

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE		
Paul A. Bunn, Jr.	Director, Cancer Center, Professor of Medicine		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Amherst College, Amherst, MA	B.A	1967	Biology
Cornell University Medical Center, New York, NY	M.D.	1971	Medicine

A. POSITIONS AND HONORS.EMPLOYMENT/EXPERIENCE

1971-1972 Medical Internship, University of California, San Francisco, H.C. Moffitt Hospital, San Francisco, CA
 1972-1973 Medical Residency, University of California, San Francisco, H.C. Moffitt Hospital, San Francisco, CA
 1973-1976 Clin. Associate, Medicine Branch, National Cancer Institute, Nat'l Institutes of Health, Bethesda, MD
 1976-1981 Sr. Investigator, NCI, Washington VA Hospital, Washington, D.C.
 1978-1981 Assistant Professor of Medicine, Georgetown University Medical School
 1981-1984 Head, Cell Kinetic Section, NCI, Naval Hospital, Bethesda, MD
 1981-1984 Assoc. Prof. Medicine, Uniformed Services University of Health Sciences, Bethesda, MD
 1984-present Professor of Medicine, University of Colorado Health Sciences Center, Denver, CO
 1984-1994 Head, Division of Medical Oncology, University of Colorado Cancer Center, Denver, CO
 1987-present Director, University of Colorado Cancer Center, Denver, CO
 1997-present Grohne-Stapp Endowed Professor of Oncology

HONORS/POSITIONS:

Howard Hill Mossman Award, Amherst College - 1967
 Sondra Lee Shaw Research Award, Cornell Univ. Med. College 1971
 Alpha Omega Alpha, Cornell Univ. Med. College - 1971
 Joseph Addison Sewall Award, University of Colorado - 2001
 Chairman, FDA Oncology Drug Advisory Committee, 1992 - 1996
 ASCO Board of Directors, 1995 - 1998, President Elect 2001-2002, President 2002-
 IASLC President, 1994 - 1997; Past President 1997 - 2000, Executive Director 2003 -
 American Association of Cancer Institutes (AACI), Board of Directors 1992-1995 and 1999-2002, President, 1996
 American Italian Cancer Research Foundation Award 2002
 IASLC Merit Award 2003

B. SELECTED PEER-REVIEWED PUBLICATIONS. (Selected from 226 original articles, 103 reviews and 88 book chapters)

- Herbst RS, Bunn PA, Jr. Targeting the epidermal growth factor-receptor in non-small-cell lung cancer. *Clin Cancer Res*. In press, 2003.
- Hirsch FR, Varella-Garcia M, Di Marie MV, Veve R, Baron AE, Zeng C, Franklin WA, Bunn PA, Jr. Epidermal growth factor receptor in non-small cell lung carcinomas: Correlation between gene and protein expression and impact prognosis. *J Clin Oncol*. In press, 2003.
- Whitehead CM, Earle KA, Fetter J, Xu S, Hartman T, Chan DC, Zhao TLM, Piazza G, Klein-Szato AJP, Pamukcu R, Alila H, Bunn PA, Jr., Thompson WJ. Exsulind-induced apoptosis in a non-small cell lung cancer orthotopic tumor model augments docetaxel treatment and contributes to increased survival. *Mol Cancer Ther* 2: 479-88, 2003.
- Chan D, Gera L, Stewart J, Helfrich B, Varella-Garcia M, Johnson G, Baron A, Yang J, Puck T, Bunn PA, Jr. Bradykinin antagonist dimer, CU201, inhibits the growth of human lung cancer cell lines by a "biased agonist" mechanism. *Proc Nat Acad Sci* 99(7):4608-13, 2002.
- Hirsch FR, Varella-Garcia M, Franklin WA, Veve R, Chen L, Helfrich B, Zeng C, Baron A, Bunn PA, Jr. Evaluation of Her2/neu gene amplification and protein expression in non-small cell lung carcinomas. *Br J Cancer*, 86: 1449-56, 2002.
- Chan DC, Earle KA, Zhao TLM, Helfrich B, Zeng C, Baron A, Whitehead CM, Piazza G, Pamukcu R, Thompson WJ, Alila H, Nelson P, Bunn PA, Jr. Exsulind in combination with docetaxel inhibits growth and metastasis of human lung cancer and prolongs survival in athymic nude rats with orthotopic lung tumors. *Clin Cancer Res* 8:904-12, 2002.
- Chan DC, Gera L, Stewart JM, Helfrich B, Zhao TLM, Wan YF, Chan K, Covey JM, Bunn PA, Jr. Bradykinin antagonist dimer, CU201, inhibits the growth of human lung cancer cell lines in vitro and in vivo and produces synergistic growth inhibition in combination with other anti-tumor agents. *Clin Cancer Res*, 8: 1280-87, 2002.
- Kelly K, Crowley J, Bunn PA, Jr., Presant CA, Grevstad PK, Wozniak AJ, Weiss GR, Moore DF, Israel VK, Livingston RB, Gandara DR. A randomized phase III trial of paclitaxel plus carboplatin versus vinorelbine plus cisplatin in the treatment of patients with advanced non-small cell lung cancer: A Southwest Oncology Group trial. *J Clin Oncol* 19(13):3210-18, 2001.
- Kelly K, Lovato L, Bunn PA, Jr., Livingston RB, Zangmeister J, Taylor SA, Roychowdhury D, Crowley JJ, Gandara DR. Cisplatin, etoposide, and paclitaxel with granulocyte colony-stimulating factor in untreated patients with extensive-stage small cell lung cancer: A phase II trial of the Southwest Oncology Group. *Clin Cancer Res* 7:2325-29, 2001.
- Hirsch FR, Franklin WA, Gazdar AF, Bunn PA, Jr. Early detection of lung cancer: Clinical perspectives of recent advances in biology and radiology. *Clin Cancer Res* 7:5-22, 2001.

