

CURRICULUM VITAE

Donald N. Cook

Present Positions: Senior Investigator, Immunity, Inflammation and Disease Laboratory,
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Adjunct Assistant Professor,
Department of Immunology, School of Medicine, Duke University, Durham,
NC.

EDUCATION AND TRAINING

B.Sc., 1983	McGill University, Montreal, Canada	Microbiology & Immunology
Ph.D. 1990	McGill University, Montreal, Canada	Microbiology & Immunology
1990 - 1996	Postdoctoral Fellow, Laboratory of Oliver Smithies.	Department of Pathology, University of North Carolina

PROFESSIONAL EXPERIENCE

1996-1998	Associate Principal Scientist, Schering-Plough Research Institute
1998-2001	Principal Scientist, Schering-Plough Research Institute
2001-2005	Assistant Professor, Division of Pulmonary and Critical Care Medicine, Department of Medicine, Duke University, Durham, NC.
2005-2013	Tenure track Investigator, Immunogenetics Group, Laboratory of Respiratory Biology, NIEHS, NIH, Research Triangle Park, NC.
2009-present	Adjunct Assistant Professor, Department of Immunology, School of Medicine, Duke University, Durham, NC.
2013-present	Senior Investigator, Immunogenetics Group, Immunity, Inflammation and Disease Laboratory (IIDL), NIEHS, NIH, Research Triangle Park, NC.

PUBLICATIONS

A. RESEARCH ARTICLES

1. **Donald N. Cook**, Nadine Pavloff and John A. Hassell (1990) Simultaneous expression of pp60_{c-src} and polyomavirus middle T antigen in mammalian cells. *Journal of Virology* **64**:2392-2395.
2. **Donald N. Cook** and John A. Hassell (1990) The amino terminus of polyomavirus middle T antigen is required for transformation. *J. Virol.* **64**: 1879-1887.

3. Heather J. Sutherland, D.E. Hogg, **Donald N. Cook**, and Connie J. Eaves (1993) Alternative mechanisms with and without steel factor support primitive human hematopoiesis. *Blood* **81**:1465-1470.
4. **Donald N. Cook**, Melinda A. Beck, Thomas M. Coffman, Suzanne L. Kirby, John H. Sheridan, Ian B. Pragnell and Oliver Smithies. (1995) Requirement of MIP-1 α for an inflammatory response to viral infection. *Science* **269**: 1583-1585.
5. **Donald N. Cook** (1996) The role of macrophage inflammatory protein (MIP)-1 α in inflammation and hematopoiesis. *J. Leukoc. Biol.* **59**: 61-66.
6. Cathy G. Miller, **Donald N. Cook** and Girish Kotwal. (1996) Two chemotactic factors, C5a and MIP-1 α dramatically alter the mortality from zymosan-induced multiple organ dysfunction syndrome(MODS): C5a contributes to MODS while MIP-1 α has a protective role. *Mol. Immunol.* **33**: (14) 1135-1137.
7. Suzanne L. Kirby, **Donald N. Cook**, William Walton and Oliver Smithies. (1996) Proliferation of multipotent hematopoietic stem cells controlled by a truncated erythropoietin receptor transgene. *Proc. Natl. Acad. Sci. USA.* **93**: 9402-9407.
8. JT Terrence M. Tumpey, Hao Cheng, **Donald N. Cook**, Oliver Smithies, John E. Oakes and Robert N. Lausch. (1998) Absence of macrophage inflammatory protein-1 α prevents the development of blinding Herpes stromal keratitis. *J. Virol.*, **72** (5): 3705-3710.
9. Beatriz E. Brito, Leslie M. O'Rourke, Yuezhen Pan, Jong Moon Park, David Zamora, **Donald N. Cook**, Stephen R Planck, James T Rosenbaum. (1999). Murine endotoxin-induced uveitis, but not immune complex-induced uveitis, is dependent on the IL-8 receptor homolog. *Curr. Eye Res.* 19 (1); 76-85.
10. Jonathan S. Serody, **Donald N. Cook**, Suzanne L. Kirby, Elizabeth Reap, Thomas C. Shea and Jeffrey A. Frelinger. (1999) A novel approach to blocking graft-versus-host disease (GVHD): murine T lymphocytes incapable of producing MIP-1 α are impaired in causing GVHD across a class I but not class II MHC barrier. *Blood*, **93** (1) 43-50.
11. **Donald N. Cook**, Oliver Smithies, Robert M. Strieter, Jeffrey A. Frelinger and Jonathan S. Serody. (1999) CD8+ T cells are a biologically relevant source of MIP-1 α in vivo. (1999) *J. Immunol.*; **162** (9) 5423-5428.
12. **Donald N. Cook**, Dina M. Prosser, Reinhold Forster, Jiwen Zhang, Nelly A. Kuklin, Susan J. Abbondanzo, Xiao-Da Niu, Shu-Cheng Chen, Denise J. Manfra, Maria T. Wiekowski, Lee M. Sullivan, Sidney R. Smith, Harry B. Greenberg, Satwant K. Narula, Martin Lipp, Sergio A. Lira. (2000) CCR6 mediates dendritic cell localization, lymphocyte homeostasis and immune responses in mucosal tissue. *Immunity* 12 (5) 495-503.
13. Mark J. Cameron, Guillermo A. Arreaza, Marsha Grattan, Craig Meagher, Marie D. Burdick, Robert M. Strieter, **Donald N. Cook**, Oliver Smithies, and Terry Delovitch. (2000) Differential intra-pancreatic expression of CC chemokines mediates the pathogenesis of type 1 diabetes. *J. Immunol.*;165(2):1102-1110.
14. Jonathan S. Serody, Susan E. Burkett, A. Panoskaltis-Mortari, Judith Ng-Cashin, Eileen McMahon, Glenn K Matsushima, Sergio A. Lira, **Donald N. Cook** and Bruce Blazar.

