

CURRICULUM VITAE

1. Name Position

Name: Chun Geun Lee, M.D. Ph.D.

Position: Professor

Academic Department:

Molecular Microbiology and Immunology

Brown University

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3. Education:

M.D. Hanyang University School of Medicine, Seoul Korea. Feb 22, 1987

M.M. Sc. Hanyang University, Genetics, Aug 19, 1989

Ph.D. Hanyang University, Graduate School of Medicine, Genetics, Feb 24, 1995

4. Professional Appointments:

1987 - 1992 Teaching Assistant, Hanyang University School of Medicine

1993 - 1995 Research Scientist, Division of Biotechnology, Korea National Institute of Health (KNIH)

1995 - 1996 Full-time Instructor, Hanyang University School of Medicine

1997 - 1998 Visiting fellow, LMM, NIAID, NIH

1998 - 1999 Post-doctoral fellow, Yale University School of Medicine

2000 - 2001 Associate Research Scientist, Yale University School of Medicine

2002 - 2007 Assistant Professor of Medicine, Yale University School of Medicine

2007 - 2009 Visiting Professor, Hanyang University School of Medicine

2002 - 2014 Director, Molecular Biology Core, Section of Pulmonary, Critical Care & Sleep Medicine, Yale University School of Medicine, New Haven, CT

2008 - 2014 Associate Professor of Medicine, Yale University School of Medicine

2016 - 2020 Visiting Professor, Hanyang University, Seoul Korea.

2014 - Present Professor, Dept of Molecular Microbiology and Immunology, Division of Biology and Medical Sciences, Brown University

5. Service

To the University/School of Medicine: 2008-2014, As a Director, Molecular Biology Core, Section of Pulmonary, Critical Care & Sleep Medicine, Yale University School of Medicine, New Haven, CT developed transgenic program for generation of multiple lines of genetically modified mice for research and teaching.

To the Profession:

Peer Review Groups/Grant Study Sections

- 2022 Ad-hoc reviewer, Catalyze Program, NHLBI, NIH
- 2022 Peer Review Medical Research Program (PRMRP) RH-3, Chair, Department of Defense
- 2022 Reviewer, Special Emphasis Panel, Cardiovascular and Respiratory Science
- 2021 Reviewer, Postdoctoral Fellowship, European Science Foundation (ESF)
- 2021 Ad-hoc Grant Reviewer, CDMRP FY21 Scleroderma Research, Department of Defense
- 2021 Ad-hoc Grant Reviewer, Respiratory Research, FY21 PRMRP, Department of Defense
- 2021 Ad-hoc Grant Reviewer, Catalyze HL20_023 027 Reviewer, NIH
- 2020 Ad-hoc Grant Reviewer, CDMRP FY20 Scleroderma Research, Department of Defense
- 2019 Scientific Merit Review, Department of Veterans Affairs (VA). Spring 2019 PULM Review Meeting
- 2018 Ad-hoc Reviewer for SBIR/STTR, CSR, NIH
- 2017 Scientific Merit Review, Department of Veterans Affairs (VA). Fall 2018 PULM Review Meeting
- 2017 Ad-hoc Reviewer, Lung Injury, Repair, and Remodeling (LIRR) Study Section
- 2016 - Scientific Merit Review Board, Department of Veterans Affairs (VA) Joint Biomedical Laboratory Research and Development (BLR&D) and Clinical Science Research and Development (CSD &D)
- 2016 Ad hoc Grant Reviewer, NHLBI, NIH, USA
Special Emphasis Panel – Member Conflicts: Asthma, Pulmonary Fibrosis and Inflammation ”
- 2016 NIH Fellowship Study Section:
Physiology and Pathobiology of Cardiovascular and Respiratory System
- 2016 Ad hoc Grant reviewer, Dept. VA Veterans Health Administration
Merit Review Subcommittee for Pulmonary Medicine
- 2015 Ad hoc Grant reviewer, Dept. VA Veterans Health Administration
Merit Review Subcommittee for Pulmonary Medicine
- 2015 Ad hoc Grant Reviewer, NHLBI, NIH, USA
Special Emphasis Panel for “Cardiovascular and Respiratory Integrated Review”
- 2014 External reviewer, The Wellcome Trust, England
- 2013 External reviewer, Italian Ministry of Health
- 2011 Member, Lung Research Consortium (LTRC) Study Section: Clinical Centers, Tissue Repository, Data Coordinating Center for Radiology Center”, NIH/NHLBI
- 2009-2010 Member, Phase II Clinical Trial of Novel Therapies for Lung Diseases, NIH/NHLBI
- 2009 Ad hoc Grant Reviewer of British Lung Foundation, UK
- 2008 Ad hoc Grant Reviewer, Medical Research Counsel, UK
- 2007 External Reviewer, Research Grants Council, Hong Kong

Journal Service:

Associate Editor

2009-present, Associate Editor, *Allergy, Asthma and Immunology Research (AAIR)*

2014-Present, Editorial Board Member, *International Journal of Immunology and Immunotherapy*

Reviewer

Ad hoc reviewer for American Journal of Respiratory Cell and Molecular Biology, American Journal of Respiratory and Critical Care Medicine, Journal of Immunology, European Respiratory Journal, Clinical and Experimental Allergy, PLoS ONE, The Journal of American Medical Association (JAMA), American Journal of Pathology, Experimental Lung Research, Thorax, FASEB, J of Asthma, Proteonomics, Pediatric Allergy and Asthma. Journal of Allergy and Clinical Immunology, Advanced Materials

6. Professional Service for Professional Organizations:

American Thoracic Society

1998-present Member

American Association of Cancer Research
1996-1998 Member

7. Academic Honors & Recognition

2005 Innovative Research Award, American Thoracic Society
2002 Finalist in New England Respiratory Research Competition
1992 Investigator Award from Korea Public Health Institution
1981- 1993 Full scholarship undergraduate and graduate course for academic excellence, Hanyang University School of Medicine

8. Completed Publications:

a. Referred Journal Articles: Peer Reviewed Original Research Articles (>150)

(<https://www.ncbi.nlm.nih.gov/myncbi/127DfTdRQbKk9/bibliography/public/>)

Connolly K, Lehoux M, O'Rourke R, Assetta B, Erdemir GA, Elias JA, **Lee CG**, Huang YA. Potential role of chitinase-3-like protein 1 (CHI3L1/YKL-40) in neurodegeneration and Alzheimer's disease. *Alzheimers Dement.* 2023 Jan;19(1):9-24. doi: 10.1002/alz.12612. Epub 2022 Mar 2. PubMed PMID: 35234337; PubMed Central PMCID: PMC9437141.

Ma B, Kamle S, Akosman B, Khan H, Lee CM, **Lee CG**, Elias JA. CHI3L1 enhances melanoma lung metastasis *via* regulation of T cell co-stimulators and CTLA-4/B7 axis. *Front Immunol.* 2022;13:1056397. doi: 10.3389/fimmu.2022.1056397. eCollection 2022. PubMed PMID: 36618349; PubMed Central PMCID: PMC9812560.

Mo Y, Kim Y, Bang JY, Jung J, **Lee CG**, Elias JA, Kang HR. Mesenchymal Stem Cells Attenuate Asthmatic Inflammation and Airway Remodeling by Modulating Macrophages/Monocytes in the IL-13-Overexpressing Mouse Model. *Immune Netw.* 2022 Oct;22(5):e40. doi: 10.4110/in.2022.22.e40. eCollection 2022 Oct. PubMed PMID: 36381962; PubMed Central PMCID: PMC9634145.

Sun X, Nakajima E, Norbrun C, Sorkhdini P, Yang AX, Yang D, Ventetuolo CE, Braza J, Vang A, Aliotta J, Banerjee D, Pereira M, Baird G, Lu Q, Harrington EO, Rounds S, **Lee CG**, Yao H, Choudhary G, Klinger JR, Zhou Y. Chitinase 3 like 1 contributes to the development of pulmonary vascular remodeling in pulmonary hypertension. *JCI Insight.* 2022 Sep 22;7(18). doi: 10.1172/jci.insight.159578. PubMed PMID: 35951428; PubMed Central PMCID: PMC9675485.

Lee JH, Lee CM, Lee JH, Kim MO, Park JW, Kamle S, Akosman B, Herzog EL, Peng XY, Elias JA, **Lee CG**. Kasugamycin Is a Novel Chitinase 1 Inhibitor with Strong Antifibrotic Effects on Pulmonary Fibrosis. *Am J Respir Cell Mol Biol.* 2022 Sep;67(3):309-319. doi: 10.1165/rcmb.2021-0156OC. PubMed PMID: 35679109; PubMed Central PMCID: PMC9447144.

Kamle S, Ma B, Lee CM, Schor G, Zhou Y, **Lee CG**, Elias JA. Host chitinase 3-like-1 is a universal therapeutic target for SARS-CoV-2 viral variants in COVID-19. *Elife.* 2022 Jun 23;11. doi: 10.7554/eLife.78273. PubMed PMID: 35735790; PubMed Central PMCID: PMC9273216.

Kim RL, Bang JY, Kim J, Mo Y, Kim Y, **Lee CG**, Elias JA, Kim HY, Kang HR. Mesenchymal stem cells exert their anti-asthmatic effects through macrophage modulation in a murine chronic asthma model. *Sci Rep.* 2022 Jun 13;12(1):9811. doi: 10.1038/s41598-022-14027-x. PubMed PMID: 35697721; PubMed Central PMCID: PMC9192777.

Balnis J, Drake LA, Singer DV, Vincent CE, Korponay TC, D'Armiento J, **Lee CG**, Elias JA, Singer HA, Jaitovich A. Deaccelerated Myogenesis and Autophagy in Genetically Induced Pulmonary Emphysema. *Am J Respir Cell Mol Biol*. 2022 Jun;66(6):623-637. doi: 10.1165/rcmb.2021-0351OC. PubMed PMID: 35286819; PubMed Central PMCID: PMC9163640.

Lee S-Y, Lee C-M, Ma B, Kamle S, Elias JA, Zhou Y, et al. Targeting Chitinase 1 and Chitinase 3-Like 1 as Novel Therapeutic Strategy of Pulmonary Fibrosis. *Frontiers in Pharmacology*. 2022;13:826471.

Ma B, Akosman B, Kamle S, Lee C-M, Koo JS, **Lee CG**, Elias JA. Chitinase 3-like-1 Stimulates PD-L1 and Other Immune Checkpoint Inhibitors. *J Clin Invest*, 2021; 131(21):e137750.

Kamle S, Ma B, He CH, Akosman B, Zhou Y, Lee CM, et al. Chitinase 3-like-1 is a Therapeutic Target That Mediates the Effects of Aging in COVID-19. *JCI Insight* , 2021;6(21):e148749.

Park S-Y, Hong JY, Lee SY, Lee S-H, Kim MJ, Kim SY, et al. Club cell-specific role of programmed cell death 5 in pulmonary fibrosis. *Nat Commun*. 2021;12(1):2923.

Schmitz NA, Thakare RP, Chung CS, Lee CM, Elias JA, **Lee CG**, et al. Chitotriosidase Activity Is Counterproductive in a Mouse Model of Systemic Candidiasis. *Front Immunol*. 2021; 12:626798

Kim EG, Kim M, Hong JY, Lee JW, Kim SY, Kim KW, **Lee CG**, Elias JA, Song TW, Sohn MH. Chitinase 3-Like 1 Contributes to Food Allergy via M2 Macrophage Polarization. *Allergy Asthma Immunol Res*. 2020; 12(6):1012-1028

Joseph Balnis, **Chun Geun Lee**, Jack A. Elias, Ariel Jaitovich. Hypercapnia-Driven Skeletal Muscle Dysfunction in an Animal Model of Pulmonary Emphysema Suggests a Complex Phenotype. *Front Physiol*. 2020; 11: 600290.

Zhou L, Huntington K, Zhang S, Carlsen L, So E-Y, Parker C, Sahin I, Safran H, Kamle S, Lee C-M, **Lee CG**, Elias JA, Campbell KS, Naik MT, Atwood WJ, Youssef E, Pachter JA, Navaraj A, Seyhan AA, Liang O, El-Deiry WS. Natural Killer cell activation, reduced ACE2, TMPRSS2, cytokines G-CSF, M-CSF and SARS-CoV-2-S pseudovirus infectivity by MEK inhibitor treatment of human cells. *Oncotarget*. 2020; 11:4201-4223.

He CH, **Lee CG**, Ma B, Kamle S, Choi AMK, Elias JA. N-Glycosylation Regulates Chitinase 3-like-1 and IL-13 Ligand Binding to IL-13 Receptor $\alpha 2$. *Am J Respir Cell Mol Biol*. 2020; 63(3):386-395. PMID: 32402213.

Balnis J, Korponay TC, Vincent CE, Singer DV, Adam AP, Lacomis D, **Lee CG**, Elias JA, Singer HA, Jaitovich A. IL-13-driven pulmonary emphysema leads to skeletal muscle dysfunction attenuated by endurance exercise. *J Appl Physiol (1985)*. 2020 Jan 1;128(1):134-148. doi: 10.1152/jappphysiol.00627.2019. Epub 2019 Nov 27.

Lee CM, Park JW, Lee JH, Chen E, Kamle S, Ma B, Akosman B, Cotez R, He CH, Zhou Y, Herzog EL, Ryu C, Peng X, Rosas IO, Poli S, Bostwick CF, Choi AM, Elias JA, **Lee CG**. Chitinase 1 regulates pulmonary fibrosis by modulating TGF- β /SMAD7 pathway via TGFBRAP1 and FOXO3. *Life Science Alliance* 2019, 2(3):e201900350.

Cho WK, **Lee CG**, Kim LK. COPD as a Disease of Immunosenescence. *Yonsei Med J*. 2019;60(5):407-413.

Kim MJ, Shim DH, Cha HR, Moon KY, Yang CM, Hwang SJ, Kim KW, Park JH, Lee CG, Elias JA, Sohn MH, Lee JM. Chitinase 3-like 1 protein plays a critical role in respiratory syncytial virus-induced airway inflammation. *Allergy*. 2019, 74(4):685-697.

Hong JY, Sol IS, Kim KW, Lee CM, Elias JA, Sohn MH, **Lee CG**. Chitotriosidase inhibits allergic asthmatic airways via regulation of TGF- β expression and Foxp3⁺ Treg cells. *Allergy* 2018, 73(8):1686-1699.

