

## **CURRICULUM VITAE**

### **ROBERT ALAN HROMAS, MD**

Department of Medicine  
College of Medicine  
University of Florida & Shands  
PO Box 100277  
Gainesville, FL 32610-0277

### **LICENSURE AND CERTIFICATION**

#### Medical Licensure

State of Florida #4439453

State of New Mexico #2003-0144

Specialty Certification: American Board of Internal Medicine  
9/16/87 #115756, permanent

Subspecialty Certification: Hematology,  
American Board of Internal Medicine  
11/90 #115756, Re-certified 11/00, 11/12

### **HOSPITAL APPOINTMENTS**

University of Florida Shands Hospital, Gainesville, FL

University of New Mexico Hospital, Albuquerque, NM.  
Oncology Physician-In-Chief, directing all in-patient and out-patient cancer care 2003-8

Veteran's Administration Hospital, Albuquerque, NM

Lovelace Sandia System Hospitals, NM.  
Director, Hematology-Oncology Services at 4 partner community hospitals. 2003-8

### **EDUCATION**

July, 1988- June, 1990: Hematology Fellow, University of Washington and Fred Hutchinson Cancer Research Center, Seattle, Washington.

July, 1988- June, 1990: Post-Doctoral Research Fellowship under Ken Kaushansky, M.D. on The Transcriptional Regulation of Hematopoiesis, Department of Internal Medicine, University of Washington, Seattle, WA.

July, 1984-June, 1988: Resident, Internal Medicine, Clinical Investigator Pathway, University of Iowa Hospital, Iowa City, IA.

July, 1987-June, 1988: Post-Doctoral Research Fellowship under Gordon Ginder, M.D. on The



Indianapolis, IN

July, 1987-June, 1988: Associate Investigator, CA Career Development  
Award #103.808  
VA Medical Center  
University of Iowa College of Medicine  
Iowa City, IA

## **HONORS AND AWARDS**

- 2012 Elected to the Association of American Physicians
- 2010 The UNM 21 Club
- 2007-10 Best Doctors in America
- 2006 UNM Department of Internal Medicine Senior Faculty Outstanding Research Award
- 2006 Albuquerque Magazine *Top Docs* – Hematology
- 2005 Elected Fellow, American College of Physicians
- 2005 UNM Department of Internal Medicine Outstanding Clinical Faculty Award
- 2005 UNM Hospital Physician Appreciation Award, given to the physician who made the most contributions to the UNM Hospital
- 2005 State of New Mexico People Caring Award from People Living Through Cancer
- 2003 Graduation Banquet Speaker, Indiana University School of Medicine, elected by the class of '03
- 2002 Indiana University Board of Trustees Outstanding Teacher Award, nominated by the School of Medicine faculty and students and awarded for the IU system
- 2002 Elected to the American Society of Clinical Investigation
- 2001 Humanism in Medical Education Award- Best example of a physician mentor, elected by Indiana University medical students, state nominee for the national award.
- 1999 Stohlman Scholar of the Leukemia and Lymphoma Society of America
- 1995 Central Society for Clinical Research
- 1995 Who's Who in America
- 1994 Leukemia and Lymphoma Society Scholar Award
- 1991 Midwest Blood Club Annual Lectureship: "Oncogenes"
- 1984 Internal Medicine Outstanding Medical Student Class of '84,

University of Texas Medical School at Houston

- 1983 Alpha Omega Alpha National Medical Honor Society, Junior Year  
University of Texas Medical School at Houston
- 1982 Texas Medical Association Louise Barekman  
Memorial Foundation Scholarship
- 1981 Medical Student Research Fellowship  
M.D. Anderson Hospital and Tumor Institute  
Department of Developmental Therapeutics, under Dr. Bart Barlogie  
Houston, Texas
- 1981 Freshman Academic Excellence Award, the University of Texas Medical School at  
Houston
- 1980 Junior Chamber of Commerce Outstanding Young Men of the Year
- 1975 Wheaton College Student Leadership Award