- (2000) T lymphocyte production of MIP-1 α is critical to CD8+ T cell recruitment during graft-versus-host disease. *Blood* 96 (9) 2973-2980.
15. Michael A. Olszewski, Gary B. Huffnagle, R.A. McDonald, B.B. Moore, **Donald N. Cook** and Galen B. Toews. (2000) The role of macrophage inflammatory protein-1 α /CCL3 in regulation of T cell-mediated immunity to *Cryptococcus neoformans* infection. *J. Immunol.*; 165(11):6429-36.
 16. Denise Manfra, Shu-Cheng Chen Tong-Yuan Yang, Lee Sullivan, Maria Wiekowski, Susan Abbondanzo, **Donald N. Cook**, Sergio A. Lira. (2000) GFP+ leukocytes as novel reagents for adoptive cell transfer and bone marrow transplantation studies. *Am. J. Pathol.* 158, 1:41-47.
 17. Shu-Cheng Chen, Borna Mehrad, Jane C. Deng, Galya Vassileva, Denise J. Manfra, **Donald N. Cook**, Maria T. Wiekowski, Albert Zlotnik, Theodore J. Standiford, and Sergio A. Lira (2001). Impaired pulmonary host defense in mice lacking expression of the CXC chemokine lungkine. *J. Immunol.*, 166(5):3362-8.
 18. Steven .W. Chensue, Nickolas.W. Lukacs, Tong.-Yuan. Yang, X. Shang, K.A. Frait, Steven .L. Kunkel, Ted. Kung, Maria T. Wiekowski, Joseph A. Hedrick, **Donald N. Cook**, Andrea. Zingoni, Satwant.K. Narula, Albert Zlotnik, F.J. Barrat, Anne O'Garra, Monica. Napolitano, and Sergio.A. Lira. (2001) Aberrant in vivo T helper type 2 cell response and impaired eosinophil recruitment in CC chemokine receptor 8 knockout mice. *J. Exp. Med.*. 193: 5
 19. **Donald N. Cook**, Shu-Cheng Chen, Lee M. Sullivan, Denise J. Manfra, Maria T. Wiekowski, Dina M. Prosser, Galya Vassileva and Sergio A. Lira. (2001) Generation and analysis of mice lacking the chemokine fractalkine. *Mol. Cell. Biol.* 21(9):3159-65.
 20. Carolyn J. Foster, Dina M. Prosser, Jacqueline M. Agans, Ying Zhai, Michelle D. Smith, Jean E. Lachowicz, Fang L. Zhang, Eric Gustafson, Frederick J. Monsma, Jr, Maria T. Wiekowski, Susan J. Abbondanzo, **Donald N. Cook**, Marvin L. Bayne, Sergio A. Lira and Madhu S. Chintala (2001) Molecular identification and characterization of the platelet ADP receptor targeted by thienopyridine antithrombotic drugs. *J. Clin. Invest.* 107(12):1591-8.
 21. Quentin E. H. Low, Iulia A. Drucea, Lisa A. Duffner, Daniel G. Quinn, **Donald N. Cook**, Barrett J. Rollins, Elizabeth J. Kovacs and Luisa A. DiPietro (2001). Wound healing in MIP-1alpha (-/-) and MCP-1 (-/-) mice. *Am. J. Pathol.* 159(2):457-463.
 22. Eileen J. McMahon, **Donald N. Cook** Kinuko Suzuki and Glenn K Matsushima. Absence of Macrophage-Inflammatory Protein-1alpha Delays Central Nervous System Demyelination in the Presence of an Intact Blood-Brain Barrier. (2001) *J. Immunol.* 167(5):2964-2971.
 23. Nicholas W. Lukacs, Dina M. Prosser, Maria Wiekowski, Sergio A. Lira and **Donald N. Cook** (2001). Requirement for the chemokine receptor CCR6 in allergic pulmonary inflammation. (2001) *J. Exp. Med.* 194 (4):551-6.
 24. Katrin Ottersbach, **Donald N. Cook**, William A. Kuziel, Alison Humbles, Bao Lu, Craig Gerard, Amanda E.I Proudfoot and Gerard J. Graham (2001). MIP-1 α utilizes a novel receptor for transiently engrafting stem cell inhibition. *Blood* 98(12):3476-3478.

25. Michael Olszewski, Gary Huffnagle, TR Traynor, RA McDonald, **Donald N. Cook**, Galen B. Toews. (2001) Regulatory Effects of Macrophage Inflammatory Protein 1alpha/CCL3 on the Development of Immunity to *Cryptococcus neoformans* Depend on Expression of Early Inflammatory Cytokines. *Infection and Immunity* 69(10):6256-63.
26. **Donald N. Cook**, David Brass, David A. Schwartz. (2002) A matrix for new ideas in pulmonary fibrosis. *Am. J. Resp. Cell and Mol. Biol.* (2):122-4.
27. Yosuhiko Makino, **Donald N. Cook**, Oliver Smithies, Olivia Y. Hwang, Eric G. Neilson, Laurence A. Turka, Andrew D. Wells, Theodore M. Danoff (2002). Impaired T cell function in RANTES-deficient mice. *Clin. Immunol.* 102(3):302-9.
28. **Donald N. Cook**, John W. Hollingsworth II and David A. Schwartz (2003). Toll-like receptors and the genetics of innate immunity. *Curr Opin Allergy Clin Immunol.* 2003 Dec;3(6):523-9.
29. **Donald N. Cook**, Shuibang Wang, Gabriel P. Howles, Marcy Speer, Gary Churchhill, John Quackenbush and David A. Schwartz (2003). The genetics of innate immunity in the lung. *Chest.* 2003 Mar;123(3 Suppl):369S.
30. Tyner, JW; Uchida, O; Kajiwara, N; Kim, EY; OSullivan, MP; Walter, MJ; **Donald N. Cook**, Danoff, TM; Holtzman, MJ (2004). Chemokine CCL5 signals required for survival during viral infection. *J. Allergy Clin. Immunol.* 113 (2)S49.
31. **Donald N. Cook**, David S. Pisetsky, David A. Schwartz. (2004) Toll-like receptors and the pathogenesis of human disease. *Nature Immunol.* 5(10):975-9.
32. Merad M, Hoffmann P, Ranheim E, Slaymaker S, Manz MG, Lira SA, Charo I, **Donald N. Cook**, Weissman IL, Strober S, Engleman EG. (2004) Depletion of host Langerhans cells before transplantation of donor alloreactive T cells prevents skin graft-versus-host disease. *Nature Med.* 10(5):510-517.
33. John W. Hollingsworth, Donald N. Cook, David M Brass, Julia K Walker, Daniel L Morgan, W. Michael Foster and David A Schwartz. (2004) The Role of Toll-like Receptor 4 in Environmental Airway Injury in Mice. *Am. J. Respir. Crit. Care Med.*
34. **Donald N. Cook**, Shuibang Wang, Yonghong Wang, Gabriel P. Howles, Gregory S. Whitehead, Katherine G. Berman, Tony D. Church, Bryan C. Frank, Renee M. Gaspard, Yan Yu, John Quackenbush, David A. Schwartz. (2004) Genetic regulation of endotoxin-induced airway disease. *Genomics* 2004 83(6):961-9).
35. Ted T. Kung, Crawley Y, Jones H, Luo B, Gilchrest H, Greenfeder S, Anthes JC, Lira S, Wiekowski M, **Donald N. Cook**, Hey JA, Egan RW, Chapman RW. (2004) Tachykinin NK3-receptor deficiency does not inhibit pulmonary eosinophilia in allergic mice. *Pharmacol. Res.* 50(6):611-5.
36. John W. Hollingsworth, Benny J Chen, David M Brass, Katherine Berman, Michael D Gunn, **Donald N. Cook**, David A. Schwartz. (2004) The critical role of hematopoietic cells in lipopolysaccharide induced airway inflammation. *Am. J. Respir. Crit. Care Med.* 171(8):806-13