- Kim DH, Park HJ, Lim SH, Choi JO, Koo JH, Oh JH, Ha SJ, Kang MJ, **Lee CG**, Elias JA, and Choi JM. Regulation of chitinase-3-like-1 in T cell elicits Th1 and cytotoxic responses to inhibit lung metastasis. *Nature Commun* 2018, 9(1):503.
- Lee CM, Cho SJ, Cho WK, Park JW, Lee JH, Choi AM, Rosas IO, Zheng M, Peltz G, **Lee CG**, Elias JA. Laminin $\alpha 1$ is a genetic modifier of TGF- $\beta 1$ -stimulated pulmonary fibrosis. *JCI Insight*. 2018, 3(18).
- Ryter SW, Rosas IO, Owen CA, Martinez FJ, Choi ME, **Lee CG**, Elias JA, Choi AMK. Mitochondrial Dysfunction as a Pathogenic Mediator of Chronic Obstructive Pulmonary Disease and Idiopathic Pulmonary Fibrosis. *Ann Am Thorac Soc*. 2018 Dec;15(Supplement_4): S266-S272.
- Zhou Y, He CH, Yang DS, Nguyen T, Cao Y, Kamle S, Lee CM, Gochuico BR, Gahl WA, Shea BS, **Lee CG**, Elias JA. Galectin-3 Interacts with the CHI3L1 Axis and Contributes to Hermansky-Pudlak Syndrome Lung Disease. *J Immunol* 2018, 200(6):2140-2153.
- Shan Z, Liu X, Chen Y, Wang M, Gao YR, Xu L, Dar WA, **Lee CG**, Elias JA, and Castillo PD, Di Paola Jorge CJ. Chitinase 3-like-1 Promotes Intrahepatic Activation of Coagulation Through Induction of Tissue Factor in Mice. *Hepatology* 2017, 67(6):2384-2396.
- Murray LA, Habiel DM, Hohmann M, Camelo A, Shang H, Zhou Y, Coelho AL, Peng X, Gulati M, Crestani B, Sleeman MA, Mustelin T, Moore MW, Ryu C, Osafo-Addo AD, Elias JA, **Lee CG**, Hu B, Herazo-Maya JD, Knight DA, Hogaboam CM, Herzog EL. Antifibrotic role of vascular endothelial growth factor in pulmonary fibrosis. *JCI Insight* 2017;2(16).
- Montgomery TA, Xu L, Mason S, Chinnadurai A, **Lee CG**, Elias JA, Cantley LG. Breast Regression Protein-39/Chitinase 3-Like 1 Promotes Renal Fibrosis after Kidney Injury via Activation of Myofibroblasts. *J Am Soc Nephrol* 2017, 28(11):3218-3226.
- Puthumana J, Hall IE, Reese PP, Schröppel B, Weng FL, Thiessen-Philbrook H, Doshi MD, Rao V, **Lee CG**, Elias JA, Cantley LG, Parikh CR. YKL-40 Associates with Renal Recovery in Deceased Donor Kidney Transplantation. *J Am Soc Nephrol* 2017, 28(2):661-670
- Golestani R, Razavian M, Ye Y, Zhang J, Jung JJ, Toczek J, Gona K, Kim HY, Elias JA, **Lee CG**, Homer RJ, Sadeghi MM. Matrix Metalloproteinase-Targeted Imaging of Lung Inflammation and Remodeling. *J Nucl Med* 2017, 58(1):138-143.
- Peng X, Moore M, Mathur A, Zhou Y, Sun H, Gan Y, Herazo-Maya JD, Kaminski N, Hu X, Pan H, Ryu C, Osafo-Addo A, Homer RJ, Feghali-Bostwick C, Fares WH, Gulati M, Hu B, **Lee CG**, Elias JA, Herzog EL. Plexin C1 deficiency permits synaptotagmin 7-mediated macrophage migration and enhances mammalian lung fibrosis. *FASEB J* 2016, 30(12):4056-4070.
- Lee CM, He CH, Nour AM, Zhou Y, Ma B, Park JW, Kim KH, Cruz CD, Sharma L, Nasr ML, Modis Y, **Lee CG**, Elias JA. IL-13Ra2 uses TMEM219 in chitinase 3-like-1-induced signaling and effector responses. *Nat Commun* 2016, 7:12572.
- Ma B, Herzog EL, Moore M, Lee C-M, Na SH, **Lee CG**, Elias JA. RIG-like Helicase Regulation of Chitinase 3-like 1 Axis and Pulmonary Metastasis. *Scientific Reports* 2016, 6:26299.

Yoon PY*, Park JW*, Lee CM, Kim SH, Kim HN, Ko Y, Yun S, Park JH, Kwon T, Kim WS, Lee J, Lu Q, Kang HR, Cho WK, Elias JA, Yang JS, Park HO, Lee K, **Lee CG**. Self-assembled micelle interfering RNA for effective and safe targeting of dysregulated genes in pulmonary fibrosis. *J Biol Chem* 2016, 291(12):6433-46. *,equal contribution

Low D, Subramaniam R, Lin L, Aomatsu T, Mizoguchi A, Ng A, DeGruttola AK, **Lee CG**, Elias JA, Andoh A, Mino-Kenudson M, Mizoguchi E. Chitinase 3-like 1 induces survival and proliferation of intestinal epithelial cells during chronic inflammation and colitis-associated cancer by regulating S100A9. *Oncotarget*. 2015, 6(34):36535-50.

Kang MJ, Yoon CM, Nam M, Kim DH, Choi JM, **Lee CG**, Elias JA. Role of Chitinase 3-like-1 in interleukin 18-induced pulmonary type 1, type 2, and type 17 inflammation, alveolar destruction, and airway fibrosis in the murine lung. *Am J Respir Cell Mol Biol*. 2015, 53(6):863-71.

Wang J, Liu W, Marion C, Singh R, Andrews N, **Lee CG**, Elias JA, Dela Cruz CS. Interleukin-15 Regulates Retinoic Acid Receptor Beta in the Lung During Cigarette Smoking and Influenza Virus Infection. *Am J Respir Cell Mol Biol*. 2015, 53(6):863-71.

Zhou Y, He CH, Herzog EL, Peng X, Lee CM, Nguyen TM, Gulati M, Gochuico BR, Gahl WA, Slade ML, **Lee CG**, Elias JA. Chitinase 3-like 1 in Hermansky-Pudlak syndrome-associated lung disease. *J Clin Invest*. 2015, 125(8):3178-92.

Kang M-J, Yoon CM, Kim BH, Lee C-M, Zhou Y, Sauler M, Homer R, Dhamija A, Boffa D, West AP, Shadel G, Ting JP, Kaminski N, Kim WJ, **Lee CG**, Oh Y-M, Elias JA. Suppression of NLRX1 in Chronic Obstructive Pulmonary Disease. *J Clin Invest*, 2015, 125(6):2458-62.

Vock C, Yildirim AÖ, Wagner C, Schlick S, Lunding LP, **Lee CG**, Elias JA, Fehrenbach H, Wegmann M. Distal airways are protected from goblet cell metaplasia by diminished expression of IL-13 signaling components. *Clin Exp Allergy*. 2015, 45(9):1447-58.

Wiesner DL, Specht CA, Lee CK, Smith KD, Mukaremera L, Lee ST, **Lee CG**, Elias JA, Nielsen JN, Boulware DR, Bohjanen PR, Jenkins MK, Levitz SM and Nielsen K: Chitin Recognition via Chitotriosidase Promotes Pathologic Type-2 Helper T Cell Responses to Cryptococcal Infection. *PLoS Pathog*. 2015, 11 (3) :e1004701.

Patel AS, Song JW, Chu SG, Mizumura K, Osorio JC, Shi Y, El-Chemaly S, **Lee CG**, Rosas IO, Elias JA, Choi AM and Morse D: Epithelial Cell Mitochondrial Dysfunction and PINK1 Are Induced by Transforming Growth Factor- Beta1 in Pulmonary Fibrosis. *PLoS One*. 2015, 10 (3) :e0121246.

Ahangari F, Sood A, Ma B, Takyar S, Schuyler M, Qualls C, Dela Cruz CS, Chupp GL, **Lee CG**, Elias JA. Chitinase 3-like-1 Regulates both Visceral Fat Accumulation and Asthma-like Th2 Inflammation. *Am J Respir Crit Care Med*. 2015, 191(7):746-57.

Kim LK, Morita R, Kobayashi Y, Eisenbarth SC, **Lee CG**, Elias J, Eynon EE, Flavell RA. AMCase is a crucial regulator of type 2 immune responses to inhaled house dust mites. *Proc Natl Acad Sci USA* 2015, 112(22):E2891-9.

Cho SJ, Weiden MD, **Lee CG**. Chitotriosidase in the Pathogenesis of Inflammation, Interstitial Lung Diseases and COPD. *Allergy Asthma Immunol Res* 2015, 7(1):14-21.

Ma B*, Herzog EL*, Lee CG, Peng X, Lee CM, Chen X, Rockwell S, Koo JS, Kluger H, Herbst RS, Sznol M, Elias JA. Role of Chitinase 3-like-1 and Semaphorin 7a in Pulmonary Melanoma Metastasis. *Cancer Res* 2015, 75(3):487-96 (*, equal contribution).

Zhou Y, Peng H, Sun H, Peng X, Tang C, Gan Y, Chen X, Mathur A, Hu B, Slade MD, Montgomery RR, Shaw AC, Homer RJ, White ES, Lee CM, Moore MW, Gulati M, **Lee CG**, Elias JA, Herzog EL. Chitinase 3-like 1 suppresses injury and promotes fibroproliferative responses in Mammalian lung fibrosis. *Sci Transl Med.* 2014;6(240):240ra76

Erdman LK, Petes C, Lu Z, Dhabangi A, Musoke C, Cserti-Gazdewich CM, **Lee CG**, Liles WC, Elias JA, Kain KC. Chitinase 3-like 1 is induced by Plasmodium falciparum malaria and predicts outcome of cerebral malaria and severe malarial anaemia in a case-control study of African children. *Malar J* 2014, 13:279.

Lee CM, Park JW, Cho WK, Zhou Y, Han B, Yoon PO, Chae J, Elias JA, **Lee CG**. Modifiers of TGF- 1 effector function as therapeutic target of pulmonary fibrosis. *Kor J Inter Med.* 2014, 29(3):1-10.

Tran HT, Lee IA, Low D, Kamba A, Mizoguchi A, Shi HN, **Lee CG**, Elias JA, Mizoguchi E. Chitinase 3-like 1 synergistically activates IL6-mediated STAT3 phosphorylation in intestinal epithelial cells in murine models of infectious colitis. *Inflamm Bowel Dis* 2014; 20(5):835-46.

He CH, **Lee CG**, Dela Cruz CS, Lee CM, Zhou Y, Ahangari F, Ma B, Herzog EL, Rosenberg SA, Li Y, Nour AM, Parikh CR, Schmidt I, Modis Y, Cantley L, Elias JA Chitinase 3-like 1 Regulates Cellular and Tissue Responses via IL-13 Receptor $\alpha 2$. *Cell Rep.* 2013, 4(4):830-41.

Zhou Y, Kang MJ, Jha BK, Silverman RH, **Lee CG**, Elias JA. Role of ribonuclease L in viral pathogen-associated molecular pattern/influenza virus and cigarette smoke-induced inflammation and remodeling. *J Immunol.* 2013, 191(5):2637-46.

Takyar S, Vasavada H, Zhang JG, Ahangari F, Niu N, Liu Q, **Lee CG**, Cohn L, Elias JA. VEGF controls lung Th2 inflammation via the miR-1-Mpl (myeloproliferative leukemia virus oncogene)-P-selectin axis. *J Exp Med.* 2013, 210(10):1993-2010.

Cho, W-K, Lee C-M, Kang M-J, Huang Y, Giordano FJ, Lee PJ, Trow TK, Homer RJ, Sessa WC, Elias JA, **Lee CG**. IL-13 Receptor $\alpha 2$ -arginase 2 pathway mediates IL-13-induced pulmonary hypertension. *Am J Physiol Lung Cell Mol Physiol* 2013;304(2):L112-24.

Ghelfi E, Yu CW, Elmasri H, Terwelp M, **Lee CG**, Bhandari V, Comhair SA, Erzurum SC, Hotamisligil GS, Elias JA, Cataltepe S. Fatty Acid Binding Protein 4 Regulates VEGF-Induced Airway Angiogenesis and Inflammation in a Transgenic Mouse Model: Implications for Asthma. *Am J Pathol.* 2013, 182(4):1425-33

Schmidt IM, Hall IE, Kale S, Lee S, He CH, Lee Y, Chupp GL, Moeckel GW, **Lee CG**, Elias JA, Parikh CR, Cantley LG. Chitinase-like protein Brp-39/YKL-40 modulates the renal response to ischemic injury and predicts delayed allograft function. *J Am Soc Nephrol.* 2013, 24(2):309-19.

Zhou Y, Lee JY, Lee CM, Cho WK, Kang MJ, Koff JL, Elias JA, **Lee CG**. Amphiregulin, an Epidermal Growth Factor Receptor (EGFR) ligand, plays an essential role in the pathogenesis of TGF- β -induced pulmonary fibrosis. *J Biol Chem, J Biol Chem.* 2012;287(50):41991-2000.

Lee CG, Herzog LE, Ahangari F, Zhou Y, Gulati M, Lee C-M, Peng X, Feghali-Bostwick C, Jimenez SA, Varga J, Elias JA. Chitinase1 is a Biomarker for and Therapeutic Target in Scleroderma- Interstitial Lung Disease that Augments TGF- β 1 Signaling. *J Immunol* 2012, 189(5):2635-44.

Dela Cruz CS, He CH, Jacoby A, Gornitzky A, Ma B, Flavell R, **Lee CG**, Elias JA. (2012). Chitinase 3-like-1 (Chi3l1) Regulation of *Streptococcus pneumoniae* Lung Infection. *Cell Host and Microbe* 2012, 2(1):34-46.

Lee CM, Jung ID, Noh KT, Jeong YI, Lee JS, Park JW, Heo DR, Park JH, Chang JH, Choi IW, Kim JS, Shin YK, Park SJ, Han MK, **Lee CG**, and Park YM. An Essential regulatory role of downstream of kinase-1 in the ovalbumin-induced murine model of asthma. *PLoS One* 2012, 7(4):e34554.