11. Bunn PA, Jr., Helfrich B, Soriano AF, Franklin WF, Varella-Garcia M, Hirsch FR, Baron A, Zeng C, Chan DC. Expression of Her-2/neu in human lung cancer cell lines by immunohistochemistry and fluorescence in situ hybridization and its relationship to in vitro cytotoxicity by trastuzumab and chemotherapeutic agents. *Clin Cancer Res* 7:3239-50, 2001.
12. Hirsch FR, Prindiville SA, Miller YE, Franklin WA, Dempsey EC, Murphy JR, Bunn PA, Jr., Kennedy TC. Fluorescence versus white-light bronchoscopy for detection of preneoplastic lesions: a randomized study. *J Natl Cancer Inst.* 93:1385-92, 2001.
13. Stewart JM, Gera L, York EJ, Chan DC, Whalley EJ, Bunn PA, Jr., Vavrek RJ. Metabolism-resistant bradykinin antagonists: Development and Applications. *Biol Chem* 382: 37-41, 2001.
14. Calvo R, West J, Franklin W, Erickson P, Bemis L, Li E, Helfrich B, Bunn P, Roche J, Brambilla E, Rossel R, Gemmill RM, Drabkin HA.: HOX gene expression in human lung cancer. *Proc Natl Acad Sci USA* 97(23):12776-81, 2000.
15. Kelly K, Mikhael-Kamel N, Pan Z, Murphy J, Prindiville S, Bunn PA Jr. A phase I/II trial of paclitaxel, carboplatin and gemcitabine in untreated patients with advanced non-small cell cancer. *Clin Cancer Res* 6(9):3474-9, 2000.
16. PistersKMW, Ginsberg RJ, Giroux DJ, Putnam JB Jr, Kris MD, Johnson DH, Roberts JR, Mault J, Crowley JJ, Bunn PA, Jr. on behalf of the Bimodality Lung Oncology Team (BLOT), Induction chemotherapy prior to surgery for early stage lung cancer: A novel approach. *J Thorac Cardiovasc Surg* 119:429-39, 2000.
17. Kelly K, Pan Z, Wood M, Murphy J, Bunn PA Jr. A phase I study of paclitaxel, etoposide, and cisplatin (PET) in extensive stage small cell lung cancer. *Clin Cancer Res* 5:3419-24, 1999.
18. Soriano AF, Helfrich B, Chan DC, Heasley LE, Bunn PA Jr. Synergistic effects of new chemopreventive agents and conventional cytotoxic agents against human lung cancer cell lines. *Cancer Res* 59:6178-84, 1999.
19. Bunn PA Jr. Perspective: Immune therapy for lung cancer: are we getting closer? *Am J Respir Cell Mol Biol*, 21:10-2, 1999.
20. Bunn PA Jr. Helfrich B, Brenner D, Chan DC, Dykes DJ, Cohen A, Miller YE. Effects of recombinant neutral endopeptidase (NEP; EC 3.4.24.11) on the growth of lung cancer cell lines *in vitro* and *in vivo*. *Clin Cancer Res* 4:2849-58, 1998.
21. Chan DC, Geraci M, Bunn PA Jr. Anti-growth factor therapy for lung cancer. *Drug Resist Updat* 1:377-88, 1998.
22. Bunn PA Jr., Kelly K. New chemotherapeutic agents prolong survival and improve quality of life in non-small cell lung cancer: a review of the literature and future directions. *Clin Cancer Res* 5:1087-1100, 1998.
23. Kelly K, Hazuka M, Zhaozing P, Murphy J, Caskey J, Leonard C, Bunn PA Jr. A phase I study of daily carboplatin and simultaneous accelerated, hyperfractionated chest irradiation in patients with regionally inoperable nonsmall-cell lung cancer. *Int J Radiat Oncol Biol Phys* 40:559-67, 1998.
24. Ahnen DA, Feigl P, Quan G, Fenoglio-Preiser C, Lovato LC, Bunn PA Jr., Stemmerman G, Wells JD, Macdonald JS, Meyskens FL Jr. Ki-ras mutation and p53 overexpression predict the clinical behavior of colorectal cancer: A southwest oncology group study. *Cancer Res* 58:1149-58, 1998.
25. Beekman A, Helfrich B, Bunn PA Jr., Heasley LE. Expression of catalytically inactive phospholipase C β disrupts phospholipase C β and mitogen-activated protein kinase signaling and inhibits small cell lung cancer growth. *Cancer Res* 58:910-3, 1998.