37. Steven K. Lundy, Sergio A. Lira, Jetse J. Smit, **Donald N. Cook**, Nicholas W. Lukacs. (2005). Attenuation of allergen-induced responses in *Ccr6*^{-/-} mice is dependent upon altered pulmonary T lymphocyte activation. *J. Immunol.* 174(4):2054-60.
38. Thomas Jamison*, **Donald N. Cook***, Robert J. Nibbs, Antal Rot, Colin Nixon, Pauline McLean, Antonio Alcami, Sergio A. Lira, Maria Wiekowski, and Gerard J. Graham. (2005) The chemokine receptor D6 limits the inflammatory response in vivo. *Nature Immunol.* (4):403-11. *both authors contributed equally.
39. Yeny Martinez de la Torre, Massimo Locati, Chiara Buracchi, Jana Dupor, **Donald N. Cook**, Raffaella Bonecchi, Manuela Nebuloni, Daniel Rukavina, Luca Vago, Annunciata Vecchi, Sergio A. Lira, Alberto Mantovani. (2005) Increased inflammation in mice deficient for the chemokine decoy receptor D6. *Eur J Immunol.* 5(5):1342-6
40. J.W. Tyner, O. Uchida, N. Kajiwara, EY Kim, A.C. Patel, M.P. O'Sullivan, M.J. Walter, R.A. Schwendener, **Donald N. Cook**, Theodore M. Danoff, Michael J. Holtzman. (2005) CCL5-CCR5 interaction provides antiapoptotic signals for macrophage survival during viral infection. *Nature Med.* 11(11):1180-7.
41. **Donald N. Cook**, Gregory S. Whitehead, Lauranell H. Burch, Katherine G. Berman, Zareen Kapadia, Christine Wohlford-Lenane, David A. Schwartz DA. (2006). Spontaneous Mutations in Recombinant Inbred mice: Mutant toll-like receptor 4 (*tlr4*) in BXD29 mice. *Genetics.* 172(3):1751-5.
42. John W. Hollingsworth, Gregory S. Whitehead, Kaifeng Lisa Lin, Hideki Nakano, Michael D. Gunn, David A. Schwartz and **Donald N. Cook**. (2006) Tlr4 attenuates ongoing allergic inflammation. *J. Immunol.* 176 (10):5856-62.
43. Astrid E Cardona, Erik P Pioro, Margaret E. Sasse, Volodymyr Kostenko, Sandra M. Cardona, Ineke M. Dijkstra, DeRen Huang, Grahame Kidd, Stephen Dombrowski, RanJan Dutta, Jar-Chi Lee, **Donald N Cook**, Steffen Jung, Sergio A. Lira, Dan R. Littman and Richard M. Ransohoff. (2006) Control of microglial neurotoxicity by the fractalkine receptor. *Nature Neurosci.* 9(7):917-24.
44. LiPing Liu, Gerard J. Graham, Anita Damodaran, Taofang Hu, Sergio A. Lira, Margaret Sasse, Claudia Canasto-Chibuque, **Donald N. Cook** and Richard M. Ransohoff. (2006) The silent chemokine receptor D6 is required for generating T cell responses that mediate experimental autoimmune encephalomyelitis. *J. Immunol.* 177(1):17-21.
45. **Donald N. Cook** and Kim Bottomly. (2007) Innate immune control of pulmonary dendritic cell trafficking. *Proc. Am. Thorac Soc.* 4(3):234-9.
46. Gregory S. Whitehead, Tie Wang, Laura M. DeGraff, Jeffrey W. Card, Sergio A. Lira, Gerard J. Graham and **Donald N. Cook** (2007). The chemokine receptor D6 has opposing effects on allergic inflammation and airway reactivity. *Am. J. Respir. Crit. Care Med.* 175(3):243-9.
47. Yeny Martinez de la Torre, Chiara Buracchi, Elena M. Borroni, Jana Dupor, Raffaella Bonecchi, Manuela Nebuloni, Fabio Pasqualini, Andrea Doni, Eleonora Lauri, Chiara Agostinis, Roberta Bulla, **Donald N. Cook**, Bodduluri Haribabu, Pierluigi Meroni, Daniel Rukavina, Luca Vago, Francesco Tedesco, Annunciata Vecchi, Sergio A. Lira, Massimo Locati, and Alberto Mantovani. (2007) Protection against inflammation- and autoantibody-