Kang MJ, Choi JM, Kim BH, Lee CM, Cho WK, Choe G, Kim DH, **Lee CG**, Elias JA. IL-18 Induces Emphysema, and Airway and Vascular Remodeling via IFN- γ , IL-17A and IL-13. *Am J Respir Crit Care Med* 2012, 185(11):1205-17.

Kearns MT, Dalal S, Horstmann SA, Richens TR, Tanaka T, Doe JM, Boe DM, Voelkel NF, Taraseviciene-Stewart L, Janssen WJ, **Lee CG**, Elias JA, Bratton D, Tudor RM, Henson PM, Vandivier RW. Vascular endothelial growth factor enhances macrophage clearance of apoptotic cells. *Am J Physiol Lung Cell Mol Physiol* 2012, 302(7):L711-8.

Ma B, Dela Cruz CS, Hartl D, Kang MJ, Takyar S, Homer RJ, **Lee CG**, Elias JA. Rig-Like Helicase Innate Immunity Inhibits VEGF Tissue Responses via A Type I Interferon-Dependent Mechanism. *Am J Respir Crit Care Med* 2011, 183(10):1322-35.

Lee BJ, Moon HG, Shin TS, Jeon SG, Lee EY, Gho YS, **Lee CG**, Zhu Z, Elias JA, Kim YK. Protective effects of basic fibroblast growth factor in the development of emphysema induced by interferon-gamma. *Exp Mol Med* 2011, 43(4):169-78.

Matsuura H, Hartl D, Kang M-J, Dela Cruz CS, Koller B, Chupp GL, Homer RJ, Zhou Y, Cho W-K, Elias JA, **Lee CG**. Role of breast regression protein (BRP)-39 in the pathogenesis of cigarette smoke-induced inflammation and emphysema. *Am J Respir Cell Mol Biol* 2011, 44(6):777-86.

Choi JM, Shin JH, Sohn MH, Harding MJ, Park JH, Tobiasova Z, Kim DY, Maher SE, Chae WJ, Park SH, **Lee CG**, Lee SK, Bothwell ALM. Cell-permeable Foxp3 protein alleviates autoimmune disease associated with inflammatory bowel disease and allergic airway inflammation. *Proc Natl Acad Sci USA* 2010, 107 (43) 18575-80.

Da Silva CA, Pochard P, **Lee CG**, Elias JA. Chitin particles are multifaceted immune adjuvants. *Am J Respir Crit Care Med* 2010, 182(12):1482-91.

Sohn MH, Kang M-J, Matsuura H, Bhandari V, **Lee CG**, Elias JA. The Chitinase-like Proteins Breast Regression Protein-39 and YKL-40 Regulate Hyperoxia-induced Acute Lung Injury. *Am J Respir Crit Care Med* 2010, 182(7):918-28.

Kim YS, Choi SJ, Choi JP, Jeon SG, Oh SY, Lee BJ, Gho YS, **Lee CG**, Zhu Z, Elias JA, Kim YK. IL-12-STAT4-IFN-gamma axis is a key downstream pathway in the development of IL-13-mediated asthma phenotypes in a Th2 type asthma model. *Exp Mol Med* 2010, 42(8):533-46.

Koh BH, Hwang SS, Kim JY, Lee W, Kang M-J, **Lee CG**, Park J-W, Flavell RA, Lee GR. Th2 LCR is essential for regulation of Th2 cytokine genes and for pathogenesis of allergic asthma. *Proc Natl Acad Sci USA* 2010, 107(23):10614-9.

Hong EG, Ko HJ, Cho YR, Kim HJ, Ma Z, Yu TY, Friedline RH, Kurt-Jones E, Finberg R, Fischer MA, Granger EL, Norbury CC, Hauschka SD, Philbrick WM, **Lee CG**, Elias JA, Kim JK. Interleukin-10 prevents diet-induced insulin resistance by attenuating macrophage and cytokine response in skeletal muscle. *Diabetes* 2009, 58(11):2525-35.

Chapoval SP, **Lee CG**, Tang C, Keegan AD, Cohn L, Bottomly K, Elias JA. Lung vascular endothelial growth factor expression induces local myeloid dendritic cell activation. *Clin Immunol* 2009, 132(3):371-84.

Lee CG, Hartl D, Lee GR, Koller B, Matsuura H, DaSilva CA, Sohn MH, Cohn L, Homer RJ, Kozhich AA, Humbles A, Kearley J, Coyle A, Chupp G, Reed J, Flavell RA, Elias JA. Role of breast regression protein 39 (BRP-39)/Chitinase 3-like-1 in Th2 and IL-13-induced tissue responses and apoptosis. *J Exp Med* 2009, 206(5):1149-66.

Hartl D, He CH, Koller B, Da Silva CA, Kobayashi Y, **Lee CG**, Flavell RA and Elias JA. Acidic Mammalian Chitinase Regulates Epithelial Cell via a Chitinolytic-Independent Mechanism. *J Immunol* 2009,182(8):5098-106.

Sohn MH, Lee JH, Kim KW, Kim SW, Lee SH, Kim KE, Kim KH, **Lee CG**, Elias JA, Lee MG. Genetic Variation in the Promoter Region of Chitinase 3-Like 1 (CHI3L1) is Associated with Atopy. *Am J Respir Crit Care Med* 2009, 179(6):449-56.

Hartl D, He CH, Koller B, Da Silva CA, Homer R, **Lee CG**, Elias JA. Acidic mammalian chitinase is secreted via an ADAM17/EGFR-dependent pathway and stimulates chemokine production by pulmonary epithelial cells. *J Biol Chem* 2008, 283(48):33472-82.

Lee CG, Hartl D, Matsuura H, Dunlop F, Scottney P, Fabri L, Chen N-Y, Chen C-Y, Chen Q, Homer RJ, Nash A, Baca M, Elias JA. Endogenous IL-11 signaling is essential in Th2- and IL-13-induced inflammation and mucus production. *Am J Respir Cell Mol Biol* 2008, 39(6):739-46.

Da Silva CA, Hartl D, Liu W, **Lee CG**, Medzhitov R, Coyle A, Reed J, Elias JA. Toll-like receptor-2 and IL-17A in chitin-induced macrophage activation, acute inflammation and Th2 adjuvant effects. *J Immunol* 2008,181(6):4279-86.

Kang M-J, **Lee CG**, Lee J-Y, Dela Cruz CS, Chen ZJ, Enelow R, Elias JA. Cigarette smoke selectively enhances viral PAMP and virus-induced pulmonary innate immune and remodeling responses. *J Clin Invest* 2008, 118(8):2771-84.

Bhandari V, Choo-Wing R, **Lee CG**, Yusuf K, NedreLOW JH, Ambalavanan N, Malkus H, Homer RJ, Elias JA. Developmental Regulation of NO-mediated VEGF-induced Effects in the Lung. *Am J Respir Cell Mol Biol* 2008, 39(4):420-30.

Yamasaki M, Kang HR, Homer RJ, Chapoval SP, Cho SJ, Lee BJ, Elias JA. and **Lee CG**. P21 Regulates TGF- β_1 -Induced Pulmonary Responses via a TNF- signaling Pathway. *Am. J. Respir. Cell Mol. Biol*, 2008,38(3):346-53.

Chupp GL, **Lee CG**, Jarjour N, Shim YM, Holm KT, He S, Dziura JD, Reed J, Coyle AJ, Kiener P, Cullen M, Grandsaigne M, Dombret M-C, Aubier M, Pretolani M, Elias JA. A Chitinase-like Protein in the Lung and Circulation of Patients with Severe Asthma. *N Engl J Med* 2007,357:2016-2027.

Kang HR*, **Lee CG***, Homer RJ, Elias JA. Semaphorin 7A Plays a Critical Role in TGF- β_1 -Induced Pulmonary Fibrosis and Alveolar Destruction. *J Exp Med* 2007, 204(5):1083-93, (*, equal contribution).

- Jeon SG, **Lee CG**, Oh MH, Chun EY, Gho YS, Cho SH, Kim JH, Min KU, Kim YY, Kim YK, Elias JA. Recombinant basic fibroblast growth factor inhibits the airway hyperresponsiveness, mucus production, and lung inflammation induced by an allergen challenge. *J Allergy Clin Immunol* 2007, 119(4):831-7.
- Siner JM, Jiang G, Cohen ZI, Shan P, Zhang X, **Lee CG**, Elias JA, Lee PJ. VEGF-induced heme oxygenase-1 confers cytoprotection from lethal hyperoxia in vivo. *FASEB J* 2007, 21(7):1422-32.
- Kang HR, Cho SJ, **Lee CG**, Homer RJ, Elias JA. Transforming growth factor (TGF)-beta1 stimulates pulmonary fibrosis and inflammation via a Bax-dependent, bid-activated pathway that involves matrix metalloproteinase-12. *J Biol Chem* 2007, 9;282(10):7723-32.
- Kang MJ, Homer RJ, Gallo A, **Lee CG**, Crothers KA, Cho SJ, Rochester C, Cain H, Chupp G, Yoon HJ, Elias JA. IL-18 is induced and IL-18 receptor alpha plays a critical role in the pathogenesis of cigarette smoke-induced pulmonary emphysema and inflammation. *J Immunol* 2007,1;178(3):1948-59.
- Bhandari V, Choo-Wing R. **Lee CG**, Zhu Z, Nedrelow JH, Chupp GL, Matthay MA, Homer RJ, Elias JA. Hyperoxia causes angiotensin-2-mediated acute lung injury and necrotic cell death. *Nat Med* 2006;12(11):1286-93.
- Bhandari V, Choo-Wing R, Chapoval SP, **Lee CG**, Tang C, Kim YK, Ma B, Baluk P, Lin MI, McDonald DM, Homer RJ, Sessa WC, Elias JA. Essential role of nitric oxide in VEGF-induced, asthma-like angiogenic, inflammatory, mucus, and physiologic responses in the lung. *Proc Natl Acad Sci U S A* 2006,18;103(29):11021-6.
- Homer RJ, Zhu Z, Cohn L, **Lee CG**, White WI, Chen S, Elias JA. Differential expression of chitinases identify subsets of murine airway epithelial cells in allergic inflammation. *Am J Physiol Lung Cell Mol Physiol* 2006, 291(3):L502-11.
- Kang MJ, Homer RJ, Gallo A, **Lee CG**, Crothers KA, Cho SJ, Rochester C, Cain H, Chupp G, Yoon HJ, Elias JA. IL-18 is induced and IL-18 receptor alpha plays a critical role in the pathogenesis of cigarette smoke-induced pulmonary emphysema and inflammation. *J Immunol* 2007, 1;178(3):1948-59.
- Bhandari V, Choo-Wing R. **Lee CG**, Zhu Z, Nedrelow JH, Chupp GL, Matthay MA, Homer RJ, Elias JA. Hyperoxia causes angiotensin-2-mediated acute lung injury and necrotic cell death. *Nat Med* 2006;12(11):1286-93.
- Bhandari V, Choo-Wing R, Chapoval SP, **Lee CG**, Tang C, Kim YK, Ma B, Baluk P, Lin MI, McDonald DM, Homer RJ, Sessa WC, Elias JA. Essential role of nitric oxide in VEGF-induced, asthma-like angiogenic, inflammatory, mucus, and physiologic responses in the lung. *Proc Natl Acad Sci USA* 2006,18;103(29):11021-6.
- Homer RJ, Zhu Z, Cohn L, **Lee CG**, White WI, Chen S, Elias JA. Differential expression of chitinases identify subsets of murine airway epithelial cells in allergic inflammation. *Am J Physiol Lung Cell Mol Physiol* 2006, 291(3):L502-11.
- Shim YM, Zhu Z, Zheng T, **Lee CG**, Homer RJ, Ma B, Elias JA. Role of 5-lipoxygenase in IL-13-induced pulmonary inflammation and remodeling. *J Immunol* 2006, 177(3):1918-24.
- Ma B, Liu W, Homer RJ, Lee PJ, Coyle AJ, Lora JM, **Lee CG**, Elias JA. Role of CCR5 in the pathogenesis of IL-13-induced inflammation and remodeling. *J Immunol* 2006, 176(8):4968-78.

Ma B, Blackburn MR, **Lee CG**, Homer RJ, Wei L, Flavell RA, Boyden L, Lifton RP, Elias JA. Genetic Control of IL-4 Induced Inflammation, Emphysema, Fibrosis and Adenosine Metabolism. *J Clin Invest* 2006, 116(5):1274-1283, 2006.

Cho SJ, Kang MJ, Homer RJ, Kang HR, Zhang X, Lee PJ, Elias JA, **Lee CG**. Role of early growth response-1 (Egr-1) in IL-13-induced inflammation and remodeling. *J Biol Chem* 2006, 281(12):8161-8.

Chunn JL, Mohsenin A, Young HW, **Lee CG**, Elias JA, Kellems RE, Blackburn MR. Partially adenosine deaminase-deficient mice develop pulmonary fibrosis in association with adenosine elevations. *Am J Physiol Lung Cell Mol Physiol* 2006, 290(3):L579-87.

Lee PJ, Zhang X, Shan P, Ma B, **Lee CG**, Homer RJ, Zhu Z, Rincon M, Mossman BT, Elias JA. ERK1/2 mitogen-activated protein kinase selectively mediates IL-13-induced lung inflammation and remodeling in vivo. *J Clin Invest* 2006,116(1):163-173.

Ma B, Kang MJ, **Lee CG**, Chapoval S, Liu W, Chen Q, Coyle AJ, Lora JM, Picarella D, Homer RJ, Elias JA. Role of CCR5 in IFN-gamma-induced and cigarette smoke-induced emphysema. *J Clin Invest* 2005, 115(12):3460-3472.

Becker PM, Waltenberger J, Yachechko R, Mirzapoiazova T, Sham JS, **Lee CG**, Elias JA, Verin AD. Neuropilin-1 regulates vascular endothelial growth factor-mediated endothelial permeability. *Circ Res* 2005, 24;96(12):1257-65.

Zheng T, Kang MJ, Crothers K, Zhu Z, Liu W, **Lee CG**, Rabach LA, Chapman HA, Homer RJ, Aldous D, Desanctis G, Underwood S, Graupe M, Flavell RA, Schmidt JA, Elias JA. Role of cathepsin S-dependent epithelial cell apoptosis in IFN-gamma-induced alveolar remodeling and pulmonary emphysema. *J Immunol* 2005, 15;174(12):8106-15.

He, CH, Waxman, AB, **Lee, CG**, Link, H, Rabach, ME, Ma, B, Chen, Q, Zhu, Z, Homer, RJ and Elias, JA. Bcl-2-related protein A1 is an endogenous and cytokine-stimulated mediator of cytoprotection in hyperoxic acute lung injury. *J Clin Invest* 2005,115:1039-1048.

Chen Q, Rabach L, Noble P, Zheng T, **Lee CG**, Homer RJ and Elias, JA. Interleukin-11 receptor alpha in the pathogenesis of IL-13-induced inflammation and remodeling. *J Immunol* 2005, 174: 2305-2313.

Vicencio AG*, **Lee CG***, Cho SJ, Eickelberg O, Chuu Y, Haddad GG, Elias JA. Conditional overexpression of bioactive TGF- β 1 in neonatal mouse lung: a new model for BPD? *Am J Respir Cell Mol Biol* 2004, 31(6): 650-6 (*, equal contribution).

Baluk P, **Lee CG**, Link H, Ator E, Haskell A, Elias JA, McDonald DM. Regulated angiogenesis and vascular regression in mice overexpressing vascular endothelial growth factor in airways. *Am J Pathol* 2004,165:1071-1085.

Lee CG, Link H., Baluk P., Homer R.J., Chapoval S., Bhandari V., Kang MJ, Cohn L., Kim YK, McDonald DM, Elias JA. Vascular Endothelial Growth Factor (VEGF) Induces Remodeling and Enhances Th2 Sensitization and Inflammation in the Lung. *Nat Med* 2004,10:1095-1193.

Lee CG, Cho SJ, Kang MJ, Chapoval SP, Lee PJ, Noble PW, Yehualaeshet T, Lu B, Flavell RA, Milbrandt J, Homer RJ, Elias JA. Early Growth Response Gene 1-mediated Apoptosis Is Essential for Transforming Growth Factor- β 1-induced Pulmonary Fibrosis. *J Exp Med* 2004, 200(3):377-389.

Blackburn MR*, **Lee CG***, Young HW, Zhu Z, Chunn JL, Kang MJ, Banerjee SK., Elias JA. Adenosine mediates IL-13-induced inflammation and remodeling in the lung and interacts in an IL-13-adenosine amplification pathway. *J Clin Invest* 2003, 112(3):332-344, (*, equal contribution).

Wang J., Chen Q., Corne J., Zhu Z., **Lee CG.** Bhandari V, Homer RJ, Elias JA. Pulmonary expression of leukemia inhibitory factor induces B cell hyperplasia and confers protection in hyperoxia. *J Biol Chem* 2003, 278(33):31226-31232.

Zheng T., Zhu Z, Liu W., **Lee CG**, Chen Q, Homer RJ, Elias JA. Cytokine regulation of IL-13Ralpha2 and IL-13Ralpha1 in vivo and in vitro. *J Allergy Clin Immunol* 2003, 111(4):720-728.

Lee CG, Homer RJ, Cohn L, Link H, Jung SS, Craft JE, Graham BS, Johnson TR, and J.A. Elias. Transgenic expression of IL-10 in the lung causes mucus metaplasia, tissue inflammation and airways remodeling via IL-13-dependent and -independent pathways. *J Biol Chem* 2002, 277(38):35466-35474.

Zhu Z, Ma B, Zheng T, Homer RJ, **Lee CG**, Charo IF, Noble PW, Elias JA. IL-13-induced chemokine response in the lung:role of CCR2 in the pathogenesis of Il-13-induced inflammation and remodeling. *J Immunol* 2002, 15:168(6):2953-2962.

Wu T, **Lee CG**, Buckler-White A, Kozak CA. Genetic control of a mouse serum lipoprotein factor that inactivates murine leukemia viruses:evaluation of apolipoprotein F as a candidate. *J Virol* 2002, 76(5):2279-2286.

Zhu Z, **Lee CG**, Zheng T, Chupp G, Wang J, Homer RJ, Noble PW, Hamid Q, and Elias JA. Airway inflammation and remodelling in asthma. Lessons from intetrleukin 11 and interleukin 13 transgenic mice. *Am J Respir Crit Care Med* 2001,15:164:S67-70.

Lee CG, Homer RJ, Zhu Z, Lanone S, Wang X, Koteliensky V, Noble PW, Chen Q, Senior R, Elias JA. Interleukin-13 induces tissue fibrosis by selectively stimulating and activating TGF- 1. *J Exp Med* 2001,194:809-821.

Manthey D, Banach K, Desplantez T, **Lee CG**, Kozak CA, Traub O, Weingart R, and Willecke K. Intracellular domain of mouse connexin 26 and 30 affect diffusional and electrical properties. *J Membr Biol* 2001,15:181(2):137-148.

Lee CG, HJ Yoon, Zhou Z, Link H, Wang Z, Gwaltney JM Jr, Landry M, Elias JA. Respiratory syncytial virus stimulation of vascular endothelial cell growth factor/ vascular permeability factor (VEGF/VPF). *Am J Respir Cell Mol Biol* 2000, 23:662-669.

Corne J, Chupp G, **Lee CG**, Homer RJ, Chen Q, Ma B, Du Y, Roux F, McArdle J, Waxman AB, And Elias JA: Il-13 stimulate vascular endothelial cell growth factor and protects against hyperoxic acute lung injury. *J Clin Invest* 2000,106:783-791.

Wang J, Homer RJ, Hong L, Cohn L, **Lee CG**, Jung SS, Elias JA: IL-11 selectively inhibits aeroallergen-induced pulmonary eosinophilia and Th2 cytokine production: *J Immunol* 2000,15:165(4)2222-2231.

Rajan L, Broussard D, Lozano M, **CG Lee**, Kozak CA, Dudley JP: The c-myc locus is a common integration site in type B retrovirus-induced T-cell lymphomas. *J Virol* 2000, 74(5):2466-2471.

Kim JW, **Lee CG**, Park YG, Kim KS, Kim IK, Sohn YW, Min HK, Lee JM, Namkoong SE: Combined analysis of germline polymorphisms of p53, GSTM1, GSTT1, CYP1A1, and CYP2E1: relation to the incidence rate of cervical carcinoma. *Cancer* 2000,1:88(9):2082-91.

Lee CG, Morse HC III, Kay BK and Kozak CA: Genetic mapping of eight SH3 domain genes on seven mouse chromosomes. *Mammalian Genome* 1999, 10(4):402-404.

Taylor CS, Nouri A, **Lee CG**, Kozak CA, Kabat D: Cloning and characterization of a cell surface receptor for Xenotropic and Polytropic murine leukemia viruses. *Proc Natl Acad Sci* 1999. 96(3):927-932.

Manthey D, Bukauskas F, **Lee CG**, Kozak CA, Willecke K : Molecular cloning and functional expression of the mouse gap junction gene connexin-57 in human hela cells. *J Biol Chem* 1999, 274(21):14716-14723.

Kim JW, Cho YH, **Lee CG**, Kim JH, Kim HK, Kim EJ, Han KJ, Namkoong SE: Human papillomavirus infection and TP53 gene mutation in primary cervical carcinoma. *Acta Oncol* 1997, 36(3):295-300.

Kim JW, **Lee CG**, Choi SK, Kim KS, Kim JH, Kim TE, Lee JM, Rha JG, Namkoong SE : Establishment and characterization of a highly tumorigenic human diploid endometrial cancer cell line. *Cancer Genet Cytogenet* 1997, 99(1):1-10.

Kim JW, **Lee CG**, Han SM, Kim KS, Kim JO, Lee JM, Kim IK, Namkoong SE: Loss of heterozygosity of the retinoblastoma and p53 genes in primary cervical carcinomas with papillomavirus infection. *Gynecol Oncol* 1997,67(2):215-221.

Kim JW, **Lee CG**, Lyu MS, Kim HK, Rha JG, Kim DH, Kim SJ, Namkoong SE: A new cell line from human undifferentiated carcinoma of the ovary: establishment and characterization. *J Cancer Res Clin Oncol* 1997,123:82-90.

Lee CG. Choi YJ, Min HK, Kim JO, Cho YH, Kim JW, Kim JH, Kim TE, Jung JK, Namkoong SE: A study on the loss of heterozygosity of the retinoblastoma gene in primary uterine cervical carcinomas. *J Kor Cancer Assoc* 1997, 28(3):502-511.

Kim JW, **Lee CG**, Cho YH, Kim JH, Kim SJ, Kim HK, Park TC, Song SK, Namkoong SE : CUMC-6, a new diploid human cell line derived from a squamous carcinoma of the uterine cervix. *Gynecol Oncol* 1996,62:230-240.

Kim CJ, Kim WH, Kim CW, Lee JB, **Lee CG**, and Kim YI: Detection of 17p loss in gastric carcinoma using polymerase chain reaction. *Laboratory Investigation* 1995,72(2):232-236.

Kim JW, Cho YH, Lyu MS, **Lee CG**, Jung JK, Kim SJ, Namkoong SE : Establishment and characterization of a cell line(CUMC-3) derived from human squamous cell carcinoma of the uterine cervix. *Gynecol Oncol*. 1995, 57:47-60.

Lee CG, Min HK, Choi YJ, Choi KS, Park WY, and Moon KH: Adrenergic and muscarinic cholinergic stimulation of phosphoinositide hydrolysis in a rat cardiomyoblast cell line(H9c2). *Kor J Biochem* 1994, 26(2): 83-90.

Lee CG, Lyu MS, Cho YH, Paik YK, Chung SR, Shin JH, Moon H : Molecular genetic study of St14.1/TaqI RFLPs in Koreans for the diagnosis of Hemophilia A. *Kor J Obstetrics & Gynecology* 1992, 35(11):1605-1612.

b. Non-referred journal articles / reviews

Lee CM, Park JW, Cho WK, Zhou Y, Han B, Yoon PO, Chae J, Elias JA, **Lee CG**. Modifiers of TGF- β 1 effector function as therapeutic target of pulmonary fibrosis. *Korean J Inter Med*. 2014, 29(3):1-10.

Lee CG, Dela Cruz CS, Ma B, Ahangari F, Zhou Y, halaban R, Sznol M, Elias JA YKL-40, Chitinase-like proteins in lung injury, repair, and metastasis. *Proc Am Thorac Soc* 2012, 9(2):57-61.

Lee CG, Dela Cruz CS, Herzog E, Rosenberg SM, Ahangari F, Elias JA. YKL-40, a Chitinase-like Protein at the Intersection of Inflammation and Remodeling. *Am J Respir Crit Care Med* 2012, 185(7):692-4.

Lee CG, Ma B, Takyar S, Ahangari F, Delacruz C, He CH, Elias JA. Studies of vascular endothelial growth factor in asthma and chronic obstructive pulmonary disease. *Proc Am Thorac Soc* 2011, 8(6):512-5.

Homer RJ, Elias JA, **Lee CG**, Herzog E. Modern concepts on the role of inflammation in pulmonary fibrosis. *Arch Pathol Lab Med* 2011, 135(6):780-8.

Dela Cruz CS, Kang MJ, Cho WK, **Lee CG**. Transgenic modeling of cytokine polarization in the lung. *Immunology* 2011, 132(1):9-17.

Elias JA, **Lee CG**. IL-13 in asthma. The successful integration of lessons from mice and humans. *Am J Respir Crit Care Med* 2011, 183(8):957-8.

Lee CG, Ma B, Takyar S, Farida A, Dela Cruz CS, He CH, Elias JA. Vascular endothelial growth factor (VEGF) in asthma and COPD. *Proc Am Thorac Soc* 2011, 8(6):512-5.

Lee CG, Da Silva CA, Dela Cruz CS, Ahangari, Ma B, Kang MJ, He C, Taykar S, Elias JA. Role of chitin and chitinase/chitinase-like proteins in inflammation, tissue remodeling, and injury. *Ann Rev Physiol* 2011, 73:479-501.

Lee CG, Elias JA. Role of breast regression protein-39/YKL-40 in asthma and allergic responses. *Allergy Asthma Immunol Res* 2010, 2(1):20-27.

Lee CG. Chitin, chitinases and chitinase-like proteins in allergic inflammation and tissue remodeling. *Yonsei Med J* 2009, 28;50(1):22-30.

Hartl D, **Lee CG**, Da Silva CA, Chupp GL, Elias JA. Novel biomarkers in asthma: chemokines and chitinase-like proteins. *Curr Opin Allergy Clin Immunol* 9(1):60-6, 2009.

Lee CG, Da Silva CA, Lee JY, Hartl D, Elias JA. Chitin regulation of immune responses: an old molecule with new roles. *Curr Opin Immunol* 2008, 20(6):684-9.

Kang HR, Lee JY, **Lee CG**. TGF- β 1 as a therapeutic target for pulmonary fibrosis and COPD. *Expert Rev. Clin. Pharmacol* 2008, 1(4) : 547-558.

Elias JA, Kang MJ, Crouthers K, Homer R, **Lee CG**. Mechanistic heterogeneity in chronic obstructive pulmonary disease: insights from transgenic mice. *Proc Am Thorac Soc* 2006, 3(6):494-8.

Lee CG, Kang HR, Homer RJ, Chupp G, Elias JA. Transgenic Modeling of Transforming Growth Factor- β 1: Role of Apoptosis in Fibrosis and Alveolar Remodeling. *Proc Am Thorac Soc* 2006, 3(5):418-23.

Elias JA, Homer RJ, Hamid Q, **Lee CG**. Chitinases and chitinase-like proteins in T(H)2 inflammation and asthma. *J Allergy Clin Immunol* 2005, 116(3):497-500.

Elias JA, **Lee CG** Lipid let loose in pulmonary emphysema. *Nature Med* 2005, 11(5):471-2.

Elias JA, **Lee CG**, Zheng T, Shim Y, Zhu. Interleukin-13 and leukotrienes: an intersection of pathogenetic schema. *Am J Respir Cell Mol Biol* 2003, 28(4):401-4.

Elias JA, Zheng T, **Lee CG**, Homer RJ, Chen Q, Ma B, Blackburn M, Zhu Z. Transgenic modeling of interleukin-13 in the lung. *Chest* 2003, 123(3 Suppl):339S-45S.