### **PROFESSIONAL ORGANIZATIONS**

- 2012-present Association of American Physicians  
2011-present Association of Professors of Medicine  
2005-present American College of Physicians  
2002-present American Society of Clinical Investigation  
2000-present American Society of Clinical Oncology  
1991-2008 International Society for Experimental Hematology  
1991-present American Society for Hematology  
1985-present American Association for the Advancement of Science  
1985-present American Federation for Clinical Research  
1983-present Alpha Omega Alpha National Medical Honor Society

### **EXTRAMURAL PROFESSIONAL ACTIVITY**

Member, Association of Professors of Medicine, Program Committee, 2011-3

Member, Association of Academic Internal Medicine Program Committee, 2012-3

Chair, Scientific Affairs Committee, American Society of Hematology, 2011-5

Co-Organizer, Chinese Society of Hematology/American Society of Hematology first joint meeting,  
2011

Chair, Highlights of the American Society of Hematology, New York, 2011

Chair, Highlights of the American Society of Hematology, Washington DC, 2011

Member, Radiation Therapeutics and Biology (RTB) Study Section, NIH, 2011-5, future Chair  
2014-5

Scientific Co-Chair, American Society of Hematology Annual Meeting, 2010

Small Meeting Oversight Committee, American Society of Hematology, 2010-12

Chair, NHLBI SEP Vascular Biology and Hematology, 2010

Executive Advisory Board, Yale University Center of Excellence in Hematology, 2010

Program Committee, American Society of Hematology, 2009-11

Chair, NHLBI RFA Review Panel, Blood Stem Cell Niche, 2009

Chair, NHLBI SEP Hematopoietic Stem Cell Regulation, 2009

Chair, NHLBI P01 AG033564 Review Panel, 2009

Invited Speaker, NCI APRC Workshop on Innovative Cancer Research Collaborations, 2008

Member, ASH Scholars Study Section, 2003, 2008, 2009, 2010.

Chair, Hematopoiesis (HP) Study Section, NIH, 2007-08; Full Member 2003-2007

Invited Panel Member, NIH Center for Scientific Review Open House, "Directions for the Next Decade," 11/07

Member, NCI P30 CCSG Review Committee, Roswell Park Cancer Institute, 9/07

Member, NCI P30 CCSG Review Committee, Memorial Sloan Kettering Cancer Center; 5/07

Chair, Cell Cycle and Hematopoiesis Abstract Review Committee, American Society of Hematology, 2006

State of New Mexico Cancer Plan Steering Committee, 2004-2010

Chair, Leukemia and Immunology Review Group, American Cancer Society, 2003-4, Member 2000-2004

Chair, Education Committee, New Mexico Cancer Care Alliance, 2003-2008

Lance Armstrong Foundation National Scientific Advisory Board, 2003-2005

Member, NCI CCSG Review Panel, Wake Forest Cancer Center, 2000

Co-Chair, Infrastructure Committee, NCI Progress Review Group on Hematologic Malignancies, 2000

Tumor Biology Subcommittee, American Society of Clinical Oncology, 2000-2001

Editorial Board, BLOOD, 1997-2002

Scientific Subcommittee for Myeloid Biology, American Society of Hematology, 1997-2002

Editorial Board, STEM CELLS, 1997-2002

Presiding Organizer- Workshop on Myeloid Development, Orlando (1996), Miami (1998), San Francisco (2000), Philadelphia (2002), San Diego (2003, 2004), Atlanta (2005), Orlando (2006), Atlanta (2007), San Francisco (2008) New Orleans (2009), Orlando (2010), San Diego (2011).

International Society of Experimental Hematology Gene Expression Symposium Chair, 1994.

Councilor, Midwest Blood Club, 1995-1998

Member, NASA Microgravity Cell Science Study Section, 1995-2000

### **INVITED EXTRAMURAL LECTURES**

“Targeting DNA Repair to Enhance Cancer Therapy,” Memorial Sloan Kettering Cancer Center grand rounds, 2012

“Targeting Downstream Activities of Chk1 for Cancer Therapy,” Gordon Conference: DNA Damage, Mutation, and Cancer, Plenary session leader, 2012

“Very High Risk Acute Leukemias,” Chinese Society of Hematology/American Society of Hematology Joint Meeting, 2011

“Targeting DNA Repair to Enhance Cancer Therapy,” Colorado State University Department of Radiation Biology, 2011

“Acute Myeloid Leukemia,” Highlights of ASH, Washington DC, and New York, 2011

“Targeting DNA Repair to enhance cancer chemotherapy,” Internal Medicine Grand Rounds, University of Florida, 2010.