- caused fetal loss by the chemokine decoy receptor D6. *Proc Natl Acad Sci U S A*. 2007 104(7):2319-24.
48. Haitao Wen, Cory M. Hogaboam, Nicholas W. Lukacs, **Donald N. Cook**, Sergio A. Lira, Steven L. Kunkel. (2007) The chemokine receptor CCR6 is an important component of the innate immune response. *Eur. J. Immunol.* (9):2487-98.
 49. Stavros Garantziotis, Scott M. Palmer, Laurie D. Snyder, Tonya Ganous, Benny J. Chen, Tie Wang, **Donald N. Cook**, David A Schwartz. (2007) Alloimmune lung injury induced by local innate immune activation through inhaled lipopolysaccharide. *Transplantation* 84(8):1012-9.
 50. Hideki Nakano, Kaifeng Lisa Lin, Manabu Yanagita, Chantal Charbonneau, **Donald N. Cook**, Terutaka Kakiuchi and Michael D. Gunn (2009). Blood-derived inflammatory dendritic cells in lymph nodes stimulate acute T helper type 1 immune responses. *Nature Immunol.* 2009; 394-402.
 51. Rhonda H. Wilson, Gregory S. Whitehead, Hideki Nakano, Meghan E. Free, Jay K. Kolls and **Donald N. Cook**. (2009). Allergic sensitization through the airway primes Th17-dependent neutrophilia and airway hyperresponsiveness. *Am J Respir Crit Care Med*;180(8):720-30. **NIEHS paper of the month**
 52. John W. Hollingsworth, Meghan E. Free, Zhuowei Li, Laura Novack Andrews, Hideki Nakano and **Donald N. Cook**. (2010) Ozone activates pulmonary dendritic cells and promotes allergic sensitization by a TLR4-dependent mechanism. *J Allergy Clin Immunol*; 125(5):1167-70). **NIEHS paper of the month**
 53. Xuebin Yang, William W. Walton, **Donald N. Cook**, Xiaoyang Hua, Stephen Tilley, Christopher Haskell, Richard Horuk, A. William Blackstock, and Suzanne L. Kirby. (2010) The chemokine, CCL3 and its receptor, CCR1, mediate thoracic radiation-induced fibrosis. *Am J Resp Cell Mol Biol.* Jul;45(1):127-35.
 54. Samir N. P. Kelada, Mark S. Wilson, Urraca Tavarez, Kari Kubalanza, Danielle E. Carpenter, Greg S. Whitehead, Bhavesh Borate, Shuichiro Maruoka, David M. Brass, Thomas A. Wynn, **Donald N. Cook**, Christopher M. Evans, Deepak A. Deshpande, David A. Schwartz and Francis S. Collins. (2011) Identification of Strain-Dependent Genomic Responses to Allergen Challenge Associated with Changes in Airway Responsiveness in a Mouse Model of Asthma. *Am J Resp Cell Mol Biol.*;45: 817–824.
 55. Hong Li, J. Alyce Bradbury, Ryan T. Dackor, Matthew L. Edin, Joan P. Graves, Laura M. DeGraff, Ping Ming Wang, Carl D. Bortner, Shuichiro Maruoka, Fred B. Lih, **Donald N. Cook**, Kenneth B. Tomer, Anton M. Jetten and Darryl C. Zeldin. (2011) Cyclooxygenase-2 (COX-2) Regulates Th17 Cell Differentiation During Allergic Lung Inflammation. *Am J Respir Crit Care Med.* Jul 1;184(1):37-49.
 56. Gregory S. Whitehead, Rhonda H. Wilson, Lauranell H. Burch, Hideki Nakano and **Donald N. Cook** (2012). IL-35 Production by regulatory T cells Reverses Established IL-17-dependent Allergic Airways Disease. (2012) *J Allergy Clin Immunol.* Jan;129(1):207-215. **NIEHS paper of the month**

57. Hideki Nakano, Meghan E. Free, Rhonda H. Wilson, Shuichiro Maruoka, Gregory S. Whitehead and **Donald N. Cook**. (2012) Pulmonary CD103⁺ dendritic cells prime Th2 responses to inhaled antigens. *Mucosal Immunol.* (1):53-65.
58. David W. Draper, Kim M. Gowdy, Jennifer H. Madenspacher, Rhonda H. Wilson, Hideki Nakano, Arun R. Pandiri, Julie F. Foley, Alan T Remaly, **Donald N. Cook** and Michael B. Fessler. (2012) ATP Binding Cassette Transporter G1 Deletion Induces IL-17-Dependent Dysregulation of Pulmonary Adaptive Immunity. *J. Immunol.* 188(11):5327.
59. Rhonda H. Wilson, Shuichiro Maruoka, Gregory S. Whitehead, Julie F. Foley, Gordon P. Flake, Michelle L. Sever, Darryl C. Zeldin, Monica Kraft, Stavros Garantziotis, Hideki Nakano and **Donald N. Cook**. (2012) The TLR5 ligand, bacterial flagellin, promotes asthma by priming allergic responses to indoor allergens. *Nat Med.* Nov;18(11):1705-10. PMID: 23064463 **NIEHS paper of the month, NIEHS paper of the year.**
60. Hideki Nakano, Joseph E. Burgents, Keiko Nakano, Gregory S. Whitehead, Cheolho Cheong, Carl Bortner and **Donald N. Cook**. (2013) Migration properties of lung dendritic cells are determined by their developmental lineage. *Mucosal Immunol.*, Jul;6(4):678-91. PMID: 23168837
61. James M. Coghill, Kenneth A. Fowler, Michelle L. West, LeShara M. Fulton, Hendrik van Deventer, Karen P. McKinnon, Benjamin G. Vincent, Kaifeng Lin, Angela Panoskaltis-Mortari, **Donald N. Cook**, Bruce R Blazar, and Jonathan S. Serody. (2013) CC-Chemokine Receptor 8 potentiates donor Treg survival and is critical for the prevention of murine graft-versus-host disease. *Blood*, Aug 1; 122(5):825-36. PMID: 23798714
62. Hideki Nakano and **Donald N. Cook**. (2013) Pulmonary antigen presenting cells; isolation, purification, and culture. *Mouse Models of Allergic Disease. Methods in Molecular Biology*, Volume 1032, pp 19-29. PMID 23943441
63. Gregory S. Whitehead, Seddon Y. Thomas and **Donald N. Cook**. (2013). Modulation of Distinct Asthmatic Phenotypes in Mice by Dose-Dependent Inhalation of Microbial Products. *Environmental Health Perspectives* Jan;122(1):34-42. PMID: 24985082. **NIEHS paper of the month**
64. Bethany J. Hsia, Gregory S. Whitehead, Keiko Nakano, Kymberly M. Gowdy, Seddon Y. Thomas, Jim Aloor, Hideki Nakano and **Donald N. Cook**. (2014) *Trif*-dependent induction of Th17 immunity by lung dendritic cells. *Mucosal Immunol.* 193 (1):186-97. PMID: 24985082 **NIEHS paper of the month**
65. Timothy P. Moran, Hideki Nakano, Hrisavgi D. Kondilis-Mangum, Paul A. Wade, and **Donald N. Cook**. (2014) Epigenetic control of *Ccr7* expression in distinct lineages of lung dendritic cells *J Immunol.* 193(10):4904. PMID: 25197875
66. Jaclyn W. McAlees, Gregory S. Whitehead, Isaac T.W. Harley, Monica Cappelletti, Cheryl L. Rewerts, A. Maria Holdcroft, Senad Divanovic, Marsha Wills-Karp, Fred D. Finkelman, Christopher L. Karp and **Donald N. Cook**. (2014) Distinct *Tlr4*-expressing cell compartments control eosinophilic and neutrophilic airway inflammation *Mucosal Immunol.*, Jul;8(4):863-73. PMID: 25465099.
67. Hideki Nakano, Timothy P. Moran, Keiko Nakano, Kevin E. Gerrish, Carl D. Bortner and **Donald N. Cook** (2015). Complement receptor C5aR1/CD88 and dipeptidyl peptidase-3