Elias JA, **Lee CG**, Zheng T, Ma B, Homer RJ, Zhu Z. New insight into the pathogenesis of asthma. *J Clin Invest* 2003, 111:291-297.

Zhu Z, Zheng T, **Lee CG**, Homer RJ and Elias JA. Tetracycline-controlled transcriptional regulation systems: advance and application in transgenic animal modeling. *Semin Cell Dev Biol* 2002, 13(9):121-8.

c. Book reviews

Lee CG and Elias JA. Transgenic Models. *In Encyclopedia of Respiratory Medicine*, Elsevier eds: Laurent GL and Shapiro S, 2006, pp. 283-287.

d. Abstracts

Lee C.G., Yoon H.J., Zhu Z., Wang, Z.D., Link, H., Gwaltney, J.M., Landry, M. and Elias, J.A. Respiratory Syncytial Virus (RSV) Stimulation of Vascular Endothelial Cell Growth Factor/ Vascular Permeability Factor (VEGF/VPF) *In Vivo* and *In Vitro*. *Am. J. Respir. Crit. Care Med.* 161:A702, 2000 (presented at the Annual Meeting of the American Thoracic Society, Toronto, Canada, May 6-10, 2000).

Roux, F.J., Blanc-Brude, O., Chen, Q., Zhu, Z., **Lee, C.G.**, Zheng, T., Altieri, D. and Elias, JA. Enhanced Expression of Survivin in IL-13 Overexpression Transgenic Mice (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2001.)

Lee, C.G., Homer, R.J., Cohn, L. and Elias, J.A. Transgenic IL-10 Causes Mucus Metaplasia, Tissue Inflammation and Airway Fibrosis Via IL-13-Dependent and -Independent Pathways (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2001).

Lee, C.G., Zhu, Z., Noble, P., Chen, Q. and Elias, J.A. Selective Induction and Activation of TGF- β_1 in IL-13 Overexpressing Transgenic Mice (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2001).

Link, H., **Lee, C.G.**, Homer, R.J., Wang, Z. and Elias, J.A. Inducible Transgenic Modeling of Vascular Endothelial Cell Growth Factor (VEGF) in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2001).

Lee, C.G., Temann, U-A., Flavell, R.A., Blackburn, M.R., Wang, X., Roux, F., Chen, Q. and Elias, J.A. Central Role of IL-13 in IL-9-Induced A3 Adenosine Receptor (A3R) Gene Expression (presented at the Annual Meeting of the American Thoracic Society, Atlanta, GA, May 17-22, 2002).

Lee, C.G., Blackburn, M., Wang, X., Chen, Q., Zhu, Z. and Elias, J.A. IL-13 Regulation of Adenosine, Adenosine Receptors and Adenosine Deaminase (presented at the Annual Meeting of the American Thoracic Society, Atlanta, GA, May 17-22, 2002).

Lee, C.G., Wang, W., Homer, R.J., Zhu, Z., Wang, Z. and Elias, J.A. Generation and Microarray Characterization of Triple Transgenic Lung-Specific Human(H) TGF- β_1 Overexpressing Transgenic Mice (presented at the Annual Meeting of the American Thoracic Society, Atlanta, GA, May 17-22, 2002).

He, C.H., Waxman, A., **Lee, C.G.**, Zhu, Z., Ma, B., Wang, X., Chen, Q. and Elias, J.A. The BCL-2-Related A1 Gene is Regulated *In Vivo* and *In Vitro* (presented at the Annual Meeting of the American Thoracic Society, Atlanta, GA, May 17-22, 2002).

Roux, F.J., **Lee, C.G.**, Lanone, S., Homer, R.J., Chen, S., Chen, Q., Temann, U-A., Flavell, R.A. and Elias, J.A. Enhanced Expression of GOB-5 in IL-13 and IL-9 Overexpressing Transgenic Mice (presented at the Annual Meeting of the American Thoracic Society, Atlanta, GA, May 17-22, 2002).

Lee, C.G., Link, H., Baluk, P., Bhandari, V., Kim, Y.K., Yoon, H.J., Homer, R.J., McDonald, D.M. and Elias, J.A. Airway Remodeling and Hyperresponsiveness in Vascular Endothelial Cell Growth Factor Overexpressing Transgenic Mice. *Am. J. Respir. Crit. Care Med.* 167:A160, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Lee, C.G., Wang, W., Tang, B.S., Homer, R.J., Noble, P., Yehuala, T., Milbrandt, J. and Elias, J.A. The Transcription Factor EGR-1 Modulates TGF- β_1 -Induced Apoptosis, Fibrosis and Alveolar Destruction. *Am. J. Respir. Crit. Care Med.* 167:A492, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

He, C.H., Waxman, A., Ma, B., **Lee, C.G.**, Zhu, Z., Wang, X., Chen, Q. and Elias, J.A. The Bcl-2-Related A1 Protein is an Endogenous and Cytokine-Stimulated Mediator of Cytoprotection in Hyperoxic Acute Lung Injury (HALI) *Am. J. Respir. Crit. Care Med.* 167: A428, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Chen, Q.S., Zhu, Z., **Lee, C.G.**, Rabach, L., Homer, R.J. and Elias, J.A. Interleukin-11 (IL-11) is a Mediator of IL-13-Induced Tissue Responses. *Am. J. Respir. Crit. Care Med.* 167:A484, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Bhandari, V., **Lee, C.G.**, Tang, C.Y., Rooney, S.A., Homer, R.J. and Elias, J.A. VEGF Enhances Alveolar Maturity While Contributing to Lung Injury in Newborn Mice Exposed to Hyperoxia. *Am. J. Respir. Crit. Care Med.* 167:A54, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Kim, Y.K., **Lee, C.G.** and Elias, J.A. Regulation of Airways Hyperresponsiveness by Transgenic Transforming Growth Factor- β_1 . *Am. J. Respir. Crit. Care Med.* 167:A880, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Ma, B., **Lee, C.G.**, Homer, R.J., Zhu, Z., Flavell, R.A., Blackburn, M.R., Lifton, R.P. and Elias, J.A. Genetic Control of the Effects of IL-14 on Alveolar Size, Inflammation and Adenosine Metabolism in the Murine Lung. *Am. J. Respir. Crit. Care Med.* 167: A939, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Bhandari, V., Link, H., **Lee, C.G.**, Tang, C.Y., Baluk, P., McDonald, D., Homer, R.J. and Elias, J.A. Transgenic VEGF Causes Hemorrhage, Pulmonary Edema and Mucus Metaplasia and Enhances Survival in Hyperoxia Via a Nitric Oxide-Dependent Pathway(s). *Am. J. Respir. Crit. Care Med.* 167:A563, 2003 (presented at the Annual Meeting of the American Thoracic Society, Seattle, WA, May 16-21, 2003).

Chapoval, S.P., **Lee, C.G.** and Elias, J.A. Lung Vascular Endothelial Growth Factor (VEGF) Overexpression Leads to Local Dendritic Cell Activation, Increased Antigen Transport, and Accelerated Migration to Regional Lymphnodes. *Am. J. Respir. Crit. Care Med.* 169(7):A752, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

He, C.H., Waxman, A., **Lee, C.G.**, Zhu, Z., Chen, Q. and Elias, J.A. The Bcl-2-Related A1 Genes are Critical Endogenous and Cytokine-Stimulated Regulators of Hyperoxia-Induced Apoptosis/ Necrosis That Inhibit Hyperoxia-Induced Caspase-3, Caspase-8 and Caspase-9 Activation *In Vivo* and *In Vitro* and TRAIL, Fas, Fas-L, Bid, Bim and PKC Gene Expression *In Vivo*. *Am. J. Respir. Crit. Care Med.* 169(7):A797, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Bhandari, V., **Lee, C.G.**, Tang, B.S., Rooney, S.A., Homer, R.J. and Elias, J.A. Vascular Endothelial Growth Factor (VEGF) Enhances Maturity in the Developing Lung. *Am. J. Respir. Crit. Care Med.* 169(7):A463, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Kang, M.J., **Lee, C.G.**, Cho, S.J., Kim, Y.K., Tang, C., Homer, R.J. and Elias, J.A. Cathepsin K is Induced by Cigarette Smoke Exposure in the Muring Lung. *Am. J. Respir. Crit. Care Med.* 169(7): A841, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Kang, M.J., **Lee, C.G.**, Cho, S.J., Kim, Y.K., Tang, C., Homer, R.J. and Elias, J.A. Apoptosis and Fas / FasL Alterations in Cigarette Smoke-Induced Murine Emphysema. *Am. J. Respir. Crit. Care Med.* 169(7):A205, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Cho, S.J., **Lee, C.G.**, Kang, M.J., Tang, C., Homer, R.J., Milbrandt, J. and Elias, J.A. The Transcription Factor EGR-1 Modulates IL-13-Induced Apoptosis, Fibrosis and Alveolar Destruction. *Am. J. Respir. Crit. Care Med.* 169(7):A503, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Lee, C.G., Link, H., Baluk, P., Bhandari, V., Kim, Y.K., Cho, S.J., Chapoval, S.P., Cohn, L., Homer, R.J., McDonald, D.M. and Elias, J.A. Vascular Endothelial Growth Factor (VEGF) Induces Parenchyma and Vascular Remodeling and Plays a Critical Role in Th2 Sensitization and Inflammation in the Lung. *Am. J. Respir. Crit. Care Med.* 169(7):A764, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Ma, B., Homer, R.J., **Lee, C.G.**, He, C.H., Gutierrez-Ramos, J.C., Coyle, A. J., Lora, J. and Elias, J.A. Targeted Blockade and Genetic Manipulation of CC Chemokine Receptor 5 (CCR5) Attenuates IL-13 and Gamma Interferon (IFN- γ)-Induced Inflammation and Alveolar Remodeling. *Am. J. Respir. Crit. Care Med.* 169(7):A274, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Bhandari, V., Chapoval, S., Kim, Y., **Lee, C.G.** and Elias, J.A. Vascular Endothelial Growth Factor (VEGF)-Induced Airway Hyperresponsiveness and Lung Parenchymal Immune Cell Response is Mediated Via Nitric Oxide (NO). *Am. J. Respir. Crit. Care Med.* 169(7):A764, 2004 (presented at the Annual Meeting of the American Thoracic Society, Orlando, FL, May 21-26, 2004).

Ma, B., Blackburn, M.R., **Lee, C.G.**, Homer, R.J., Flavell, R.A., Lifton, R.P. and Elias, J.A. Genetic Differences in Adenosine Metabolism and Receptor Expression Modulate IL-4-Induced Inflammation and Remodeling in C57BL/6 and Balb/c Mice (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Ma, B., He, C.H., **Lee, C.G.**, Homer, R.J. and Elias, J.A. Characterization of Interleukin-13 Receptor-Alpha-1 Binding Protein MIP-T3 (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

He, C.H., Ma, B., **Lee, C.G.**, Chen, Q.S. and Elias, J.A. Characterization of Bcl-2-Related Protein A1 Binding Protein Connexin-45 (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Kang, H.R., Cho, S.J., Homer, R.J., Korsmeyer, S.J., **Lee, C.G.** and Elias, J.A. TGF- β 1 Induces Pulmonary Fibrosis and Inflammation Via Bid-Dependent and Alveolar Destruction Via Bid-Independent Pathways (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Yamasaki, M., Cho, S.J., Homer, R.J., **Lee, C.G.** and Elias, J.A. Protective Role of p21 on the TGF- β 1-Induced Inflammation, Pulmonary Fibrosis and Alveolar Destruction in Mice (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Kang, M.J., **Lee, C.G.**, Cho, S.J., Liu, W., Chen, Q., Tang, C., Homer, R.J. and Elias, J.A. IFN- γ -Dependent DNA Injury and/or Apoptosis are Critical in Cigarette Smoke-Induced Murine Emphysema (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Cho, S.J., **Lee, C.G.**, Lee, B.J., Homer, R.J. and Elias, J.A. Genetic Control of TGF- β 1-Induced Emphysema and Fibrosis in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Chapoval, S.P., **Lee, C.G.**, Tang, C., Cohn, L. and Elias, J.A. Analysis of CD11c+MHCII+ Dendritic Cells (DC) in Lungs From VEGF Transgenic Mice (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 20-25, 2005).

Kang, M.J., Cho, S.J., **Lee, C.G.**, Homer, R.J. and Elias, J.A. IFN- -TGF- β 1 Interactions in Murine Emphysema (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

DaSilva, C.A., Chapoval, S., Pavlovich, R., **Lee, C.G.** and Elias, J.A. Regulation of Murine Macrophage Activation and Gene Expression by Chitin Microparticles (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Ma, B., Homer, R.J., Liu, W., **Lee, C.G.** and Elias, J.A. Ablation of Cathepsin-B Attenuates Gamma Interferon (IFN- γ)-Induced Inflammation, Apoptosis and Alveolar Remodeling (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Ma, B., Homer, R.J., Liu, W., **Lee, C.G.** and Elias, J.A. Matrix Metalloproteinase-12 Depletion Attenuates Gamma Interferon (IFN- γ)-Induced Inflammation and Alveolar Remodeling Via an Apoptosis-Independent Mechanism (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Kang, H.R., Homer, R.J., **Lee, C.G.** and Elias, J.A. Null Mutations of Bax Diminish TGF- β_1 in Pulmonary Fibrosis and Alveolar Remodeling (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Kang, H.R., Homer, R.J., **Lee, C.G.** and Elias, J.A. Role of TNF Receptors, p55 and p75, in Induced Pulmonary Fibrosis and Alveolar Destruction (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Chupp, G.L., Shim, Y-M., Holm, C., He, S., Dziura, J.D., Reed, J., **Lee, C.G.**, Cullen, M., Elias, J.A. Serum HcGP-39 Levels and the Serum Asthma Chitinase Index as Markers of Asthma and Asthma Severity (presented at the Annual Meeting of the American Thoracic Society, San Diego, May 19-24, 2006).

Hong, E-G., Cho, Y.R., Yu, T., Ko, H.J., Ma, Z., Philbrick, W.M., **Lee, C.G.**, Elias, J.A. and Kim, J.K. Transgenic Mice with Muscle-Specific Overexpression of IL-10 are Protected from Diet-Induced Insulin Resistance (presented at the 66th Annual Scientific Sessions, American Diabetes Association, Washington, D.C., June 9-13, 2006).