“Targeting DNA Repair to enhance cancer chemotherapy.” University of Rochester Medical Center, 2010.

“Targeting transposase domain DNA repair proteins to enhance cancer chemotherapy,” Keynote Speaker, Drug Discovery Symposium, University of New Mexico Health Science Center, 2010.

“Targeting the NHEJ Component Metnase,” Plenary Speaker, DNA Damage, Mutagenesis, and Cancer Gordon Conference, 2010.

“Targeting the histone code for DNA repair to enhance cancer therapy,” Northwestern University Lurie Cancer Center Grand Rounds, 2010.

“Targeting the histone code for DNA repair for cancer therapy,” Rutgers University Department of Genetics Visiting Professor, 2009.

“A histone code for NHEJ DNA repair can be targeted to enhance cancer chemotherapy,” 3<sup>rd</sup> ASM International Conference on DNA Repair, Plenary Lecture, 2009.

“Leukemia transposases in chromosomal decatenation and translocation,” Opening Keynote

Speaker, 8<sup>th</sup> international Workshop on Molecular Aspects of Myeloid Stem Cell Development and Leukemia, 2009.

“A histone code for NHEJ Repair,” Plenary Lecture, Gordon Conference, Mammalian DNA Repair, 2009.

“The histone methylase and nuclease fusion protein Metnase is an NHEJ DNA repair component that has roles in replication and decatenation, and regulates resistance to Topoisomerase II inhibitors,” NCI APRC workshop, November, 2008.

“The novel NHEJ component Metnase enhances chromosomal decatenation and replication fork progression,” Plenary Lecture, Gordon Conference, Radiation Oncology, 2008.

“Hemangioblast Lineage Decisions” Grand Rounds, Department of Hematology, UT MD Anderson Cancer Center, 2007

“Metnase is a novel NHEJ DNA repair component,” Plenary Lecture, Keystone Conference, DNA Repair and Genomic Stability, 2007.

“Blood and Platelet Donation”, Keystone address, United Blood Services Annual New Mexico Donor Banquet, 2006

“Myelodysplastic Syndrome- the new epidemic,” Leukemia and Lymphoma Society of New Mexico, 2006

“Coping with Chemotherapy,” Cancer Services of New Mexico, 2006

“New Treatments for Multiple Myeloma,” Leukemia and Lymphoma Society of New Mexico, 2005

“Advances in molecular diagnosis and therapy of oncology,” New Mexico Family Practice Update Conference, 2005.

“Radiation-Induced AML,” Albuquerque Regional Hematology Conference, 2004

“Hemangioblast differentiation,” Dartmouth University School of Medicine, 2004

“Hemangioblast decisions,” Scripps Research Institute, La Jolla, Ca, 2003

“Hex regulates hemangioblast differentiation,” Workshop on Myeloid Development, Philadelphia, PA, 2002

“Transcriptional regulation of differentiation,” Northwestern University Cancer Center, Chicago, IL, 2002

“AML1 mutations in leukemia,” Children’s Hospital of Philadelphia, Philadelphia, PA, 2001

“AML1 mutations in radiation-associated leukemias,” University of Alabama School of Medicine, Birmingham, AL, 2000

“FoxD3 in germ cell tumors,” Walther Oncology Institute Annual Meeting, Indianapolis, IN 2000

“CCR7 ligands in auto-immune disease,” Novartis Drug Development Center, Newark, NJ, 2000

“Therapeutic potential of chemokines,” Leukemia and Lymphoma Translational Research symposium, Washington, DC, 2000

“AML1 in radiation-associated leukemia,” Stohlman Scholar Symposium, Leukemia and Lymphoma Society, New York, NY, 1999