- define hematopoietic lineages of dendritic cells. *J Immunol.* 15;194(8):3808-19 PMID 25769922
68. Timothy P. Moran, Keiko Nakano, Gregory S. Whitehead, Seddon Y. Thomas, **Donald N. Cook***, and Hideki Nakano* (2015). Inhaled house dust programs pulmonary dendritic cells to promote type 2 T cell responses by an indirect mechanism". *American Journal of Physiology - Lung Cellular and Molecular Physiology* 2015 Nov 15;309(10): L1208-18. PMID: 26386119 * Co-senior author.
 69. **Donald N. Cook**, Hong-Soon Kang and Anton M Jetten (2015). Retinoic Acid-Related Orphan Receptors (RORs): Regulatory Functions in Immunity, Development, Circadian Rhythm, and Metabolism. *Nuclear Receptor Research.* 2015;2 PMID 26878025
 70. Hideki Nakano, Miranda R. Lyons-Cohen, Gregory Whitehead, Keiko Nakano and **Donald N. Cook** (2017). Distinct functions of CXCR4, CCR2 and CX3CR1 direct dendritic cell precursors from the bone marrow to the lung. *Journal of Leukocyte Biology.* 2017 May;101(5):1143-1153. PMID 28148720.
 71. Miranda R. Lyons-Cohen, Seddon Y. Thomas, **Donald N. Cook*** and Hideki Nakano* (2017). Precision Cut Mouse Lung Slices to Visualize Live Pulmonary Dendritic Cells. *Journal of Visualized Experiments.* 2017 Apr. 5;(122). * Equal contributions. PMID: 28448013
 72. Diane R. Gold, Gary Adamkiewicz, Syed H. Arshad, Juan C. Celedón, Martin D. Chapman, Ginger L. Chew, **Donald N. Cook**, Adnan Custovic, Ulrike Gehring, James E Gern, Christine C Johnson, Suzanne Kennedy, Petros Koutrakis, Brian Leaderer, Herman Mitchell, Augusto A Litonjua, Geoff A Mueller, George T O'Connor, Dennis Ownby, Wanda Phipatanakul, Victoria Persky, Matthew S Perzanowski, Clare D Ramsey, Pavi M Salo, Julie M Schwaninger, Joanne E Sordillo, Avrum Spira, Shakira F Suglia, Alkis A Togias, Darryl C. Zeldin, Elizabeth C Matsui (2017). NIAID, NIEHS, NHLBI, MCAN Workshop Report; The Indoor Environment and Childhood Asthma: Implications for Home Environmental Intervention in Asthma Prevention and Management. *J Allergy Clin Immunol.* 2017 Oct;140(4):933-949. doi: 10.1016/j.jaci.2017.04.024. Epub 2017 May 10. PMID: 28502823
 73. Gregory S. Whitehead, Seddon Y. Thomas, Karim H. Shalaby, Keiko Nakano, Timothy P. Moran, James M. Ward, Gordon P. Flake, Hideki Nakano and **Donald N. Cook** (2017). TNF is required in TLR ligand-mediated but not protease-mediated allergic airway inflammation. *Journal of Clinical Investigation,* 2017 Sep 1;127(9):3313-3326. PMID: 28758900.
This paper was featured on the cover of the JCI Sept., 2017 issue, selected as a NIEHS paper of the month and a NIEHS paper of the year, and also highlighted in the 'News Beyond Our Pages' column of the J Allergy Clin Immunol. (Dec., 2017 issue).
 74. Katherine A. Burns, Seddon Y. Thomas, Katherine J. Hamilton, Steven L. Young, **Donald N. Cook** and Kenneth S. Korach (2017). Early endometriosis in females is directed by immune-mediated estrogen receptor alpha and IL6 cross-talk. (*Endocrinology,* 2018 Jan 1;159(1):103-118. PMID 28927243.
 75. Seddon Y. Thomas, Gregory S. Whitehead, Motoki Takaku, James M. Ward, Xiaojiang Xu, Keiko Nakano, Miranda R. Lyons-Cohen, Hideki Nakano, Kymberly M. Gowdy, Paul