26. Kelly K, Zhaoxing P, Murphy J, Huffman DH, Bunn PA Jr. A phase I trial of paclitaxel plus carboplatin in untreated patients with advanced non-small cell lung cancer. *Clin Cancer Res* 3:1117-23, 1997.
27. Leonard CE, Chan DC, Chou T-C, Kumar R, Bunn PA Jr. Paclitaxel enhances *in vitro* radiosensitivity of squamous carcinoma cell lines of the head and neck. *Cancer Res* 56:5198-204, 1996.
28. Franklin WA, Folkvord JM, Varella-Garcia M, Kennedy T, Proudfoot S, Cook R, Dempsey EC, Helm K, Bunn PA Jr., Miller Y. Expansion of bronchial epithelial cell populations in *in vitro* culture of explants from dysplastic and histologically normal sites. *Am J Respir Cell Mol Biol* 15:297-304, 1996.
29. Cohen AJ, Bunn PA Jr., Franklin W, Magill-Solc C, Hartmann C, Helfrich B, Gilman L, Folkvord J, Helm K, Miller YE. Neutral endopeptidase: Variable expression in human lung, inactivation in lung cancer, and modulation of peptide-induced calcium flux. *Cancer Res* 56:831-9, 1996.
30. Bunn PA Jr., Crowley J, Kelly K, Hazuka M, Beasley K, Upchurch C, Weiss GR, Hicks WJ, Gandara DR, Rivkin S, Livingston R. Chemoradiotherapy with or without GM-CSF in the treatment of limited stage small cell lung cancer: a prospective phase III randomized study of the Southwest Oncology Group. *J Clin Oncol* 13:1632-41, 1995.
31. Kelly K, Bunn PA Jr., Crowley J, Beasley K, Upchurch C, Weiss GR, Hicks WJ, Gandara DR, Rivkin S, Livingston R. The role of alfa interferon (r-IFN2a) maintenance in patients with limited stage SCLC responding to concurrent chemoradiation: A Southwest Oncology Group Study (SWOG). *J Clin Oncol* 13:2924-30, 1995.
32. Heasley LE, Zamarripa J, Storey B, Helfrich B, Mitchell FM, Bunn PA Jr., Johnson GL. Discoordinate signal transduction and growth inhibition of small cell lung carcinoma induced by expression of GTPase-deficient Go. *J Biol Chem* 271:1-6, 1996.
33. Franklin WA, Waintrub M, Edwards D, Christensen K, Prenegrast P, Woods J, Bunn PA Jr., Kolhouse F. New anti-lung cancer antibody cluster 12 reacts with human folate receptors present on adenocarcinoma. *Int J Cancer Suppl* 8:89-95, 1994.
34. Bunn PA Jr., Chan D, Stewart J, Dienhart D, Tolley R, Jewett P, Tagawa M. Effects of neuropeptides analogues on calcium flux and proliferation in lung cancer cell lines. *Cancer Res* 54:3602-10, 1994.
35. Bunn PA Jr., Kelly K. Antigens in lung cancer: clinical radioimmunolocalisation in lung cancer. *Lung Cancer.* 9:171-7, 1993.
36. Malkinson AM, Siegel D, Forrest GL, Gazdar AF, Oie HK, Chan DC, Bunn PA Jr., Marby M, Dykes DJ, Harrison SD Jr, Ross D. Elevated DT-diaphorase activity and messenger RNA content in human non-small cell lung carcinoma: Relationship to the response of lung tumor xenografts to mitomycin c. *Cancer Res* 52:4752-7, 1992.
37. Bunn PA Jr., Dienhart DG, Chan D, Tagawa M, Jewett P. The effects of neuropeptides on human lung and breast cancer cells. *J Natl Cancer Inst* 13:145-52, 1992.
38. Mulvin DW, Howard RB, Mitchell DH, Noker PE, Kruse CA, Chu HD, Bunn PA Jr. Johnston, MR. A secondary screening system for preclinical testing of human lung cancer therapies. *J Natl Cancer Inst* 19:449-58, 1992.
39. Bunn PA Jr., Chan D, Dienhart DG, Tolley R, Tagawa M, Jewett PB. Neuropeptide signal transduction in lung cancer: Clinical implications of bradykinin sensitivity and overall heterogeneity. *Cancer Res* 52:24-31, 1992.
40. Bunn PA Jr., Dienhart DG, Chan D, Puck TT, Tagawa M, Jewett PB, Braunschweiger E. Neuropeptide stimulation of calcium flux in human lung cancer cells: Delineation of alternative pathways. *Proc Natl Acad Sci* 87:2162-6, 1990.