“Chemokines for cancer treatment,” Eli Lilly Cancer Research Symposium, Indianapolis, IN 1999

“Genesis [FoxD3] in embryonic development,” Winged Helix Transcription Factor Meeting, La Jolla, CA, 1998

“Regulation of CML by chemokines,” Workshop on Myeloid Development, Miami, FL, 1998

“Genesis [FoxD3] in embryonic development,” University of Illinois School of Medicine, Chicago, IL 1997

“T-cell chemokines,” Mt. Sinai School of Medicine, New York, NY, 1997

“MZF-1 in hematopoiesis,” Myeloid Differentiation and Leukemia Meeting, Annapolis, MD, 1997

MZF-1 in hematopoiesis,” University of Wisconsin Cancer Center, Madison, WI, 1996

“MZF-1 in blood cell development,” Yale University Medical Center, New Haven, CT 1993

### **MEETING SESSIONS CHAIRED**

“Novel Insights into AML and MPD,” 8<sup>th</sup> international Workshop on Molecular Aspects of Myeloid Stem Cell Development and Leukemia, 2009.

“Workshops on Myeloid Development”, presiding moderator annually, 1997-2010

“Transcriptional Regulation of Hematopoiesis,” American Society of Hematology, 2003

“Transcriptional Regulation of Hematopoiesis,” American Society of Hematology, 2001

“Transcriptional regulation of Hematopoiesis,” American Society of Hematology, 2000

“Transcriptional Regulation of Hematopoiesis,” American Society of Hematology, 1997

“Transcriptional Regulation of Hematopoiesis,” American Society of Hematology, 1996

“Acute Leukemia,” American Society of Hematology, 1995

“Gene Expression,” International Society of Experimental Hematology, 1995

### **COMMUNITY SERVICE**

Co-founder, Waves and Glory micro-credit bank, Kumasi, Ghana, 2008



Volunteer and Speaker, Leukemia and Lymphoma Society, 2003-11

President, YouthFest Indianapolis Board, 1997-2003

Youth Soccer physicals, 1995-1998

Indianapolis inner city free Health Screening clinics, 1997-1999

## BOOK CHAPTERS

1. **Hromas, R.** and Putt, D. The origins of leukocyte neoplasia: In: Diagnostic Hematology, B. Rodek, ed. W. B. Saunders, pgs. 401-409, Philadelphia, 1995.
2. Putt, D., and **Hromas, R.** The therapy of leukocyte neoplasia.in Diagnostic Hematology, B. Rodek, ed. W.B. Saunders, pgs. 411-424, Philadelphia, 1995.
3. Hoffman, R., Silverstein, M., and **Hromas, R.** Essential thrombocytosis. In: *Hematology: Basic Principles and Practice*, second edition, R. Hoffman, ed., Churchill-Livingston, pgs. 1174-1183, New York, 1994.
4. Christopherson, K, and **Hromas, R.** Endothelial chemokines in autoimmune disease. In *Current Pharmaceutical Design – Autoimmunity*, Bentham Science Publishers, 2003.
5. Willman, C. and **Hromas, R.** Genomic alterations and chromosomal aberrations in human cancer. In Cancer Medicine version 7, BC Decker, 2006.
6. Chan RJ, **Hromas R**, Yoder MC. The role of Hex in hemangioblast and hematopoietic development. *Methods Mol Biol.* 330:123-33, 2006.
7. Dahl R and **Hromas R** Transcription Factors in Normal and Malignant Hematopoiesis. In *Hematology: Basic Principles and Practice. 4th Edition* (Ed. R. Hoffman et al.). Churchill Livingstone, 2008.
8. Fekrazad H, **Hromas R**, Lauer R. The Biology and Treatment of Metastatic Testicular Cancer. *Cancer Metastasis* (Ed. D. Welch et al). Cambridge, NY, 2010.
9. Williamson EA, Wray JW, Bansal P, **Hromas R.** Overview for the histone codes for DNA repair. *Prog Mol Biol Transl Sci.* 2012;110:207-27.

## PATENTS/INVENTIONS

1. Functional characterization of the CC chemokine-like molecules encoded by Molluscum Contagiosum virus types 1 and 2: patent issued.
2. Treatment of myeloproliferative disease with Exodus chemokine: patent issued
3. Targeting Transposase domains to enhance cancer therapy: 2 patents pending
4. Novel titanium compounds for cancer therapy: patent pending.

## RESEARCH ARTICLES

1. **Hromas, R.A.**, Markel, D., and Scholes, V.: Flow microfluorometric analysis of the cell cycle phase cytotoxicity of Ara-C. *Res. Comm. Chemical Pathol. Pharmacol.* 30: 365-368, 1980.
2. **Hromas, R.A.**, Hutchins, J., Markel, D., and Scholes, V.: Flow cytometric analysis of the effects of Ara-C on the chronobiology of bone marrow DNA synthesis. *Chronobiologia* 8: 369-373, 1981.
3. **Hromas, R.A.**, Barlogie, B., and Swartzendruber, D.: Selective protection by anguidine of normal versus transformed cells against cytosine arabinoside and adriamycin. *Cancer Res.* 43: 1135-1137, 1983.
4. **Hromas, R.A.**, Barlogie, B., Swartzendruber, D., and Drewinko, B.: Potentiation of DNA-reactive antineoplastic agents and protection against S-phase specific agents by anguidine. *Cancer Res.* 44: 3070-3073, 1983.
5. **Hromas, R.A.**, and Murray, L.J.: Bone marrow in the acquired immunodeficiency syndrome. *Annals of Internal Medicine* 101: 877, 1984.
6. **Hromas, R.A.**, Shrigley, J., and Murray, L.J.: Clinical and pathologic comparison of young adult women with hepatocellular carcinoma with and without exposure to oral contraceptives. *Am. J. Gastroenterol* 9: 479-485, 1985.
7. **Hromas, R.A.**, and Yung, W.-K.A.: Anguidine potentiates cis-platinum in human brain tumor cells. *J. Neuro. Oncol.* 3: 343-348, 1986.
8. **Hromas, R.A.**, and Van Ness, B.: Nuclear factors bind to regulatory regions of the mouse kappa immunoglobulin gene. *Nucl. Acids Res.* 14: 4837-4848, 1986.
9. **Hromas, R.A.**, Andrews, P.A., Murphy, M.P., and Burns, C.P.: Glutathione depletion reverses cisplatin resistance in murine L1210 leukemia cells. *Cancer Letters* 34: 9-13, 1987.
10. **Hromas, R.A.**, North, J.A., and Burns, C.P.: Decreased cisplatin uptake by resistant L1210 leukemia cells. *Cancer Letters* 36: 197-201, 1987.
11. **Hromas, R.A.**, Pauli, V., Marcuzzi, A., Lafrenz, D., Nick, H., Stein, J., Stein, G., and Van Ness, B.: Inducible DNA-protein interactions of the murine kappa immunoglobulin enhancer in intact cells: comparisons with in vitro interactions. *Nucleic Acids Res.* 16: 953-967, 1988.
12. Gailani, D., Cadwell, F.J., O'Donnell, P.S., **Hromas, R.A.**, and Macfarlane, D.E.: Absence of phorbol ester-induced down-regulation of myc protein in the phorbol ester-tolerant mutant of HL-60 promyelocytes. *Cancer Research* 49: 5329-5333, 1989.
13. Nelms, K., **Hromas, R.A.**, and Van Ness, B.: Identification of a second inducible DNA-protein interaction in the kappa immunoglobulin enhancer. *Nucleic Acids Res.* 18: 1037-1043, 1990.
14. Shoemaker, S., **Hromas, R.A.**, and Kaushansky, K.: Regulation of the IL-3 gene by AP-1 and a novel transcription factor, NF-IL3-A. *Proc. Natl. Acad. Sci. USA*, 87: 9650-9653, 1990.
15. Radford, J.E., Chen, E., **Hromas, R.**, and Ginder, G.D.: Cell-type specificity of interferon-

- gamma-mediated HLA Class I gene transcription in human hematopoietic tumor cells. *Blood* 77: 2008-2015, 1991.
16. **Hromas, R.**, Collins, S., Hickstein, D., Hagen, F., O'Hara, P., Raskind, W., Deaven, L., and Kaushansky, K.: A retinoic-acid responsive human zinc finger gene, MZF-1, preferentially expressed in myeloid cells. *J. Biol. Chem.* 266: 14183-14187, 1991.
  17. **Hromas, R.**, Collins, S., Raskind, W., Deaven, L., and Kaushansky, K.: Hem-1, a potential membrane protein, with expression restricted to blood cells. *Biochimica et Biophysica Acta* 1090: 241-244, 1991.
  18. Bavisotto, L., Kaushansky, K., Lin, N., and **Hromas, R.**: Antisense oligonucleotides from the stage-specific myeloid zinc finger gene MZF-1 inhibit granulopoiesis in vitro. *J. Exp. Med.* 174: 1097-1101, 1991.
  19. **Hromas, R.**, Zon, L., and Friedman, A.: Hematopoietic transcription regulators and the origins of leukemia. *Critical Reviews in Oncology/Hematology* 12: 167-190, 1992.
  20. Cornetta, K., Tricot, G, Broun ER, **Hromas, R**, Srour, E, Hoffman, R, Anderson, WF, Moen, RC, and Morgan RA. Clinical Protocol: Retroviral mediated gene transfer of bone marrow cells during autologous bone marrow transplantation for acute leukemia. *Human Gene Therapy* 3:305-318, 1992.
  21. **Hromas, R.**, May, W., Denny, C., Moore, J., Maki, R., Raskind, W., and Klemsz, M. The ETS oncogene Fli-1 is located at chromosome 11q24 and has an aberrant transcript in neuroepithelioma. *Biochem. Biophys. Acta.* 1172:155-158, 1993.
  22. Klemsz, M., Maki, R., Papayannopoulou, T., Moore, J., and **Hromas, R.** Characterization of the ETS oncogene Fli-1. *J. Biol. Chem.* 268:5769-5773, 1993.
  23. **Hromas, R.**, Moore, J, Johnston, T, Socha, C, and Klemsz, M. Drosophila Forkhead homologues are expressed in a lineage-restricted manner in human hematopoietic cells. *Blood* 81:2854-2859, 1993.
  24. **Hromas, R.**, Radich, J., and Collins, S. PCR cloning of a novel homeobox gene (PRH) preferentially expressed in hematopoietic cells. *Biochem. Biophys. Res. Commun.* 195:976-983, 1993
  25. Moore, J., Boswell, S., Burgess, G., Hoffman, R., and **Hromas, R.** H-ras over-expression inhibits a random apoptotic nuclease in hematopoietic cells. *Leukemia Res.* 17:703-709, 1993.
  26. **Hromas, R.**, Orazi, O., Neiman, R., Moore, J., Maki, R., Van Beveran, C., and Klemsz, M. Hematopoietic lineage and stage-restricted expression of the ETS oncogene family member PU.1. *Blood* 82:2998-3004, 1993.
  27. May, W., Lessnick, S., Braun, B., Klemsz, M., Lewis, B., Lunsford, L., **Hromas, R.**, and Denny, C. Ewing's Sarcoma EWS/FLI fusion gene encodes a more potent transcriptional activator and is a more powerful transforming gene than FLI-1. *Mol. Cell. Biol.* 13:7393-7398, 1993.
  28. Morris, J., **Hromas, R.**, and Rauscher, F. III. Characterization of the DNA-binding properties of the myeloid zinc finger gene MZF1: Two independent DNA binding domains recognize two DNA sequences with a common G-rich core. *Mol. Cell. Biol.* 14:1786-1795, 1994.

29. Klemsz, M., **Hromas, R.\***, Raskind, W., Bruno, E., and Hoffman, R. PE-1, a novel ETS oncogene family member, localizes to chromosome 1q21-23. *Genomics* 20:291-294, 1994.\*-  
Corresponding author
30. