



MARK W. BRUVAND, M.D.

**Professional address:**

Rocky Mountain Cancer Centers  
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**Education:**

1974-78: Colorado State University, Ft. Collins, Colorado, BS in chemistry.  
1978-82: University of Colorado Health Sciences Center, Denver, Colorado, MD conferred with honors, May 1982.  
1982-83: Intern in internal medicine, Presbyterian/St. Luke's Medical Center, Denver, Colorado.  
1983-85: Resident in internal medicine, University of Colorado Health Sciences Center, Denver, Colorado.  
1985-88: National Research Service Award Scholar, National Institute of Allergy and Infectious Diseases, Laboratory of Immunoregulation (Head: A.S. Fauci, M.D.), Bethesda, Maryland.  
1988-89: Clinical Oncology Fellow, University of Washington/Fred Hutchinson Cancer Research Center, Division of Oncology, Seattle, Washington.  
1989-90: Research Fellow, University of Washington/Fred Hutchinson Cancer Research Center, Division of Basic Science, (Laboratory Head: Mark Groudine, M.D., Ph.D.), Seattle, Washington.

**Professional Employment:**

1991, January: University of Utah, Bone Marrow Transplantation Program, University Hospital, Salt Lake City, Utah.

1991, December: Associate in Clinical Research; Consultant, Autologous Stem Cell Program, Clinical Division, Fred Hutchinson Cancer Research Center, Seattle, Washington.

1995, March: Assistant Professor of Medicine, Division of Hematology and Medical Oncology, Bone Marrow Transplant Program, Oregon Health Sciences University, Portland, Oregon.

1997, June: Rocky Mountain Cancer Center, Director, Unrelated Marrow Donor Program, 1800 Williams St., Denver, CO, 80218

**Hospital Staff Association:**

1986-1988: Clinical Center, National Institutes of Health, Bethesda, MID, Staff Physician

1988-1990: University of Washington Hospitals & Fred Hutchinson Cancer Research Center, Seattle, WA, Staff Physician

1990-1991: University Hospital, University of Utah, Salt Lake City, Utah,  
Staff Physician  
1991-1995: Swedish Medical Center & Fred Hutchinson Cancer  
Research Center, Seattle, WA, Staff Physician  
1995-1997: Oregon Health Science University Hospital, Portland, OR  
1997- Presbyterian/St. Luke's Medical Center, Denver

**Awards:**

Robert C. Lewis Award (1979): This is presented annually for outstanding performance in the biochemistry course at the University of Colorado Health Sciences Center.

Graduation from the University of Colorado Health Sciences Center Medical School with Honors (1982).

National Research Service Award (1985-1988): This award provided salary support for three years of research in the Laboratory of Immunoregulation, NIAID, Bethesda, Md.

American Society of Clinical Oncology (ASCO) Young Investigator (1990)

American Society of Hematology Scholar Award (1993-1995)

Faculty Teaching Award: Appreciation for Outstanding Contributions to Housestaff Education at OHSU

Marion L. Krippaehne Humanism Award: In recognition for exceptional compassion in caring for patients.

**Professional Society, Memberships:**

Member, American Association for the Advancement of Science, since 1985 Member, American Society of Hematology, since 1993 Member, American Society of Clinical Oncology, since 1995 Member, American Society for Blood and Marrow Transplantation, since 1999.

**Board Certification:**

Diplomat of the American Board of Medical Examiners, 1983 Diplomat of the American Board of Internal Medicine (#103005), 1985 Diplomat of the American Board of Medical Oncology (#103005), 1989

**State License:**

Colorado State 1997-present

**PUBLICATIONS - ABSTRACTS:**

- 1) Brunvand, MW, Koepler, H, Robinson, WA, et al: Propranolol Increases the Size of Doxorubicin Extravasation Injury in Mice, National Student Research Forum, 1982 (abstract)
- 2) Brunvand, MW, Siebenlist, U, Sponsor: Fauci, AS: Cis control regions in the interleukin-2 promoter. FASEB, 1987 (abstract)

- 3) Brunvand, MW, Siebenlist, U, intr. by AS Fauci. The interleukin-2 gene: in vitro transcription and interaction with a nuclear factor. *Clinical Research* 36(3): 436A, 1988 (abstract)
- 4) Brunvand, MW, Siebenlist, U. Jurkat T cell nuclear factor binds the interleukin-2 promoter region and is important for in vitro transcription. *J Cell Biochem Sup* 12D:129, 1988 (abstract)
- 5) Brunvand, MW. In vivo footprint of the IL-2 promoter in NFAT-Z Jurkat T lymphocytes: activation specific cis-elements. *Blood, Sup* 1992 (abstract)
- 6) Brunvand, MW. In vivo footprint of IL-2 promoter in unstimulated and mitogen stimulated NFAT-Z Jurkat T lymphocytes. *Proceedings of AAI, 1993* (abstract).
- 7) Brunvand, MW, Nash, R, Lewis, D, Storb, R. The IL-2 promoter is bound by nuclear factors in nontransformed human cord blood T cells and cooperative binding of nuclear factors is seen during T cell activation. *Blood, Sup* 1994 (abstract).
- 8) Cron, RQ, Bort, SJ, Wang, Y, Brunvand, MW, Lewis, DB. The role of NFAT in enhanced IL-4 gene expression by effector T cells. *Arthritis Foundation Research Conference, 1996.*

#### **PUBLICATIONS – PAPERS:**

- 1) Mehler, PS, Brunvand, MW, Hutt, MP, Anderson RJ: Chronic recurrent goodpasture's syndrome. *Am J Med* 82:833-35, 1987
- 2) Brunvand, MW, Schmidt, A Siebenlist, U: Nuclear factors interacting with the mitogen- responsive regulatory region of the interleukin-2 gene. *J Biol Chem.* 263(35) : 18904-18910, 1988
- 3) Brunvand, MW, Collins, C, Livingston, RB, Raghu, G: *Pneumocystis carinii* pneumonia associated with profound lymphopenia and abnormal T lymphocyte subset ratios during treatment for early stage breast carcinoma. *Cancer* 67:2407-09, 1991.
- 4) Krumm, A, Meulia, T, Brunvand, M, Groudine, M: The block to transcriptional elongation within the human c-myc gene is determined in the promoter-proximal region. *Genes & Development* 6:2201-2213,1992.
- 5) Tan, P, Anasetti, C, Hansen, JA, Melrose, J, Brunvand, MW, Bradshaw, J, Ledbetter, JA, Linsley, P: Induction of alloantigen specific hyporesponsiveness in human T lymphocytes by blocking interaction of CD28 with its natural ligand B7/BB-1. *J. Exp. Med.* 177:165-173, 1993.
- 6) Brunvand, MW, Krumm, A, Groudine, M: In vivo footprinting of the human IL-2 gene reveals a nuclear factor bound to the transcription start site in resting T cells. *Nucleic Acids Research* 21(20):4824-4829,1993.
- 7) Weaver, CH, Petersen, FB, Appelbaum, FR, Bensinger, WI, Press, O, Martin, P, Sandmaier, B, Deeg, HJ, Hansen, JA, Brunvand, M, Rowley, S, Benyunes, K, Chauncey, T, Fefer, A, Hackman, R, Gooley, T, Schiffman, K, Storb, R, Sullivan, KM, Weiden, P, Witherspoon, R, Buckner, CID: High-dose fractionated total body irradiation, etoposide and cyclophosphamide followed by autologous stem cell support in patients with malignant lymphoma. *J. Clin. Oncol.* 12:2559-2566, 1994.
- 8) Weaver, CH, Bensinger, WI, Appelbaum, FR, Lilleby, K, Sandmaier, B, Brunvand, M, Rowley, S, Petersdorf, S, Rivkin, S, Gooley, T, Weiden, P, Zuckerman, N, Montgomery, P, Trueblood, K, Klarnet, J, Buckner, CID: Phase I study of high-dose busulfan,

- melphalan and thiotepa with autologous stem cell support in patients with refractory malignancies. *Bone Marrow Transplantation* 14(5):813-819, 1994.
- 9) Brunvand, MW, Appelbaum, FIR, Soil, E, Lilleby, K, Clift, R, Gooley, T, Bensinger, WI, Weaver, CH, Rowley, S, Press, O, Sanders, J, Martin, P, Chauncey, T, Maziarz, R, Montgomery, P, Weiden, P, Fefer, A, Storb, R, Demirer, T, Holmberg, L, McSweeney, P, Maloney, D, Buckner, CID. High-dose fractionated total-body irradiation, etoposide, and cyclophosphamide for treatment of malignant lymphoma: Comparison of autologous bone marrow or peripheral blood stem cells *Bone Marrow Transplantation* 18(1):131-142, 1996.
  - 10) Cron, RQ, Bort, SJ, Wang, Y, Brunvand, MW, Lewis, DB. T cell priming enhances IL-4 gene expression by increasing nuclear factor of activated T cells. *J. Immunol.* 162(2):860-870, 1999.
  - 11) Georges GE, Storb R, Brunvand MW, Kiern HP, Moore PF, Malik P, Ennist D, Nash RA: Canine T cells transduced with a herpes simplex virus thymidine kinase gene: a model to study effects on engraftment and control of graft-versus-host disease. *Transplantation* 66:540, 1998
  - 12) Randy Q. Cron, Mark W. Brunvand, and David B. Lewis. Ociamer proteins inhibit IL-4 gene transcription in normal human CD4 T cells. (Submitted)

**Contributions to Manuscripts:**

Rubinstein, P., C. Carrier, A. Scaradavou, J. Kurtzberg, J. Adamson, A. R. Migliaccio, R. L. Berkowitz, M. Cabbad, N. L. Dobrila, P. E. Taylor, R. E. Rosenfield, and C. E. Stevens. Outcomes among 562 recipients of placental-blood transplants from unrelated donors. *New England Journal Of Medicine* 339:1565-1577,1998.