Cho S.J., Elias, J.A., Homer, R.J., **Lee, C.G.** Role of MMP-12 in TGF- β and Bleomycin-induced Pulmonary Fibrosis and Alveolar Remodeling (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 19-24, 2006).

Ma, B., Homer, R.J., Liu, W., Enelow, R.I., **Lee, C.G.** and Elias, J.A. Toll-Like Receptor Agonist Regulation of VEGF-Induced Tissue Responses (presented at the Annual Meeting of the American Thoracic Society, San Francisco, May 18-23, 2007).

Camoretti-Mercado, B., Churchill, J., Cable, M., Li, X., Ma, L., **Lee, C.G.**, Elias, J.A. and Solway, J. Lovastatin Inhibits the Development of Airway Hyperresponsiveness and Remodeling Induced by Chronic TGF- β Exposure (presented at the Annual Meeting of the American Thoracic Society, San Francisco, May 18-23, 2007).

Lee, C.G., Chen, N.Y., Homer, R.J., Lee, G.R., Flavell, R.A. and Elias, J.A. Generation and Use of Breast Regression Protein (BRP)-39 Null Mice to Define the Role(s) of this Chitinase-Like Protein in Th2 Inflammation and IL-13-Induced Inflammation and Remodeling (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2007).

Kang, H.R., **Lee, C.G.**, Chen, N.Y., Homer, R.J. and Elias, J.A. Semaphorin 7A Plays a Critical Role in TGF- β_1 -Induced Pulmonary Fibrosis and Alveolar Destruction (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2007).

DaSilva, C.A., **Lee, C.G.** and Elias, J.A. Fibroblast Growth Factor (FGF) -2 Plays a Critical Role in the Pathogenesis of the Inflammatory and Remodeling Responses Induced by Transforming Growth Factor (TGF)- β_1 in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 18-23, 2007).

Ma, B., Homer, R., Hartl, D., Liu, W., **Lee C.G.** and Elias, J.A. Semaphorin7A (Sema7A) Plays a Critical Role in VEGF-Induced Vascular Permeability and Hemorrhage (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Matsuura, H., Kang, M.J., Homer, R.J., **Lee, C.G.** and Elias, J.A. Induction of BRP-39 in Cigarette Smoke-Exposed Mice and Humans (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

He, C.H., **Lee, C.G.**, Wachtel, H., Chen, N.Y., Homer, R.J. and Elias, J.A. Acidic Mammalian Chitinase Binds to the Epidermal Growth Factor Receptor Which Regulates AMCCase Production and Secretion (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Hartl, D., **Lee, C.G.**, Koller, B., Kozhich A., Kozhich, A., Coyle, A., Reed, J. and Elias, J.A. The Chitinase-Like Protein BRP39 Regulates Alternative Macrophage Activation (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Chupp, G., **Lee, C.G.**, Jarjour, N., Shim, Y.M., Holm, C., He, S., Dziura, J., Reed, J., Coyle, A., Kiener, P., Cullen, M., Gransaigne, M., Dombret, M.C., Aubier, M., Pretolani, M. and Elias, J.A. A Chitinase-Like Protein in the Lung and Circulation of Patients with Severe Asthma (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Matsuura, H., Kang, M.J., Homer, R.J., Coyle, A., Reed, J., **Lee, C.G.** and Elias, J.A. Expression and Regulation of Chitotriosidase (Chit1) in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Lee, J., Lee, B.J., Hartl, D., DaSilva, C.A., Homer, R.J., **Lee, C.G.** and Elias, J.A. Exogenous Chitin Exposure Induces Neutrophilic and Eosinophilic Inflammation and Differing Cytokine Responses in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Lee, C.G., Hartl, D., Chen, N.Y., He, C, Da Silva, and Elias, J.A. BRP-39 Regulates Murine Inflammatory Cells Apoptosis and Binds to IL-13R α 2 (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Lee, C.G., Hartl, D., Matsuura, H., Dunlop, F.M., Scotney, P.D., Fabri, L.J., Nash, A.D., Chen, N.Y., Tang, C.Y., Chen, Q., Homer, R.J., Baca, M. and **Elias, J.A.** Endogenous IL-11 Plays a Critical Role in Aeroallergen-Induced Inflammation and Mucus Metaplasia and IL-13 Effector Pathway Activation (presented at the Annual Meeting of the American Thoracic Society, Toronto, CA, May 16-21, 2008).

Lee J-Y, D. Hartl, C.A. Da Silva, R.J. Homer, J.A. Elias, **C.G. Lee**, In Vivo Chitin Induces Neutrophil and Eosinophil Inflammation in the Lung Via Dectin-1 Dependent Pathway (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

M.-J. Kang, **C.G. Lee**, J.-Y. Lee, C.S. Dela Cruz, Z.J. Chen, R. Enelow, J.A. Elias, Cigarette Smoke Enhances poly(I:C)-Induced Innate Immune and Remodeling Responses Via a RIG-1 like Helicase, Mitochondrial Antiviral Signaling Protein (MAVS)-Dependent Mechanism (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

C.G. Lee, S. Takyar, C. Tang, L. Boyden, R.P. Lifton, J.A. Elias, Genes Controlling TGF- β 1-Induced Pulmonary Phenotypes Defined by Genetic Mapping and mRNA Expression Array Analysis (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

S. Takyar, **C.G. Lee**, D. Hartl, W. Liu, F. Ahangari, J.A. Elias. MiR-1 Is a Critical Regulator of VEGF-Induced Angiogenesis (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

S.A. Dalal, R.M. Tuder, N.F. Voelkel, **C.G. Lee**, J.A. Elias, P.M. Henson, R.W. Vandivier, Role of Vascular Endothelial Growth Factor (VEGF) in the Phagocytosis of Apoptotic Cells by Macrophages: Implications in

Obstructive Airways (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

M.H. Sohn, M.-J. Kang, D. Hartl, H. Matsuura, **C.G. Lee**, J.A. Elias, New Haven, CT A Chitinase-Like Protein Breast Regression Protein-39 (BRP-39) Protects Hyperoxygen-Induced Acute Lung Injury (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

C.H. He, D. Hartl, C.A. Da Silva, R.J. Homer, **C.G. Lee**, J.A. Elias. Galectin-3 Binds to AMCCase and Reciprocally Regulates Their Bioactivities (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

B. Ma, R.J. Homer, D. Hartl, W. Liu, C.Y. Tang, S.P. Chen, **C.G. Lee**, J.A. Elias. Poly (I:C) Inhibits VEGF-Induced Tissue Responses Via Type I Interferon Receptor (IFN α β R) Dependent Pathway in the Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

H. Matsuura, D. Hartl, M.J. Kang, R.J. Homer, G.L. Chupp, **C.G. Lee**, J.A. Elias. BRP-39/YKL-40 Contribute to Cigarette Smoke-Induced Inflammation and Emphysema in Mice and Humans (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

W. Cho, R.J. Homer, W.C. Sessa, J.A. Elias, **C.G. Lee**. IL-13 Induces Pulmonary Vascular Remodeling and Pulmonary Hypertension (presented at the Annual Meeting of the American Thoracic Society, San Diego, CA, May 15-20, 2009).

B. Ma, **C.G. Lee**, C.S. Dela Cruz, M.-J. Kang, S. Takyar, R.J. Homer Innate Immune RIG-like Helicase (RLH) Pathway Activation Inhibits VEGF-Induced Vascular and Angiogenic Responses (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

E. Herzog, Q. Chen, X. Peng, **C.G. Lee**, R.J. Homer, J.A. Elias Semaphorin 7a promotes M2 differentiation and fibrocyte accumulation in TGF- β 1 induced pulmonary fibrosis (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

S.S. Takyar, F. Ahangari, **C.G. Lee**, J.A. Elias. MicroRNA(MiR)-1 Regulates VEGF-induced Angiogenic Responses in the lung by Inhibiting the Myeloproliferative Leukemia Virus Oncogene (MPL) (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

W.-K. Cho, N.-Y. Chen, C.-Y. Tang, J.A. Elias, **C.G. Lee**. Arginase 2 plays an essential role in TGF- β -induced pulmonary fibrosis (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

Q. Lu, J. Newton, M.-J. Kang, **C.G. Lee**, J.A. Elias. Cigarette smoke causes lung vascular endothelial cell apoptosis and alterations of TGF- β 1 signaling (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

Q. Lu, J. Newton, M. Ortiz, M.-J. Kang, **C.G. Lee**, J.A. Elias. Cigarette smoke causes lung vascular endothelial cell apoptosis and activation of unfolded protein response and autophagy (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

C.H. He, **C.G. Lee**, N.-Y. Chen, L. Zhang, W. Liu, R.J. Homer, J.A. Elias. Breast Regression Protein 39 (BRP-39) Binds to, Co-localizes With and Signals via IL-13 Receptor alpha 2 (IL-13Ra2) (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

M.-J. Kang, J.-M. Choi, **C.G. Lee**, J.A. Elias. Interleukin-18 Induces Pulmonary Inflammation and Remodeling via an IL-17-Dependent Pathway (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

C.S. Dela Cruz, W. Liu, A. Jacoby, **C.G. Lee**, J.A. Elias. Role of Breast Regression Protein 39 (BRP-39)/chitinase 3-like 1 in *Streptococcus pneumoniae* Lung Infection (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

W.-K. Cho, N.-Y. Chen, C.-Y. Tang, J.A. Elias, **C.G. Lee**. IL-13-induces vascular remodeling and pulmonary arterial hypertension via arginase 2-dependent pathway (presented at the Annual Meeting of the American Thoracic Society, New Orleans, LA, May 14-19, 2010).

S. Takyar, H.H. Vasavada, B. Ma, **C.G. Lee**, J.A. Elias. MicroRNA (miR)-1 Inhibits Adaptive Th2 Inflammation In The Lung Via A VEGF/Myeloproliferative Leukemia Virus Oncogene (MPL)-Dependent Mechanism (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

B. Ma, C.D. Cruz, M.-J. Kang, S.(Shervin). Takyar, R. Homer, **C.G. Lee**, J.A. Elias. Poly(I:C) And RIG-Like Helicase Regulation Of Pulmonary Melanoma Metastasis (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

C.H. He, **C.G. Lee**, B. Ma, C.D. Cruz, W. Liu, Y. Zhou, F. Ahangari, R. Homer, J.A. Elias. YKL-40 Binds To And Signals Via IL-13 Receptor Alpha2 Using A Glycosylation-Dependent Mechanism (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

C.S. Dela Cruz, M.-J. Kang, W. Liu, **C.G. Lee**, J.A. Elias. Roles Of Interleukin-15 And Influenza Virus Infection In The Pathogenesis Of Chronic Obstructive Pulmonary Disease (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

F. Ahangari, S. Takyar, **C.G. Lee**, H.H. Vasavada, J.A. Elias. Chitotriosidase (Chitinase 1) Plays An Essential Role In IL-13-Induced Inflammation, Fibrosis And Alternative (M2) Macrophage Activation (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

M.-J. Kang, G. Choe, B.H. Kim, **C.G. Lee**, J.A. Elias. Role Of BRP-39/YKL-40 In IL-18 Induced Pulmonary Inflammation, Alveolar Destruction And Airway Fibrosis In Murine Lung (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

Y. Zhou, **C.G. Lee**, F. Ahangari, E. Herzog, J.A. Elias. Chitotriosidase Contributes To The Pathogenesis Of Bleomycin-Induced Pulmonary Fibrosis (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

Y. Zhou, W.-K. Cho, J.-Y. Lee, J.A. Elias, **C.G. Lee**. Role of Amphiregulin In TGF- β 1-Induced Pulmonary Fibrosis (presented at the Annual Meeting of the American Thoracic Society, Denver, CO, May 13-18, 2011).

C.-H. He, **C.G. Lee**, C. Dela Cruz, W. Liu, F. Ahangari, J.A. Elias. Chitinase 3-Like-1 (Chi3l1) Stimulates The Wnt/ β -Catenin Pathway Via An IL-13 Receptor Alpha 2 Dependent Mechanism (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).

W.-K. Cho, C.-M. Lee, Y. Zhou, J.A. Elias, **C.G. Lee**. Role Of Arginase2 In TGF-Beta1-Induced Pulmonary Fibrosis (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).

- C.-M. Lee, E. Herzog, C.-H. He, **C.G. Lee**, J.A. Elias. Chitinase 1 Enhances TGF- β 1 Signaling And TGF- β 1 Receptor Expression In Lung Fibroblasts (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- B. Ma, E. Herzog, C.S. Dela Cruz, C.Y. Tang, R.J. Homer, **C.G. Lee**, J.A. Elias, Chitinase 3-Like-1 Regulates Melanoma Cell Metastasis In The Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- F. Ahangari, S. Takyar, E. Herzog, C.S. Dela Cruz, C. He, **C.G. Lee**, J.A. Elias, Chitinase 3 Like 1 (CHI3L1) Is A Critical Regulator Of Visceral Adiposity And The PPAR Pathway (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- S. Takyar, F. Ahangari, H. Vasavada, **C.G. Lee**, J.A. Elias. Mpl Is Targeted By MiR-1 In The Lung Endothelial Cells And Regulates Th2 Inflammation By Controlling Adhesion Molecule Expression (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- Y. Zhou, E. Herzog, B.R. Gochuico, W. Gahl, **C.G. Lee**, J.A. Elias. Chitinase 3-Like 1 (CHI3L1) As A Biomarker And Therapeutic Target In The Pulmonary Fibrosis Of Hermansky-Pudlak Syndrome (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- M.-J. Kang, B.H. Kim, C.-M. Lee, **C.G. Lee**, R. Homer, J.A. Elias. Role Of Mitochondrial Antiviral Signaling Molecule (MAVS) In IL-18-Induced Pulmonary Inflammation And Tissue Remodeling In The Murine Lung (presented at the Annual Meeting of the American Thoracic Society, San Francisco, CA, May 13-18, 2012).
- C.-M. Lee, Y. Zhou, C. Tang, **C.G. Lee**, J.A. Elias. A Critical Role Of Laminin-1 α In The Pathogenesis Of Pulmonary Fibrosis (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).
- F. Ahangari, S. Takyar, C.S. Dela Cruz, **C.G. Lee**, J.A. Elias. Chitinase 3-Like-1 Regulates Th2 Inflammation And Visceral Fat Accumulation Via Sirtuin-1 (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).
- Y. Zhou, E. Herzog, C. Tang, X. Peng, **C.G. Lee**, J.A. Elias. Chitinase 3-Like 1 (CHI3L1) Has Distinct Roles In Pulmonary Injury And Fibroproliferative Repair And Is Stimulated In Patients With IPF (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).
- C.-H. He, **C.G. Lee**, C.S. Dela Cruz, W. Liu, C. Tang, J.A. Elias. Chitinase 3-Like 1 (Chi3l1) Binds To Galectin-3 Regulating Chi3l1 Signaling And Effector Responses (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).
- M.-J. Kang, C.M. Yoon, B.H. Kim, C.-M. Lee, Y. Zhou, **C.G. Lee**, J.P. Ting, Ph.D.², J.A. Elias. Cigarette Smoke-Induced Suppression Of NLRX1 Enhances Inflammasome Activation And Alveolar Destruction (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).
- C.S. Dela Cruz, W. Liu, M.J. Kang, A. Ghimire, J.M. Siner, **C.G. Lee**, J.A. Elias. Enhanced Interleukin-15, NK And CD8 T Cell Responses During Influenza Virus Infection In Models Of COPD (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).

