ibrado, A.M., Bullock, G., Tang, C.Q., Tourkina, E., Huang, Y. GM-CSF/IL-3 fusion protein (PIXY 321) enhances high dose Ara-C induced programmed cell death or apoptosis in human myeloid leukemic cells. *Blood* 80:2883-90, 1992.
5. Bhalla, K., Tourkina, E., Huang, Y., Tang, C., Mahoney, M.E., Ibrado, A.M. Effect of hemopoietic growth factor G-CSF and pIXY 321 on the activity of high dose Ara-c in human leukemia cells. *Leukemia and Lymphoma* 10:123-31, 1993.
6. Bhalla, K., Ibrado, A.M., Tourkina, E., Mahoney, M.E., Huang, Y. Taxol induces programmed cell death in human myeloid leukemia cells. *Leukemia* 7:563-568, 1993.
7. Bhalla, K., Ibrado, A.M., Tourkina, E., Tang, C., Mahoney, M.E., Garfinkle, M., Huang, Y. High dose mitoxantrone induces programmed cell death or apoptosis in human myeloid leukemia cells. *Blood* 82:3133-3140, 1993.
8. Bullock, G., Tang, C., Tourkina, E., Ibrado, A.M., Lutsky, J., Huang, Y., Mahoney, M.E., Bhalla, K. Effect of combined treatment with Il-3 and IL-6 on 4-hydroperoxycyclophosphamide-induced programmed cell death or apoptosis in human myeloid leukemia cells. *Experimental Hematology* 21:1640-1647, 1993.
9. Tang, C., Willingham, M., Reed, J., Miyashita, T., Tourkina, E., Ponnathpur, V., Huang, Y., Ray, S., Mahoney, M.E., Bullock, G., Bhalla, K. High levels of p26BCL-2 oncoprotein retard taxol-induced apoptosis in human pre-B leukemia cells. *Leukemia* 8:1960-1969, 1994.
10. Suzuki, S., Tourkina, E., Ludwicka, A., Hampton, M., Bolster, M., Maize, J., and Silver, R. A contaminant of L-tryptophan enhances expression of dermal collagen in a murine model of the eosinophilia myalgia syndrome. *Proc Assoc Am Phys* 108:315-322, 1996.
11. Ludwicka-Bradley, A., Tourkina, E., Suzuki, S., Tyson, E., Bonner, M., Fenton II, J.W., Hoffman, S., and Silver, R.M. Thrombin upregulates interleukin-8 in lung fibroblasts via cleavage of proteolytically activated receptor-I and protein kinase C- $\gamma$  activation. *Am J Resp Cell Mol Biol.* 22:235-243, 2000.
12. Tourkina E, Hoffman S, Fenton JW II, Silver RM, Ludwicka-Bradley A. Depletion of PKC-epsilon in normal and scleroderma lung fibroblasts has opposite effects on tenascin expression. *Arthritis and Rheum* 44:1370-1381, 2001.
13. Bogatkevich G, Tourkina E, Silver RM, Ludwicka-Bradley A. Thrombin differentiates normal lung fibroblasts to a miofibroblast phenotype via proteolytically activated receptor-1 and protein kinase C-dependent pathway. *J Biol Chem*, 276: 45184-45192, 2001.
14. Bogatkevich G, Tourkina E, Abrams CS, Harley RA, Silver RM, Ludwicka-Bradley A. Contractile activity and smooth muscle- $\alpha$  actin organization in thrombin-induced human lung myofibroblasts. *Am J Physiol Lung Cell Mol Physiol* 285:L334-L343, 2003.
15. Tourkina E, Gooz P, Oates J, Ludwicka-Bradley A, Silver RM, Hoffman S. Curcumin-induced apoptosis in scleroderma lung fibroblasts: Role of PKC  $\epsilon$ . *Am. J. Respir. Cell Mol. Biol.* 31:28-35, 2004.
16. Tourkina E, Gooz P, Pannu J, Bonner M, Scholz D, Hacker S, Silver RM, Trojanowska M, Hoffman S. Opposing effects of PKC $\alpha$  and PKC $\epsilon$  on collagen expression by human lung fibroblasts are mediated via MEK/ERK and caveolin-1 signaling. *J Biol Chem*, 280: 13879-13887, 2005.
17. May LA, Tourkina E, Hoffman SR, Dix TA. Detection and quantitation of curcumin in mouse lung cell cultures by matrix-assisted laser desorption ionization time of flight mass spectrometry. *Anal Biochem*, 337:62-69, 2005.
18. Elena Tourkina, Mathieu Richard, Pal Gooz, Michael Bonner, Jaspreet Pannu, Russel Harley, Pascal N. Bernatchez, William C. Sessa, Richard M. Silver and Stanley Hoffman.

Anti-fibrotic properties of caveolin-1 scaffolding domain in vitro and in vivo. *Am J Physiol Lung Cell Mol Physiol* 294: 843=861, 2008, PMID: 18203815.

## Abstracts

1. Tourkina E, Hoffman S, Ludwicka-Bradley A, Silver RM. Dual role of thrombin in extracellular remodeling in scleroderma lung disease. ACR Nat. Mtg, Boston, MA, 11/13/99 (abstract).
2. Tourkina E, Black C, Hoffman S, Silver R, Ludwicka-Bradley A. Altered regulation of tenascin expression in scleroderma lung fibroblasts involves PKC-epsilon. 39<sup>th</sup> ASCB meeting, Washington, DC, 12/14/1999 (abstract).
3. Tkatchenko A, Tourkina E, Ludwicka-Bradley A, Silver R. Gene expression profiles in scleroderma. Macro results from microarrays: establishing leads for drug development. Cambridge, MS, 4/4/2000 (abstract).
4. Tourkina E, Hoffman S, Bogatkevich G, Hacker S, Ludwicka-Bradley A, Silver S. Regulation of collagen accumulation by PKC isozymes. 40<sup>th</sup> ASCB meeting, San-Francisco, CA, 12/12/2000 (abstract).
5. Tourkina E, Ludwicka-Bradley A, Silver S, Hoffman S. Altered signaling in scleroderma lung fibroblasts allow curcumin to cause apoptosis and inhibit collagen accumulation. 41<sup>th</sup> ASCB meeting, Washington DC, 12/13/2001 (abstract).
6. Tourkina E, Hoffman S, Silver RM. Regulation of collagen accumulation through PKC  $\epsilon$  / MAPK signaling is aberrant in scleroderma lung fibroblasts. ACR/ARHP meeting, New Orleans, LA, 10/27/2002 (abstract).
7. Tourkina E, Bogatkevich G, Silver RM, Hoffman S. Differential PKC-epsilon localization and signaling in normal and scleroderma lung fibroblasts. ASCB Meeting, San Francisco, CA, Dec 2002.
8. Bogatkevich, G., Tourkina, E., Silver, R.M., and Ludwicka-Bradley, A. Protein kinase C signaling in thrombin-activated lung fibroblasts. 2003, FASEB J., 17, A90, Abstr. 86.2.
9. Silver, R.M., Hoffman, S., Bonner, M., Tourkina, E., Gooz, P., and Harley, R. Curcumin inhibits the progression of fibrosis in an in vivo model of scleroderma lung disease. American College of Rheumatology 2003 Annual Meeting, Orlando, FL.
10. Tourkina EV, Gooz P, Silver RM, Hoffman S. Caveolin-1-regulated MAPK cascade is hyperactivated in scleroderma lung fibroblasts. ASCB Meeting, San Francisco, CA, Dec 2003.
11. Tourkina E, Gooz P, Silver RM, Hoffman S. Opposing Effects of PKCa and PKCe on Collagen Expression are mediated via MEK/ERK and Caveolin-1 Signaling. The 8<sup>th</sup> international Workshop on Scleroderma Research, Trinity College, Cambridge England, Aug 1-4, 2004.
12. Tourkina E, Bonner M, Gooz P, Silver RM, Hoffman S. Caveolin-1 in Lung Fibrosis and Resolution. 13<sup>th</sup> International Colloquium on Lung Fibrosis, Oct 17-20, 2004, Banff, Canada.
13. Tourkina E, Richard M, Charles K, Silver RM, Hoffman S. Caveolin-1 regulates collagen expression through MEK/ERK signaling and differentiation normal lung fibroblasts in myofibroblasts. ASCB Meeting, Washington, DC, Dec 2005.

14. Mattieu Richard, Elena Tourkina, Michael Bonner, Richard. M. Silver, Stanley Hoffman. Caveolin-1 regulates collagen expression and myofibroblast differentiation and inhibits bleomycin-induced lung fibrosis. The 9th international Workshop on Scleroderma Research, Boston, Aug 1-4, 2006.
15. Elena Tourkina, Mattieu Richard, Michael Bonner, Richard. M. Silver, Stanley Hoffman. Anti-fibrotic and anti-inflammatory roles of caveolin-1 in scleroderma. ASCB Meeting, San-Diego, Dec 2006.
16. Elena Tourkina, Mathieu Richard, James Oates, Richard. M. Silver, and Stanley Hoffman. Caveolin-1 scaffolding domain peptide inhibits the monocyte to fibrocyte differentiation of normal and scleroderma peripheral blood mononuclear cells. 10<sup>th</sup> International Workshop on Scleroderma Research, Trinity College, Cambridge England, Aug 2-6, 2008
17. Elena Tourkina\*, Mathieu Richard, James Oates, Richard M. Silver, and Stanley Hoffman. Caveolin-1 Regulates Pro-inflammatory and Pro-fibrotic Leukocyte Functions. 14th International Colloquium on Lung Fibrosis, Sunset Beach, NC, Sept 28-Oct 1 2008.
18. Mathieu Richard, James Oates, Richard M. Silver, Stanley Hoffman, and Elena Tourkina, Caveolin-1 regulates normal and scleroderma leukocyte functions. American College of Rheumatology 72nd Annual Scientific Meeting, San-Francisco. Oct 24-29, 2008.