- A. Wade and **Donald N. Cook** (2017). MyD88-dependent dendritic and epithelial cell crosstalk orchestrates immune responses to allergens. (*Mucosal Immunol.* 2017 Sept 11 doi: 10.1038/mi.2017.84. PMID 29067999. **Image featured on the cover of *Mucosal Immunology*, June, 2018 issue.**
76. Song Zhang, Motoki Takaku, Liyun Zou, Ai-di Gu, Wei-chun Chou, Ge Zhang, Bing Wu, Qing Kong, Seddon Y. Thomas, Jonathan S. Serody, Xian Chen, Xiaojiang Xu, Paul A. Wade, **Donald N. Cook**, Jenny P. Ting, Yisong Y. Wan (2017). Releasing Ski-Smad4 mediated suppression is essential to license Th17 differentiation. *Nature*, 2017 Nov 2;551(7678):105-109. PMID 2907999.
77. Karim H. Shalaby, Miranda R. Lyons-Cohen, Gregory S. Whitehead, Seddon Y. Thomas, Immo Prinz, Hideki Nakano and **Donald N. Cook**. Pathogenic Th17 inflammation is sustained in the lungs by conventional dendritic cells and TLR4 signaling (2017). *J Allergy Clin Immunol.* 2017 Nov 14. pii: S0091-6749(17)31753-0. doi: 10.1016/j.jaci.2017.10.023. PMID: 29154958. **NIEHS paper of the month.**
78. Robert Immormino, David Lauzier, Hideki Nakano, Neil Alexis, Michelle Hernandez, Andy Ghio, Stephen Tilley, Claire Doerschuk, David B. Peden, **Donald N. Cook** Timothy P. Moran (2018). Neuropilin-2 regulates airway inflammatory responses to inhaled lipopolysaccharide. *Am. J Physiol Lung Cell Mol Physiol.* 2018 Apr 19 doi: 10.1152/ajplung.00067.2018. PMID: 29671604
79. Hideki Nakano, Keiko Nakano and **Donald N. Cook** (2018). Isolation and purification of epithelial and endothelial cells from mouse lung. *Methods in Molecular Biology*;1799:59-69. Doi: 10.1007/978-1-4939-7896-0_6. PMID 29956144
80. Miranda R. Lyons-Cohen, Hideki Nakano, Seddon Y. Thomas and **Donald N. Cook** (2018). Imaging precision-cut lung slices to visualize leukocyte localization and trafficking. *Methods in Molecular Biology*;1799:237-246. Doi: 10.1007/978-1-4939-7896-0_18. PMID: 29956156
81. Jonathan T. Busada, Sivapryia Ranamoorthy, Derek W. Cain, Xiaojiang Xu, **Donald N. Cook** and John A. Cidlowski (2019). Endogenous glucocorticoids suppress spontaneous gastric inflammation and spasmolytic polypeptide metaplasia (*Journal of Clinical Investigation* Jan 17. pii: 123233. doi: 10.1172/JCI123233). PMID: 30652972
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83. Anton M. Jetten and **Donald N. Cook** (2019). (Inverse) agonists of retinoic acid-related orphan receptor γ (ROR γ): Regulation of Immune responses, inflammation and autoimmune disease. *Annual Review of Pharmacology and Toxicology* (2019 Aug 6. doi: 10.1146/annurev-pharmtox-010919-023711). PMID: 31184998
84. Wan-Chi Lin, Kymberly M. Gowdy, Jennifer H. Madenspacher, Rachel L. Zemans, Kazuko Yamamoto, Miranda Lyons-Cohen, Hideki Nakano, Kyathanahalli Janardhan, Carmen J. Williams, **Donald N. Cook**, Joseph P. Mizgerd, Michael B. Fessler. Epithelial membrane

protein 2 governs transepithelial migration of neutrophils into the airspace. *Journal of Clinical Investigation* 2019 Nov 18. pii: 127144. doi: 10.1172/JCI127144. PMID: 31550239.

B. BOOK CHAPTERS

1. **Donald N. Cook** and Sergio A. Lira (1996) Genetic approaches to the study of chemokine function *in vivo*. In: *Leukocyte recruitment in inflammatory disease*. (1996) Gary Peltz, editor. Molecular Biology Intelligence Unit, R. G. Landis Company, Austin, TX. 259-266.
2. **Donald N. Cook** (1997) Gene targeting strategies to study chemokine function *in vivo*. *Meth. in Enzymol.* **287**:(13) 186-206).
3. Sergio A. Lira, Galya Vassileva, Shu-Cheng Chen, Nicholas W. Lukacs, Stephen W. Chensue, Theodore J. Standiford, Borna Mehrad and **Donald N. Cook**. Genetic models to study chemokine biology in the lung. In: *Chemokines in the lung* (2003) Robert Strieter and Stephen Kunkel (Ed.) Marcel Dekker, Inc., NY, NY.
4. John W. Hollingsworth, **Donald N. Cook**, and David A. Schwartz (2005). Toll-like receptors and airway disease. In: *Toll-like Receptors in Inflammation*, Luke A.J. O'Neill, Elizabeth Brint (Ed.) *Birkhauser Verlag, Basel, Switzerland*.
5. **Donald N. Cook** and Hideki Nakano. (2011) Effects of air pollutants on allergic sensitization through the airway. In: *Allergens and respiratory pollutants: the role of innate immunity*, Mark Williams (Ed.) *Oxford; New York: Biohealthcare*.
6. **Donald N. Cook** and Hideki Nakano (2015). Pulmonary Dendritic Cell Function. In: Richard A. Parent (Ed.) *Comparative Biology of the Normal Lung, 2nd Edition, Section II*, pp. 651. Academic Press, Cambridge, Massachusetts.

C. CONFERENCE PROCEEDINGS

Twenty-second Transatlantic Airway Conference: Innate Immunity and environmental Airway Disease. Chairman's Summary (2007). **Donald N. Cook** and David A. Schwartz. *Proc. ATS*, Jul 2007; 4: 210 - 211.

PREVIOUS GRANT AND CONTRACT SUPPORT

2004: NIH R21 AI058161-01 Genetic susceptibility to *F. tularensis*
P.I. **Donald N. Cook**. Total Direct Costs: \$400,000

PRESENTATIONS

A. National and International Meetings

The amino terminus of polyomavirus middle T antigen is required for transformation. DNA Tumor Virus Conference, August, 1988, Cold Spring Harbor, NY.

Mutational analysis of Polyomavirus Middle T antigen. DNA Tumor Virus Conference, June, 1989, Cambridge, England.

Role of c-kit protein in embryonic development, Keystone Symposium, "Transgenes, Development and Disease". Tamarron, Colorado, January 1991.

Targeting of the gene encoding macrophage inflammatory protein-1 α , Keystone Symposium, "Hematopoiesis", Breckenridge, Colorado, January 1993

Functional analysis of MIP-1 α gene targeted mice (oral presentation). International Conference on Chemokines, June, 1994. Bath, England.