W.-K. Cho, C.-M. Lee, J.A. Elias, **C.G. Lee**. IL-13 Receptor Alpha2-Arginase2-STAT3 Pathway Mediates IL-13-Induced Vascular Cell Proliferation And Remodeling (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).

B. Ma, E. Herzog, X. Peng, M.-J. Kang, **C.G. Lee**, J.A. Elias. Poly(I:C) Inhibits Melanoma Metastasis And Enhances Chemerin Expression And NK Cell Recruitment Via A RIG-Like Helicase Innate Immune/MAVS-Dependent Mechanism (presented at the Annual Meeting of the American Thoracic Society, Philadelphia, PA, May 17-22, 2013).

Ma B, **Lee CG**, Herzog E, Peng XY, Koo JS and Elias JA. Role of Chitinase 3-Like-1 And Semaphorin 7A In Pulmonary Melanoma Metastasis. (Accepted for 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Marion C; Liu W, **Lee CG**, Elias JA, Dela Cruz C. Chitinase 3-like 1 (Chi311) Augments Bacterial Clearance While Suppressing Pulmonary Inflammation In *Pseudomonas* Pneumonia. (presented at the 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Lee, C-M, He, C.H, **Lee, C.G**, Elias, JA. Chitinase 1 (Chit1) stimulates TGF- 1 signaling in the lung fibroblasts via interaction with TGF- β^3 -receptor associate protein 1 (TGF β 1). (Presented at the 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Ahangari F, Takyar S, **Lee CG**, Elias JA. Chitotriosidase (Chit1) Regulates Lung Inflammation And Obesity. (Presented at the 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Ahangari F, Sood A, Ma B, Schuyler M, Qualls C, Takyar S, Chupp GL, **Lee CG**, Elias JA. Chitinase 3-Like 1 (Chi311), A Link between Asthma and Obesity. (Presented at the 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Yoon CM, Nam M, Lee C-M, **Lee CG**, Kang M-J, Elias JA. NLRX1 inhibits NLRP3 Inflammasome assembly on MAVS. (Presented at the 2014 American Thoracic Society International Conference, San Diego, CA, May 16-21, 2014)

Nezgovorova V, Liu Q., Holm C, Grant NP, Marone S, Ravage-Mass L, **Lee CG**, Elias JA, Cohn L, Chupp GL. Sputum Expression of IL-13Ra2 Correlates with Airway Remodeling and Th2 Inflammation in Asthma (Presented at the 2015 Meeting of the American Thoracic Society Denver, CO)

Kim, DH, Park, HJ, Lee, JU, Kang, MJ, **Lee, CG**, Elias, JA, and Choi, JM. Chitinase Like Protein BRP-39 Inhibits Th1 Differentiation Through Regulation of IFN γ mediated STAT1 Signaling Pathway. (Presented at the 2015 Annual Meeting of the American Association of Immunologists, New Orleans, LA)

V.Nezgovorova, Q.Liu, B.Hu, J.L. Gomez Villalobos, X.Yan, N. Niu, C. Holm, N.P. Grant, S.Marone, L.Ravage-Mass, **C.G.Lee**, J.A.Elias, L.Cohn, G.L.Chupp. Sputum Gene Expression of IL-13R α -2 Correlates with Airway Remodelling and TH2 Inflammation in Asthma. (Presented at the Thomas L. Petty Aspen Lung Conference, 58th Annual Meeting, "Asthma 2015: Mechanisms to Personalized Medicine", June 10-13, 2015)

Subramaniam R. , Low D., Lin L., Aomatsu T., Mizoguchi A., Ng, A. , DeGruttola A., **Lee C.G.**, Elias J.A., Andoh A., Mino-Kenudson M., Mizoguchi E. Chitinase 3-like 1 and RAGE interaction induces survival and proliferation of intestinal epithelial cells in colitis-associated cancer. (Presented at the 2015 annual meeting of Advances in Inflammatory Bowel Diseases in Orlando, Florida.)

Ventetuolo C.E, Aliotta J, Banerjee D., Pereira M, Zhou Y, Ma B, MD, **Lee CG**, MD, Elias JA,. Klinger JR. Chitinase 3-like-1 Plays an Important Role in the Development of Right Ventricular Hypertrophy and Pulmonary Vascular Remodeling. (Presented to Annual Meeting of the American Thoracic Society, San Francisco, CA, May 2016)

Peng X, Homer R, **Lee CG**, Elias JA, Hu B, and Herzog E. TGF β 1 induced mammalian lung fibrosis requires TGF β 2 expression on macrophages. (Presented to Annual Meeting of the American Thoracic Society, San Francisco, CA, May 2016)

Golestani R, Razavian M, Ye Y, Zhang J, Jung J-J, Toczek J, Kim H-Y, Elias JE, **Lee CG**, Homer RJ, Sadeghi MM. Matrix metalloproteinase-targeted imaging of lung inflammation and remodeling. (Presented to Society of Nuclear Medicine and Molecular Imaging Annual Meeting, San Diego, CA, June 2016)

Yoon PY*, Park JW*, Lee CM, Kim SH, Kim HN, Ko Y, Yun S, Park JH, Kwon T, Kim WS, Lee J, Lu Q, Kang HR, Cho WK, Elias JA, Yang JS, Park HO, Lee K, **Lee CG**. Self-assembled micelle interfering RNA for effective and safe targeting of dysregulated genes in pulmonary fibrosis. (Presented to Annual Meeting of the American Thoracic Society, San Francisco, CA, May 2016)

W. Qiu, I. Rosas, I. Noth, F.J. Martinez, K. Anstrom, **C. G. Lee**, J.A. Elias, E.K. Silverman, A.M.K. Choi, D.L. DeMeo. DNA Methylation and Epigenetic Age Characterize Molecular Differences Between Idiopathic Pulmonary Fibrosis and COPD. (Presented to Annual Meeting of the American Thoracic Society, Washington, DC, May 2017)

L. Sharma, W. Liu, C.R. Marion, S.W. **C.G. Lee**, J. Britto-Leon, J.A. Elias, C.S. Dela Cruz. Chitotriosidase Regulates Bacterial Dissemination and Inflammation in Klebsiella Pneumoniae Lung Infection (Presented to Annual Meeting of the American Thoracic Society, Washington, DC, May 2017).

C. Lee, S.J. Cho, W.-K. Cho, J. Park, A.M.K. Choi, I.O. Rosas, M. Zheng, G. Peltz, **C.G. Lee**, J.A. Elias. Laminin Alpha1 Is a Genetic Modifier of TGF-beta1-Stimulated Pulmonary Fibrosis (Presented to Annual Meeting of the American Thoracic Society, San Diego, CA, May 2018).

C. Lee, J. Park, J.H. Lee, E. Chen, S. Kamle, C.H. He, E. Herzog, I.O. Rosas, C.F. Bostwick, **C. G. Lee**, J.A. Elias. Chitotriosidase Interacts with TGF β 1 and FoxO3a, Regulates TGF- β Signaling and Smad7 Expression in the Pathogenesis of Pulmonary Fibrosis/C. Lee, J. Park, J.H. Lee, E. Chen, S. Kamle, C.H. He, E. Herzog, I.O. Rosas, C.F. Bostwick, C. Lee, J.A. Elias (Presented to Annual Meeting of the American Thoracic Society, San Diego, CA, May 2018).

L.K. Sharma, A.K. Amick, A.J. Losier, V.A. Brady, S.Gautam, W. Liu, S.W. Lee, C.G Lee, J.A. Elias, C. Dela Cruz. Chitotriosidase Protects Mice Against Influenza Lung Infection. (Presented to Annual Meeting of the American Thoracic Society, San Diego, CA, May 2018).

Y. Zhou, C.H. He, D. Yang, T. Nguyen, S. Kamle, C.-M. Lee, B. Gochuico, W. Gahl, B. Shea, **C.G. Lee**, J.A. Elias. Galectin-3 Interacts with CHI3L1 Axis and Contributes to Hermansky-Pudlak Syndrome Lung Disease. (Presented to Annual Meeting of the American Thoracic Society, San Diego, CA, May 2018).

B. Ma, S. Kamle, B. Akosman, C. He, **C.G Lee**, J.A. Elias. Inhibition of Melanoma Lung Metastasis by Chi311 Neutralizing Antibody. (Presented to Annual Meeting of the American Thoracic Society, San Diego, CA, May 2018)

Akosman B., Ma B., Kamle S., Kurtulus D., Lee C.M., **Lee C.G.** & Elias J. A. Chitinase-3-like-1: A novel immunomodulatory target in lung cancer. (Presented at 29th Annual Pathobiology Graduate Program Retreat at Squantum Association, East Providence, RI, 2019; Abstract submitted to AACR Special Conference on Tumor Immunology and Immunotherapy conference, Boston, MA, 2019)

Akosman B., Kamle S., Ma B., Kurtulus D., Lee C.M., **Lee C.G.** & Elias J. A. Chitinase-3-like-1 regulates IFN- γ induced PD-L1 expression and anti-Chi311 treatment could be considered as a new immunotherapeutic agent in lung cancer. (Abstract submitted to 45th Annual New England Immunology conference, Woods Hole, MA, 2019)

Akosman B, Kamle S, Ma B, Kurtulus D, Lee CM, **Lee CG** and Elias JA. Targeting Glioblastoma with anti-Chi311 Ab Induction of tumor killing by human neutrophils. 30th Annual Pathobiology Graduate Program Retreat, Brown University, Providence, RI (Virtual Flash Talk) (2020)

e. Invited lectures

International/National:

- 2019, Nov Plenary lecture, Autumn Congress of the Korean Academy of Asthma, Allergy and Clinical Immunology, Yeosu Convention Center, Korea. Chitinase-like Proteins in lung Injury, Repair, and Disease.
- 2019, Oct International Symposium for Commemoration of Joint Research Projects for Leading Innovative Medical Scientist, Seoul Korea, Hanyang University. Chitinases: Old molecule with New Roles in Pulmonary Fibrosis.
- 2019, Oct. 2019 Airway Symposium (KAAACI/KATRD Joint Symposium). Seoul, Korea. Catholic University Novel Regulatory Roles of Chit1 in Allergic Inflammation and Pulmonary Fibrosis.
- 2018, Nov. KASBP Symposium, Boston, MA. Novel Therapeutic Approach to Pulmonary Fibrosis.
- 2018, June. IUBMB Congress/FAOBMB Congress. Seoul, COEX, Korea. Symposium Organizer, Chair and Speaker, "Chitinase Regulation of Allergic Inflammation and Lung Fibrosis.
- 2016, Nov. KAI-IBS (Korean Association of Immunologists-Institute for Basic Science) Joint International Conference which will be held in Sejong University Convention Center, Seoul, Korea on Nov. 16-18, 2016.
- 2016, May. Stem Cell Symposium. Hanyang University Hospital. Seoul Korea. Mesenchymal Stem Cells and Extracellular Vesicles for Clinical Application.
- 2015, Apr. 119th Spring Congress of the Korean Academy of Tuberculosis and Respiratory Diseases. The Ocean Resort Yeosu, Korea. Chitinase 3-like 1 in inflammation, injury and tumor metastasis.
- 2014, Sept. Tissue Engineering and Regenerative Medicine International Society, Asia-Pacific Annual Conference 2014, Exco, Daegu, Korea. Keynote Speaker, Therapeutic approach to pulmonary Fibrosis : TGF- β as a major target of injury and abnormal repair response in the lung.
- 2014, Jan. International CRCiD Symposium, Seoul Korea, Saint Mary Hospital. TGF- β as a central mediator fibrosis.
- 2013, Oct. Annual Congress of Korean Pediatric Allergy Society Meeting, Seoul, Korea, Sheraton Walker Hill, Seoul, Korea. Chitinase and Chitinase-like proteins in injury, allergic inflammation and remodeling responses in the lung.
- 2013, Oct. 10th Asia Pacific Chitin & Chitosan Symposium. Yonago, Japan. Chitin, chitinases, and chitinase-

- like proteins in allergic inflammation and tissue remodeling.
- 2013, Aug. UKC 2013 New York/New Jersey. Chitinase and chitinase-like proteins in immune and tissue responses.
- 2011, May. 33th International Symposium, Korean Medical Association, Grand Hilton, Seoul, Korea. “Challenges and Opportunities in Biomedical Research in United States”
- 2011, Feb. Avison Biomedical Symposium 2011, Eunmyeong Auditorium, Severance Hospital Yonsei University College of Medicine. Korea. “Role of Chitinase-like Protein BRP-39 in Innate and Adaptive Inflammation”
- 2009, Nov. 14th Congress of the APSR and 3rd Joint Congress of the APSR/ACCP. COEX, Seoul. Korea. “New Development in the pathogenesis of COPD”
- 2009, June. 2009 European Academy of Allergy and Clinical Immunology (EAACI). Warszawa, Poland “Chitin” a “Chitinase –like protein and asthma”
- 2008, Apr. 2008 International conference of pharmacogenomics- A joint conference with the 14th annual meeting of PRACP. BEXCO, Pusan, KOREA. “Genetic factors controlling effector function of TGF- β in COPD and fibrosis”
- 2008, Jan. Plenary Lecture in Keystone Symposia. Big Sky Resort, Big Sky, Montana, USA. “Critical Role for YKL-40 in the Regulation of Th2 immunity”
- 2006, Feb. AstraZeneca sponsored COPD symposium : Chronic Obstructive Pulmonary Disease- Tissue Remodeling and Repair Mechanisms in COPD, Lund, Sweden
- 2006, June COPD5 at International Convention Centre Birmingham, UK. “Animal Models of COPD- Excess inflammation is the key”
- 2005, Mar 61st annual meeting American Academy of Allergy, Asthma and Immunology (AAAAI) : Rostrum for Creative Research, San Antonio, TX. “Essential Role of VEGF in Asthma Pathogenesis”