C. RESEARCH SUPPORT.***ACTIVE GRANTS***

P30 CA46934 02/01/01-01/3/06
NIH/NCI
University of Colorado Cancer Center Core Grant
Bunn (PI)

The major goals are to contribute, through a coordinated research, clinical treatment, control and education effort to the eventual elimination of cancer as a human health problem and provide the citizens of the State of Colorado and the Rocky Mountain Region with state-of-the-art cancer therapy, research, control and education programs.

P50 CA58187 9/30/92-04/30/03
NIH/NCI
SPORE In Lung Cancer
Bunn (PI)

The major goal of the overall project is to establish a Specialized Program in Research Excellence (SPORE) in Lung Cancer to expand our understanding of the biology of lung cancer, to find new methods of diagnosis, prevention and treatment and to serve as a regional, national and international resource for the study of lung cancer.

The major goal of Project #3 is to develop new treatment and chemoprevention strategies in lung cancer by pre-clinical evaluation of components, which interfere with peptide signal transduction.

RAID/NCI 1999-2004
Preclinical studies of novel bradykinin antagonist dimer as a potential therapeutic agent for human lung cancers
Bunn (PI)

Pharmacia 03/08/2001-03/07/2004
A randomized phase III trial comparing CPT-11 (irinotecan HCL camptosar injection)/cisplatin with etoposide/cisplatin in patients with previously untreated, extensive, small-cell lung cancer.
Bunn (PI)

Eli Lilly 01/01/2002-12/31/2004
Master Agreement
Bunn (PI)