Role of MIP-1 α in pulmonary inflammation during an influenza viral infection: analysis in a MIP-1 α knockout mouse model (oral presentation). International Congress of Immunology, July, 1995, San Francisco, California.

Role of MIP-1 α -expressing cell types in response to viral and bacterial infection. Gordon Conference on Chemokines. June, 1996, Plymouth, New Hampshire.

Analysis of inflammatory responses in MIP-1 α -deficient mice. (invited speaker) 12th Annual New England Immunology Conference. November, 1996, Woods Hole, Massachusetts.

Hematopoietic cell cross-transplantation studies between wild type and MIP-1 α -deficient mice. (invited speaker, oral presentation) NMHCC conference, "Chemokine receptors and host cell interaction". January, 1997, Baltimore, Maryland.

Humoral immune responses in mucosal tissue of CCR6-deficient mice. Keystone Symposium, "Innate and acquired immune responses at mucosal surfaces" (oral presentation). Taos, New Mexico, January, 2000.

CCR6, dendritic cell migration and mucosal immune responses. Gordon Research Conference on chemotactic cytokines, July, 2000 (oral presentation). Meriden, New Hampshire.

The genetics of the LPS response Pathway; studies of BXD recombinant inbred mice. American Thoracic Society Conference, May, 2002, Atlanta, Georgia.

The genetics of innate immunity in the lung (oral presentation). Thomas L. Petty Aspen Lung Conference. June, 2002, Aspen, Colorado.

Innate immune response genes. Keystone Symposium. Molecular and Cellular Basis of Septic Shock, May 2003. Tahoe City, California.

Genetic approaches to studying asthma (invited speaker). Center for Rodent Genetics Annual Meeting, 2005, NIEHS, Research Triangle Park, NC.

The chemokine receptor D6 regulates allergic responses in the mouse. Keystone Symposium. Chemokines. January, 2006. Snowbird, Utah.

Genetics of inflammatory response in the lung (oral presentation). EPA Science Forum. April, 2006, Washington, DC.

The role of TLR4 in human disease (invited speaker), July, 2006. Annual meeting of the Association of Medical Laboratory Immunologists, Washington, DC.

The chemokine receptor CCR6 is required to maintain allergic responses in the lung. International Conference on Dendritic Cells, September, 2006, Edinburgh, Scotland.

Innate immune control of pulmonary dendritic cell trafficking (invited speaker) Transatlantic Airway Conference, January, 2007, Lucerne, Switzerland.

The chemokine receptor D6 has opposing effects on allergic pulmonary inflammation and airway reactivity. American Thoracic Society International Conference, May 2007, San Francisco, CA.

Requirement of CCR2 for Pulmonary Dendritic Cell Migration and Allergen Sensitization Through the Airway (oral presentation). American Thoracic Society International Conference, May 2007, San Francisco, CA.

Allergic Sensitization through the Airway Primes an IL-17-Dependent Immune Response, Including Neutrophil Accumulation and Robust AHR (oral presentation). American Thoracic Society International Conference, May 2008, Toronto, Canada.

Allergic sensitization and tolerance through the airway (invited speaker). Gordon Research Conference on Chemotactic Cytokines, September 21, 2008, Aussois, France.

Role of Dendritic Cells in Pulmonary Inflammation. (invited speaker) mini-symposium, *Current Concepts in Allergic and Inflammatory Dendritic Cell Activation*. American Thoracic Society International Conference, May 2009, San Diego, CA.

Trafficking and function of pulmonary dendritic cells. (invited speaker). Gordon Conference on Chemotactic cytokines, May, 2010, Il Ciocco, Italy.

LPS promotes IL-35-dependent suppression of allergen-induced airway disease. Keystone Symposia Immunity in the Respiratory Tract: Challenges of the Lung Environment (oral presentation). Feb, 2011, Vancouver, Canada.

ICOS-B7h interactions reversibly suppress allergen-induced IL-17 secretion and airway hyperresponsiveness. (oral presentation) American Thoracic Society International Conference. May, 2011, Denver, CO.

Migratory properties of pulmonary dendritic cells are developmentally programmed. (oral presentation) American Association of Immunologists Annual (AAI) Meeting. May, 2012, Boston, MA.

Immune Responses to Inhaled Allergens are Modulated by Interactions of Microbial Products with Different Cell Types in the Lung (invited speaker). American Thoracic Society International Conference. May, 2014, San Diego, CA.

Finding the molecular links between house dust and asthma (invited speaker). American Association of Immunologists (AAI) Annual Meeting. May, 2014, Pittsburgh, PA.

Modulation of adaptive immune responses by microbial products (invited speaker). Indoor Environment and Childhood Asthma Workshop, June, 2014, Bethesda, MD.

Regulation of allergic airway inflammation through CD4 T cell plasticity. (invited speaker) American Academy of Allergy, Asthma and Immunology (AAI) Annual Meeting. February, 2019, San Francisco, CA.

Defining open chromatin using ATAC-seq: Applications to pulmonary immune responses. (invited speaker). A researcher's guide to integrating the pulmonary 'omicsverse. American Thoracic Society (ATS) Annual Meeting. May, 2019, Dallas, TX.

A novel dendritic cell type in the lung drives Th17 responses to inhaled allergens. (invited speaker) Southeastern Immunology Conference, June, 2019, Emory University, Atlanta, GA.

B. Universities and Research Institutions

East Carolina University, Greenville, NC. 1993. *The role of MIP-1 α in hematopoiesis*.

Duke University, Durham, NC, Department of Nephrology, 1994. *Functional Analysis of MIP-1 α using gene targeted mice*.

University of Louisville, Louisville, KY., 1995, *Functional Analysis of MIP-1 α using gene targeted mice.*

University of Western Ontario, London, Ontario, Canada. 1995. A gene targeting approach to study the function of the chemokine, *MIP-1 α* .