Regional:

- 2019, Apr Brown Pulmonary Research Conference. COPD and Fibrosis: Common Cause Different Phenotypes Brown University, Providence, RI.
- 2017, Sept Molecular Cell Biology Seminar. TGF-beta and its modifiers in the pathogenesis of pulmonary fibrosis. Brown University, Providence, RI.
- 2017, Oct Orthopedics Research Seminar. TGF-beta and its modifiers in pulmonary fibrosis. Rhode Island Hospital, Brown University, Providence, RI.
- 2015, June. Lecture, Pulmonary Research Seminar at Rhode Island Hospital, Brown Univ. TGF- β as a major target of injury and abnormal repair response in the lung. Providence, RI
- 2015, Apr. Invited Speaker of Research Seminar at Yonsei Univ. Pulmonary Fibrosis - Can be treated ? Recent Progress in Research and Therapeutic Development. Seoul Korea
- 2015, Apr. Lecture Research Seminar at Hanyang Univ. Bronchopulmonary Dysplasia. Seoul Korea
- 2015, Feb. Invited Speaker of Research Seminar at Massachusetts General Hospital, Harvard Univ. Chi3l1 in inflammation, injury and tumor metastasis. Boston, MA
- 2014, Sept. Invited Speaker of Special Seminar at Gachon Univ, Incheon, Korea. And Hanyang Univ. Seoul Korea. TGF- β 1 as a major target of injury and abnormal repair response in the lung - Invited speaker for Educational Program for Graduate School of Medicine at Kyungpook National Univ, Daegu, Korea. Challenges and Opportunities in Biomedical Research in USA

- Invited Speaker as an Outstanding Physician Scientist, Seoul National Univ. School of Medicine Seoul, Korea. Novel regulatory role of Chitinases/Chitinase-like proteins in pulmonary inflammation and remodeling
- 2013, Oct. Invited Speaker in Seminar Series in Mitsubishi Inc, Yokohama, Japan. Approaches to the Therapy of Fibrosis : Targets and Experimental Animal Models
- 2013, Mar. Invited Speaker, Florida Atlantic University, Biomedical Engineering Lecture Series The role of Chitin, Chitinase and Chitinase-like Proteins in Allergic and Tissue Inflammation Boca Raton, FL
- 2009, Nov. Annual Congress of Korean Academy of Asthma, Allergy and Clinical immunology. Pusan, Korea. "Chitinase-like Proteins and asthma."
- 2009, Feb. Invited Speaker in Seminar Series in Dept. of Pathology, Boston University School of Medicine, Boston, USA. "Chitin and chitinases in allergic Th2 inflammation
- 2008, Nov. The 57th Fall Conference of the Korean Association of Immunobiologists. The Catholic University, Seoul, Korea. "Chitin and Chitinases in innate and adaptive Immune Response"
- 2007, Oct Biomedical Seminar in Korean Advanced Institute of Science and Technology (KAIST) DaeJeon, Korea, "Semaphorin 7A Plays a Critical Role in TGF- β_1 -Induced Pulmonary Fibrosis and Alveolar Destruction"
- 2005, June Annual meeting of Florida Allergy, Asthma and Immunology Society (FAAAIS): Boca Raton, FL, "Essential Role of VEGF and AMCase in Asthma Pathogenesis
- 2004, Nov Autumn Congress of Korean Society of Allergology/ The 5th Interasma Asia Pacific Chapter Conference, Daegu, Korea. "Role of TGF- β in the airway remodeling"

9. Grants Awards /Supports

ACTIVE

D. Research Support

Ongoing Research Support

RO1 HL155558 (Lee)

Lee (PI)

9/15/21-6/30/25

Chitinase 1 regulation of pulmonary fibrosis and therapeutic targeting.

This project will define the mechanism that chitinase 1 (Chit1) uses to regulate pulmonary fibrosis and also assessment of therapeutic potential Kasugamycin, an aminoglycoside antibiotic, as a newly identified Chit1 inhibitor.

Role: Principal Investigator

R01 HL146498 (Zhou)

3/20/20-2/28/25

Targeting CHI3L1 and its receptors in Hermansky-Pudlak Syndrome-associated lung disease.

This project will determine the role and effect of Chitinase 3-like 1 (CHI3L1) in the pathogenesis of Hermansky-Pudlak Syndrome on the aspect of pulmonary fibrosis.

Role: Co-Investigator

PO1 HL114501 (Elias, Project 2)

6/10/21-5/31/26

Distinct and overlapping pathways of fibrosis and emphysema in cigarette smokers.

The project 2 will determine differential roles of Chi3l1 and its receptors in pulmonary fibrosis and emphysema.

Role: Co-Investigator

LC210132 (Department of Defense) (Lee) 10/01/21-9/30/22

Antitumor activity of Kasugamycin in primary and metastatic lung cancer.

This project will determine the anti-tumor effect of Kasugamycin as an inhibitor of CHI3L1 in lung cancer development and progression via regulation of tumor-associated macrophages

W81XWH2210041 (PRMRP, Department of Defense) (Lee) 2/15/22-2/14/24

Bispecific Targeting of CHI3L1 and PD-1/PD-L1 Axis as a Novel Therapeutic Strategy for Idiopathic Pulmonary Fibrosis.

This project will determine interactions between profibrotic macrophage activation and invasive fibroblasts differentiation in the pathogenesis of pulmonary fibrosis.

Completed Research Support

BBII (Lee) 9/1/19-2/1/22

Brown Biomedical Innovations to Impact

Development of Chitinase 1 inhibitor Kasugamycin as a therapeutic drug for pulmonary fibrosis.

This project will lead to the development of a new class of antifibrotic drug that is safe, effective, and readily available to patients with pulmonary fibrosis based on the newly identified small molecule.

Role: Principal Investigator

Corestem Inc. (Lee) 1/2/17-7/30-21

Sponsored Research

Development of stem cell & exosome therapy for idiopathic pulmonary fibrosis (IPF)

This project will establish MSCs producing extracellular vesicles (EVs) with the most effective therapeutic effect on animal model of pulmonary fibrosis. The therapeutic efficacy of the EVs isolated from the MSCs stem cells will be tested using TGF- β transgenic mice.

Role: Principal Investigator

R01 HL115813-01 (Lee) 8/1/14-7/31/19

NIH/NHLBI

Chitinase1 as a Biomarker and Therapeutic Target in Scleroderma Lung Disease

This grant will characterize the expression of Chit1 in the lung and circulation to see if Chit1 can be used as a diagnostic and therapeutic marker of Scleroderma-associated interstitial lung diseases.

Role: Principal Investigator

P01 HL114501-01A1 (Augustine Choi) 9/1/13 – 8/31/19

NIH/NHLBI

Distinct and Overlapping Pathways of Fibrosis and Emphysema in Cigarette Smokers

This grant define the role and effect of genetic modifier in the pathogenesis of cigarette smoke-induced pulmonary fibrosis and emphysema

Role: Co-Investigator of Project #2 (Leader, Jack A Elias M.D.)

1 UH2 HL 123876-01 (Chupp/Elias) 7/1/14 – 6/30/19

NIH/NHLBI

Preclinical Development of a Novel Anti-YKL-40 Biologic to Treat Severe Asthma

We will complete the pre-clinical development of a humanized monoclonal antibody against the chitinase-like-protein, YKL-40, for the treatment of severe asthma. A companion diagnostic test will also be developed to measure YKL-40 in the serum that is drug-bound or free for monitoring the bioavailability, dosing, and biologic

effect. The results will generate a novel therapeutic against a validated mediator of inflammation and remodeling in asthma and will lead to an Investigational New Drug (IND) application following the conclusion of the award.

Role: Co-Investigator

LC160268 (Elias)

6/1/17- 5/30/19

Department of Defense

Chi3l1 Regulation of Checkpoint Regulating, Costimulatory, and Coinhibitory Molecules in Primary and Metastatic Lung Cancer

This project will investigate the specific role and effect of Chi3l1 in the primary and metastatic lung cancer through regulation of immune check point molecules.

Role: Co-Investigator

KDDF-201312-11 (Lee)

2/11/14-9/30/16

Selection of optimized lead compounds for preclinical studies for idiopathic pulmonary fibrosis using a novel RNAi-based nanoparticle technology SAMiRNA™

This grant aims to evaluate the therapeutic effect of siRNA on TGF- β -stimulated pulmonary fibrosis using SAMiRNA Application.

Role: PI

1U01 HL 108638-01 (Elias)

8/15/11 – 6/30/15

NIH / NHLBI

YKL-40 in Idiopathic Pulmonary Fibrosis and Kidney Transplantation

This grant is designed to evaluate circulating YKL-40 as a biomarker for disease progression in IPF and urinary YKL-40 as a predictor of delayed graft function after renal transplantation. These studies will also evaluate the utility of YKL-40 as a therapeutic target in both disorders.

Role: Co-Investigator

NIH/ NHLBI

10/1/14 to 9/30/15

R56 HL 119511-01A1 (Bridge Award) (Kang)

NLRX1 and MAVS in cigarette smoke-induced inflammation and alveolar remodeling

The goal of this grant is to define the roles of novel mitochondrial molecules called NLRX1 and MAVS in the development of COPD. In addition, we will explore whether interventions that restore suppressed NLRX1 or modulate this pathway have therapeutic potential in a murine COPD model.

Role: Co-Investigator

5 U01 HL108634 (Zhou/Elias)

9/1/13- 8/31/14

NIH/NHLBI

MAPGen Knowledge Base (MAPGenKB) and Coordination Center

In this ancillary project, we will measure the levels of YK-40 in patients with atherosclerosis, hypertension, metabolic syndromes and visceral fat accumulation. In addition, we will evaluate the roles of cell cycle regulation and the mitochondrial function in animal model of the diseases.

Role: Co-Investigator

R01 HL 093017 (Elias)

1/18/10 – 12/31/14

NIH / NHLBI

BRP-39/YKL 40 in Th2 Inflammation and Asthma

Characterize the expression, localization and regulation of BRP-39/YKL-40 in pulmonary Th2 inflammatory responses.

Role: Co-Investigator

2 R01 HL 079328-05

(Elias)

8/5/09 – 6/30/13

NIH / NHLBI

Cigarette Smoke, RIG-like Helicases and Alveolar Remodeling

This grant investigates the mechanisms through which cigarette smoke and innate immune activation effect alveolar remodeling in the murine lung.

Role: Co- Investigator

R01-HL-084225

(Lee CG)

12/5/06 – 11/30/11

NIH / NHLBI

Genetic Factors Controlling Effector Function of TGF- β in COPD and Fibrosis

This grant will define the gene or factors responsible for TGF- β -associated pulmonary fibrosis and COPD pathogenesis

Role: PI

Bioneer

(Lee CG)

9/1/06 – 4/30/11

Development of Novel Drug Candidates to Treat Pulmonary Fibrosis and Emphysema

This grant will develop novel therapeutic siRNA to block pulmonary fibrosis and cigarette smoke-induced emphysema

Role: PI

10. PATENTS

Issued

Methods, Compositions and Kits Relating to Chitinases and Chitinase-like molecules and Inflammatory Disease, United States, Application # 12/834,650, issue date January 9, 2014.

Semaphorin 7a Plays a Critical Role in TGF-Beta1-Induced Pulmonary Fibrosis and Alveolar Destruction, United States, Application # 12/604,192, Patent # 8,642,357.

Methods and Compositions Relating to Anti-Chi3l1 Antibody Reagent. US Patent #10253111, Apr 9, 2019.

Methods and compositions relating to the treatment of fibrosis, US11219630B2, 01/11/2022

Methods for decreasing chord length Patent, US11478530B2. 10/22/2022

Pending

IL 18 and Protein Kinase R Inhibition for the Treatment of COPD, United States, Application # 12/601,778.

BRP-39/YKL-40 in the Regulation of Fat Accumulation, United States, Application # 61/524,486.

Role of Semaphorin 7a, BRP-39/YKL-40/Chitinase 3 Like 1 and RIG-Like Helicase Activation in the Regulation of Pulmonary Metastasis, United States, Application # 61/486,556.

Methods for the Diagnosis and Treatment of Pulmonary Fibrosis in Subjects with Hermansky Pudlak Syndrome, United States, Application # 61/984,253

CHI3L1 for the Detection and Treatment of Nonalcoholic Steatohepatitis, Application # 62/081,913.

Methods and Compositions Relating to the Treatment of Visceral Fat and Asthma. Application # 62/091,814.

Chitinase-3-Like Protein 1 as a biomarker of recovery from kidney injury, Application # 14/166,264

NLRX Targets, Application # 62/130,811.

Chitinase 3-like-1 Regulates Both Visceral Fat Accumulation and Asthma-like TH2 Inflammation, Application # 62/091,814

Bispecific Antibodies Against Chi3l1 and PD1 With Enhanced T Cell-Mediated Cytotoxic Effects on Tumor Cells. Application # 62/091,814

THESIS COMMITTEES

1. Kevin Connolly, PhD candidate in Molecular Biology, Cell Biology and Biochemistry, 2020- (member)
2. Bedia Akosman, Ph.D. candidate in Pathobiology, Degree conferred 2021 (Primary mentor; Graduated)
3. Garvin Dodad, Ph.D. candidate in Pathobiology, Degree Conferred 2020 (member; Graduated)
4. Gregory Serpa, PhD candidate in Pathobiology, Degree conferred 2021 (member; Graduated)
5. Blessing Akobundo, PhD candidate in Pathobiology, Brown University 2018- (member)
6. Eboni Chambers, PhD candidate in Pathobiology, Degree conferred in 2018 (member; Graduated)