Stanford



Glenn Rosen

Associate Professor of Medicine (Pulmonary and Critical Care Medicine), Emeritus

Medicine - Med/Pulmonary, Allergy & Critical Care Medicine

NIH Biosketch available Online Curriculum Vitae available Online

CONTACT INFORMATION

- **Alternate Contact**

  Latoya King - Administrative Associate

  Email lsking@stanford.edu

  Tel 650-721-3068

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Medicine - Med/Pulmonary, Allergy & Critical Care Medicine
- Member, Bio-X

ADMINISTRATIVE APPOINTMENTS

- Division Co-Chief, Pulmonary and Critical Care Medicine, (2004-2010)
- Director, Fellowship Program, Pulmonary and Critical Care Medicine, (2004-2010)
- Clinical Director Interstitial Lung Disease Program, Advanced Lung Disease Center, Stanford University Medical Center, (2011- present)

HONORS AND AWARDS

- Phi Betta Kappa, University of Pennsylvania (1979)
- Magna Cum Laude, University of Pennsylvania (1979)
- Research Fellowship Award, American Lung Association (1990)
- Institutional American Cancer Society Award, Stanford University (1994-1995)
- Award for Lung Cancer Research, Jack Elway Memorial Fund (2002-2003)

PROFESSIONAL EDUCATION

- MD, University of Pennsylvania , Medicine (1983)
- B.A., University of Pennsylvania , History (1979)

COMMUNITY AND INTERNATIONAL WORK

- Member, American Cancer Society Cell Cycle & Growth Control Advisory Committee
- Review Panel Member - NIH Special Emphasis Panel

LINKS

- Pulmonary/Critical Care Research Website: http://pulmonary.stanford.edu/research/basic.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our laboratory examines apoptotic and cell signaling pathways in the lung with a focus on fibrotic lung disease and lung cancer. We are studying TGF beta signaling in lung cells which regulates fibroblast and epithelial activation. We are also studying non-canonical functions of TERC and Tert in regulation of transcription in cancer cells and activated lung epithelium. The analysis of TERC lncRNA regulation of transcription ,which is done in collaboration with Dr. Howard Chang. We also are involved in trials of novel therapeutics for patients with pulmonary fibrosis.

CLINICAL TRIALS

- Microarray Analysis of Gene Expression and Identification of Progenitor Cells in Lung Carcinoma, Not Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (PhD Program)
- Medicine (Masters Program)

Publications

PUBLICATIONS

- **Defining Improvement in Nonalcoholic Steatohepatitis for Treatment Trial Endpoints: Recommendations From the Liver Forum** *HEPATOLOGY*
  Cheung, A., Neuschwander-Tetri, B. A., Kleiner, D. E., Schabel, E., Rinella, M., Harrison, S., Ratziu, V., Sanyal, A. J., Loomba, R., Megnien, S., Torstenson, R., Miller, V., Abdelmalek, et al
  2019; 70 (5): 1841–55

- **Defining Improvement in Nonalcoholic Steatohepatitis for Treatment Trial Endpoints: Recommendations from the Liver Forum.** *Hepatology (Baltimore, Md.)*
  Cheung, A., Neuschwander-Tetri, B. A., Kleiner, D. E., Schabel, E., Rinella, M., Harrison, S., Ratziu, V., Sanyal, A. J., Loomba, R., Jeannin Megnien, S., Torstenson, R., Miller, V., Liver Forum Case Definitions Working Group, et al
  2019

- **Non-invasive Imaging of Idiopathic Pulmonary Fibrosis Using Cathepsin Protease Probes** *SCIENTIFIC REPORTS*
  Withana, N. P., Ma, X., McGuire, H. M., Verdoes, M., van der Linden, W. A., Ofori, L. O., Zhang, R., Li, H., Sanman, L. E., Wei, K., Yao, S., Wu, P., Li, et al
  2016; 6

- **Non-invasive Imaging of Idiopathic Pulmonary Fibrosis Using Cathepsin Protease Probes.** *Scientific reports*
  Withana, N. P., Ma, X., McGuire, H. M., Verdoes, M., van der Linden, W. A., Ofori, L. O., Zhang, R., Li, H., Sanman, L. E., Wei, K., Yao, S., Wu, P., Li, et al
  2016; 6: 19755-?

- **Pleiotropic effect of the proton pump inhibitor esomeprazole leading to suppression of lung inflammation and fibrosis** *JOURNAL OF TRANSLATIONAL MEDICINE*
  Ghebremariam, Y. T., Cooke, J. P., Gerhart, W., Griego, C., Brower, J. B., Doyle-Eisele, M., Moeller, B. C., Zhou, Q., Ho, L., De Andrade, J., Raghu, G., Peterson, L., Rivera, et al
  2015; 13

- **Automated classification of usual interstitial pneumonia using regional volumetric texture analysis in high-resolution computed tomography.** *Investigative radiology*
  Depeursinge, A., Chin, A. S., Leung, A. N., Terrone, D., Bristow, M., Rosen, G., Rubin, D. L.
  2015; 50 (4): 261-267

- **Proton pump inhibitors inhibit the cardiovascular enzyme DDAH and regulate processes underlying idiopathic pulmonary fibrosis**
  Ghebremariam, Y. T., Zhou, Q., de Andrade, J., Ho, L., Rosen, G. D., Cooke, J. P.

SAGE PUBLICATIONS LTD.2014: 223

- **Connective tissue disease related interstitial lung diseases and idiopathic pulmonary fibrosis: provisional core sets of domains and instruments for use in clinical trials** *THORAX*
  Saketkoo, L. A., Mittoo, S., Huscher, D., Khanna, D., Dellaripa, P. F., Distler, O., Flaherty, K. R., Frankel, S., Oddis, C. V., Denton, C. P., Fischer, A., Kowal-Bielecka, O. M., LeSage, et al
  2014; 69 (5): 428-436

- **Reconciling Healthcare Professional and Patient Perspectives in the Development of Disease Activity and Response Criteria in Connective Tissue Disease-related Interstitial Lung Diseases** *JOURNAL OF RHEUMATOLOGY*
  Saketkoo, L. A., Mittoo, S., Frankel, S., LeSage, D., Sarver, C., Phillips, K., Strand, V., Matteson, E. L.
  2014; 41 (4): 792-798

- **Transcriptome analysis reveals differential splicing events in IPF lung tissue.** *PloS one*
  Nance, T., Smith, K. S., Anaya, V., Richardson, R., Ho, L., Pala, M., Mostafavi, S., Battle, A., Feghali-Bostwick, C., Rosen, G., Montgomery, S. B.
  2014; 9 (3)

- **A Critical Role for the mTORC2 Pathway in Lung Fibrosis.** *PloS one*
  Chang, W., Wei, K., Ho, L., Berry, G. J., Jacobs, S. S., Chang, C. H., Rosen, G. D.
  2014; 9 (8): e106155

- **A critical role for the mTORC2 pathway in lung fibrosis.** *PloS one*
  Chang, W., Wei, K., Ho, L., Berry, G. J., Jacobs, S. S., Chang, C. H., Rosen, G. D.
  2014; 9 (8)

- **Transcriptome Analysis Reveals Differential Splicing Events in IPF Lung Tissue.** *PloS one*
  Nance, T., Smith, K. S., Anaya, V., Richardson, R., Ho, L., Pala, M., Mostafavi, S., Battle, A., Feghali-Bostwick, C., Rosen, G., Montgomery, S. B.
  2014; 9 (3): e92111

- **Proton Pump Inhibitors Inhibit DDAH and Processes Underlying Idiopathic Pulmonary Fibrosis**
  Ghebrernariam, Y. T., Ho, L., Rosen, G. D., Cooke, J. P.
  LIPPINCOTT WILLIAMS & WILKINS.2013

- **Connective Tissue Disease-associated Interstitial Lung Disease: A review.** *Current respiratory care reports*
  Gutsche, M. n., Rosen, G. D., Swigris, J. J.
  2012; 1: 224–32

- **An Analysis of Connective Tissue Disease-associated Interstitial Lung Disease at a US Tertiary Care Center: Better Survival in Patients with Systemic Sclerosis** *JOURNAL OF RHEUMATOLOGY*
  Su, R., Bennett, M., Jacobs, S., Hunter, T., Bailey, C., Krishnan, E., Rosen, G., Chung, L.
  2011; 38 (4): 693-701

- **The HLA Class II Allele DRB1*1501 Is Over-Represented in Patients with Idiopathic Pulmonary Fibrosis** *PLOS ONE*
  Xue, J., Gochuico, B. R., Alawad, A. S., Feghali-Bostwick, C. A., Noth, I., Nathan, S. D., Rosen, G. D., Rosas, I. O., Dacic, S., Ocak, I., Fuhrman, C. R., Cuenco, K. T., Smith, et al
  2011; 6 (2)

- **SPARC Suppresses Apoptosis of Idiopathic Pulmonary Fibrosis Fibroblasts through Constitutive Activation of beta-Catenin** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Chang, W., Wei, K., Jacobs, S. S., Upadhyay, D., Weill, D., Rosen, G. D.
  2010; 285 (11): 8196-8206

- **Nicotine Induces Resistance to Chemotherapy by Modulating Mitochondrial Signaling in Lung Cancer** *AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY*
  Zhang, J., Kamdar, O., Le, W., Rosen, G. D., Upadhyay, D.
  2009; 40 (2): 135-146

- **Air pollution induces enhanced mitochondrial oxidative stress in cystic fibrosis airway epithelium** *FEBS LETTERS*
  Kamdar, O., Le, W., Zhang, J., Ghio, A. J., Rosen, G. D., Upadhyay, D.
  2008; 582 (25-26): 3601-3606

- **Ambient particulate matter induces alveolar epithelial cell cycle arrest: Role of G1 cyclins** *FEBS LETTERS*
  Zhang, J., Ghio, A. J., Gao, M., Wei, K., Rosen, G. D., Upadhyay, D.
  2007; 581 (27): 5315-5320
- **Bim mediates mitochondria-regulated particulate matter-induced apoptosis in alveolar epithelial cells** *FEBS LETTERS*
  Zhang, J., Ghio, A. J., Chang, W., Kamdar, O., Rosen, G. D., Upadhyay, D.
  2007; 581 (22): 4148-4152
- **Fibroblast growth factor-10 prevents H2O2-induced cell cycle arrest by regulation of GI cyclins and cyclin dependent kinases** *FEBS LETTERS*
  Upadhyay, D., Chang, W., Wei, K., Gao, M., Rosen, G. D.
  2007; 581 (2): 248-252
- **Recurrence of pulmonary intravascular bronchoalveolar tumor with mediastinal metastasis 20 years later** *RESPIRATORY MEDICINE*
  Chen, T. M., Donington, J., Mak, G., Berry, G. J., Ruoss, S. J., Rosen, G. D., Upadhyay, D.
  2006; 100 (2): 367-370
- **A 35-year-old man, with fever, dyspnea, and diffuse reticular opacities** *CHEST*
  Katikireddy, C. K., Krishna, G., Keifer, T., Kuschner, W., Rosen, G.
  2006; 129 (2): 482-487
- **A placebo-controlled trial of interferon gamma-1b in patients with idiopathic pulmonary fibrosis** *NEW ENGLAND JOURNAL OF MEDICINE*
  Raghu, G., Brown, K. K., Bradford, W. Z., Starko, K., Noble, P. W., Schwartz, D. A., King, T. E., Adlakha, A., Tarczynski, S., Ainslie, G., Kalam, R., Bai, T., Truchan, et al
  2004; 350 (2): 125-133
- **PG490-88, a derivative of triptolide, causes tumor regression and sensitizes tumors to chemotherapy** *MOLECULAR CANCER THERAPEUTICS*
  Fidler, J. M., Li, K., Chung, C., Wei, K., Ross, J. A., Gao, M. X., Rosen, G. D.
  2003; 2 (9): 855-862
- **Triptolide sensitizes lung cancer cells to TNF-related apoptosis-inducing ligand (TRAIL)-induced apoptosis by inhibition of NF-kappa B activation** *EXPERIMENTAL AND MOLECULAR MEDICINE*
  Lee, K. Y., Park, J. S., Jee, Y. K., Rosen, G. D.
  2002; 34 (6): 462-468
- **PG490-88, a derivative of triptolide, attenuates obliterative airway disease in a mouse heterotopic tracheal allograft model** *JOURNAL OF HEART AND LUNG TRANSPLANTATION*
  Leonard, C. T., Soccal, P. M., Berry, G. J., Doyle, R. L., Theodore, J., Duncan, S. R., Rosen, G. D.
  2002; 21 (12): 1314-1318
- **The molecular biology of lung cancer** *CURRENT OPINION IN PULMONARY MEDICINE*
  Ross, J. A., Rosen, G. D.
  2002; 8 (4): 265-269
- **Oligoclonal CD4(+) T cell expansions in lung transplant recipients with obliterative bronchiolitis** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
  Duncan, S. R., Leonard, C., Theodore, J., Lega, M., Girgis, R. E., Rosen, G. D., Theofilopoulos, A. N.
  2002; 165 (10): 1439-1444
- **Pharmacogenomics and the challenge to privacy.** *pharmacogenomics journal*
  Vaszar, L. T., Rosen, G. D., Raffin, T. A.
  2002; 2 (3): 144-147
- **Diversity of gene expression in adenocarcinoma of the lung** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Garber, M. E., Troyanskaya, O. G., Schluens, K., Petersen, S., Thaesler, Z., Pacyna-Gengelbach, M., van de Rijn, M., Rosen, G. D., Perou, C. M., Whyte, R. I., Altman, R. B., Brown, P. O., Botstein, et al
  2001; 98 (24): 13784-13789

- **Tumor necrosis factor-related apoptosis-inducing ligand and chemotherapy cooperate to induce apoptosis in mesothelioma cell lines** *AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY*
  Liu, W. H., Bodle, E., Chen, J. Y., Gao, M. X., Rosen, G. D., Broaddus, V. C.
  2001; 25 (1): 111-118
- **PG490-88, a derivative of triptolide, blocks bleomycin-induced lung fibrosis** *AMERICAN JOURNAL OF PATHOLOGY*
  Krishna, G., Liu, K. L., Shigemitsu, H., Gao, M. X., Raffin, T. A., Rosen, G. D.
  2001; 158 (3): 997-1004
- **Triptolide and chemotherapy cooperate in tumor cell apoptosis - A role for the p53 pathway** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Chang, W. T., Kang, J. J., Lee, K. Y., Wei, K., Anderson, E., Gotmare, S., Ross, J. A., Rosen, G. D.
  2001; 276 (3): 2221-2227
- **Dendritic cells and macrophages in lung allografts a role in chronic rejection?** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
  Leonard, C. T., Soccal, P. M., Singer, L., Berry, G. J., Theodore, J., Holt, P. G., Doyle, R. L., Rosen, G. D.
  2000; 161 (4): 1349-1354
- **Thoracic lymphangiomas, lymphangiectasis, lymphangiomatosis, and lymphatic dysplasia syndrome** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
  Faul, J. L., Berry, G. J., Colby, T. V., Ruoss, S. J., Walter, M. B., Rosen, G. D., Raffin, T. A.
  2000; 161 (3): 1037-1046
- **Loss of STAT1 expression confers resistance to IFN-gamma-induced apoptosis in ME180 cells** *FEBS LETTERS*
  Lee, K. Y., Anderson, E., Madani, K., Rosen, G. D.
  1999; 459 (3): 323-326
- **PG490 (triptolide) cooperates with tumor necrosis factor-alpha to induce apoptosis in tumor cells** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Lee, K. Y., Chang, W. T., Qiu, D. M., Kao, P. N., Rosen, G. D.
  1999; 274 (19): 13451-13455
- **Proteolytic cleavage of Ras GTPase-activating protein during apoptosis** *CELL DEATH AND DIFFERENTIATION*
  Wen, L. P., Madani, K., Martin, G. A., Rosen, G. D.
  1998; 5 (9): 729-734
- **Dexamethasone inhibits lung epithelial cell apoptosis induced by IFN-gamma and Fas** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
  Wen, L. P., Madani, K., Fahrni, J. A., Duncan, S. R., Rosen, G. D.
  1997; 273 (5): L921-L929
- **Dexamethasone inhibits lung epithelial cell apoptosis induced by IFN-gamma and Fas.** *American journal of physiology. Lung cellular and molecular physiology*
  Wen, L., Madani, K., Fahrni, J. A., Duncan, S. R., Rosen, G. D.
  1997; 273 (5): L921–L929
- **Cleavage of focal adhesion kinase by caspases during apoptosis** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Wen, L. P., Fahrni, J. A., Troie, S., Guan, J. L., Orth, K., Rosen, G. D.
  1997; 272 (41): 26056-26061
- **Rapamycin inhibits development of obliterative airway disease in a murine heterotopic airway transplant model** *TRANSPLANTATION*
  Fahrni, J. A., Berry, G. J., Morris, R. E., Rosen, G. D.
  1997; 63 (4): 533-537
- **Airway epithelial cells produce stem cell factor** *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR CELL RESEARCH*
  Wen, L. P., Fahrni, J. A., Matsui, S., Rosen, G. D.
  1996; 1314 (3): 183-186
- **Acid aspiration induced lung injury - New insights and therapeutic options** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
  Matthay, M. A., Rosen, G. D.

1996; 154 (2): 277-278

- **MULTIPLE REGULATORY ELEMENTS CONTROL THE BASAL PROMOTER ACTIVITY OF THE HUMAN ALPHA-4 INTEGRIN GENE** *DNA AND CELL BIOLOGY*
  Audet, J. F., Masson, J. Y., Rosen, G. D., Salesse, C., Guerin, S. L.
  1994; 13 (11): 1071-1085
- **AN INTRICATE ARRANGEMENT OF BINDING-SITES FOR THE ETS FAMILY OF TRANSCRIPTION FACTORS REGULATES ACTIVITY OF THE ALPHA-4 INTEGRIN GENE PROMOTER** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Rosen, G. D., Barks, J. L., Iademarco, M. F., Fisher, R. J., Dean, D. C.
  1994; 269 (22): 15652-15660
- **EXPANDING ROLES FOR ALPHA-4 INTEGRIN AND ITS LIGANDS IN DEVELOPMENT** *CELL ADHESION AND COMMUNICATION*
  Sheppard, A. M., Onken, M. D., Rosen, G. D., Noakes, P. G., Dean, D. C.
  1994; 2 (1): 27-43
- **THE INTEGRIN ALPHA-4-BETA-1 AND ITS COUNTER-RECEPTOR VCAM-1 IN DEVELOPMENT AND IMMUNE FUNCTION** *8th Transatlantic Airway Conference on Integrins and Other Adhesion Molecules*
  Dean, D. C., Iademarco, M. F., Rosen, G. D., Sheppard, A. M.
  AMER THORACIC SOC.1993: S43–S46
- **CHARACTERIZATION OF THE PROMOTER FOR VASCULAR CELL-ADHESION MOLECULE-1 (VCAM-1)** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Iademarco, M. F., McQuillan, J. J., Rosen, G. D., Dean, D. C.
  1992; 267 (23): 16323-16329
- **ROLES FOR THE INTEGRIN VLA-4 AND ITS COUNTER RECEPTOR VCAM-1 IN MYOGENESIS** *CELL*
  Rosen, G. D., Sanes, J. R., Lachance, R., Cunningham, J. M., Roman, J., Dean, D. C.
  1992; 69 (7): 1107-1119
- **IDENTIFICATION OF A PROTEIN THAT INTERACTS WITH THE NUCLEAR FACTOR-I (NF-1) BINDING-SITE IN CELLS THAT DO NOT EXPRESS NF-1 - COMPARISON TO NF-1, CELLULAR-DISTRIBUTION, AND EFFECT ON TRANSCRIPTION** *NUCLEIC ACIDS RESEARCH*
  McQuillan, J. J., Rosen, G. D., BIRKENMEIER, T. M., Dean, D. C.
  1991; 19 (23): 6627-6631
- **EXPRESSION OF FIBRONECTIN AND ITS CELL-SURFACE RECEPTORS** *6TH TRANSATLANTIC AIRWAY CONF : AIRWAY MUCIN*
  Dean, D. C., BIRKENMEIER, T. M., Rosen, G. D., Weintraub, S. J.
  AMER LUNG ASSOC.1991: S25–S28
- **Glycoprotein synthesis and secretion. Expression of fibronectin and its cell surface receptors.** *American review of respiratory disease*
  Dean, D. C., BIRKENMEIER, T. M., Rosen, G. D., Weintraub, S. J.
  1991; 144 (3): S25-8
- **CHARACTERIZATION OF THE ALPHA-4 INTEGRIN GENE PROMOTER** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Rosen, G. D., BIRKENMEIER, T. M., Dean, D. C.
  1991; 88 (10): 4094-4098
- **IDENTIFICATION OF A CYCLOOXYGENASE-RELATED GENE AND ITS POTENTIAL ROLE IN PROSTAGLANDIN FORMATION** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Rosen, G. D., BIRKENMEIER, T. M., Raz, A., Holtzman, M. J.
  1989; 164 (3): 1358-1365
- **UPTAKE, RELEASE AND NOVEL SPECIES-DEPENDENT OXYGENATION OF ARACHIDONIC-ACID IN HUMAN AND ANIMAL AIRWAY EPITHELIAL-CELLS** *BIOCHIMICA ET BIOPHYSICA ACTA*
  Holtzman, M. J., Hansbrough, J. R., Rosen, G. D., Turk, J.
  1988; 963 (3): 401-413