Duke University, Department of Immunology, 1995. *Gene targeting to study chemokine function in vivo.*

The University of Alabama, Birmingham, 1996. *Gene targeting to study chemokine function in vivo.*

University of Washington, Seattle WA. 1996. *The role of MIP-1 α in pulmonary inflammation.*

McMaster University, Hamilton, Ontario, Canada. 1996. *The role of MIP-1 α in pulmonary inflammation.*

University of Virginia, Charlottesville, VA. 1996. *A gene targeting approach to study chemokine function in vivo.*

Albert Einstein College of Medicine, Yeshiva University, Bronx, NY. 1996. *A gene targeting approach to study chemokine function in vivo.*

University of Missouri, Columbia, MO., 1996. *A gene targeting approach to study chemokine function in vivo.*

Schering Plough Research Institute, Kenilworth, NJ, 1996. *Gene targeting to study chemokine function in vivo.*

University of North Carolina, Dept. of Nutrition, 2002. *CCR6 controls dendritic cell migration and immune responses in mucosal tissue.*

University of Washington, Seattle WA. 2002. *Genetic approaches to studying endotoxin-induced airway disease.*

Environmental Protection Agency, Research Triangle Park, NC, 2002. *The role of the chemokine receptor CCR6 in immune responses.*

NIEHS, Laboratory of Respiratory Biology, 2003. *Genetic regulation of endotoxin-induced airway disease.*

North Carolina Biotechnology Institute, Research Triangle Park, NC, 2003. *Combining microarrays with positional cloning to identify disease genes.*

University of North Carolina, Center for Environmental Medicine, Asthma and Lung Biology, 2006. *The function of TLR4 in allergic pulmonary inflammation.*

NIEHS, Laboratory of Molecular Carcinogenesis, 2006, *Innate immune control of pulmonary dendritic cell trafficking.*

Duke University, Visiting Pulmonary Scholar series, 2006. *CCR2 is required for dendritic cell migration and allergic sensitization through the airway.*

Duke University, Airway Biology Seminar Series, 2007. *Allergic Sensitization through the Airway.*

North Carolina State University, Department of Environmental and Molecular Toxicology. January, 2008. *Allergic Sensitization through the Airway.*

NIH, Laboratory of Molecular Immunology, National Institute of Allergy and Infectious Diseases, Bethesda, MD, April, 2008. *Allergic Sensitization and Tolerance to Inhaled Antigens.*

Trudeau Institute, Saranac Lake, NY, June, 2008. *Allergic Sensitization and Tolerance to Inhaled Antigens.*

The Hamner Institute, Research Triangle Park, NC, July, 2008. *Selective induction of Th17 immune responses to inhaled allergens.*

Duke University, Department of Immunology, October, 2008. *Allergic Sensitization and Tolerance to Inhaled Antigens.*

Duke University, Airway Biology Series, December, 2008. *Allergic Sensitization through the airway primes acute, IL-17-dependent AHR.*

University of Rochester Medical Center, Rochester, NY, January, 2009. *Allergic Sensitization through the airway primes Th17-dependent airway neutrophilia and acute AHR.*

NIH, Immunology Interest Group Seminar Series, Bethesda, MD. March, 2009. *Induction and regulation of Th17-dependent airway hyperresponsiveness.*

North Carolina State University, Department of Microbiology. April, 2009. *Induction and regulation of Th17-dependent airway hyperresponsiveness.*

NIH, Mucosal Immunology Interest Group Seminar Series, Bethesda, MD. March, 2010. *Lung resident CD103+ dendritic cells prime allergic responses to inhaled antigens.*

Duke University, Pulmonary, Allergy, and Critical Care Research Conference, April, 2010. *Lung resident CD103+ dendritic cells prime allergic responses to inhaled antigens.*

University of Michigan, Department of Pathology, Oct. 2010. *Induction and regulation of Th17-dependent airway hyperresponsiveness.*

Johns Hopkins University, School of Public Health, December, 2010. *Induction and regulation of Th17-dependent airway hyperresponsiveness.*

Triangle Immunology Interest Group, Feb., 2011. *Induction and regulation of Th17-dependent airway hyperresponsiveness.*

NIEHS, Laboratory of Toxicology and Pharmacology, Nov., 2011. *Induction and regulation of allergic pulmonary inflammation.*

University of Virginia, Beirne B. Carter Center for Immunology Research, Feb., 2012. *Functional specialization of dendritic cell subsets in the lung.*

Duke University, Pulmonary Biology Forum, September 14, 2012. *Pulmonary dendritic cells and allergic sensitization through the airway.*

Vanderbilt University, School of Medicine, Division of Division of Allergy, Pulmonary, and Critical Care Medicine, Pulmonary Grand Rounds, October 8, 2012. *Allergic sensitization through the airway; the interplay of dendritic cells, allergens and bacterial products.*

University of North Carolina at Chapel Hill, Microbiology and Immunology Seminar Series, October 30, 2012. *Functional specialization of dendritic cell subsets in the lung.*

University of North Carolina at Chapel Hill, Pulmonary Diseases and Critical Care Medicine, January 18, 2013. *Pulmonary dendritic cells and allergic sensitization through the airway.*

NIEHS, Laboratory of Molecular Carcinogenesis, Nov. 29, 2012. *Induction and regulation of allergic pulmonary inflammation.*

NIEHS, National Advisory Environmental Health Sciences Council, Sept. 10, 2013. *Finding the molecular links between house dust and asthma.*

Ocular Immunity and Inflammation Focus Group, Duke University. Feb. 4, 2014. *Functional specialization of dendritic cell subsets in the lung.*

Grand Rounds, Allergy, Immunology and Rheumatology, University of North Carolina at Chapel Hill. Sept. 9, 2016. *Pulmonary dendritic cells; gatekeepers to allergic sensitization through the airway.*

NIEHS, Embryonic Stem Cell and Chromatin Biology Laboratory, Oct. 13, 2016. *Pulmonary dendritic cells; gatekeepers to allergic sensitization through the airway.*

Innate Immunity Group, Duke University. Nov. 3, 2016. *Orchestration of immune responses to inhaled allergens by dendritic and epithelial cell crosstalk.*

Duke Department of Immunology Seminar Series. Apr. 10, 2018. *To each their own; towards targeted therapies for distinct asthma endotypes.*

Visiting Pulmonary Scholar Seminar Series. Keynote Speaker. Friday Center, Chapel Hill, NC. May, 2019. *To each their own; towards targeted therapies for distinct asthma endotypes.*

Marsico Lung Institute. University of North Carolina at Chapel Hill. Chapel Hill, NC. January, 2020. *Digging up the roots of asthma endotypes.*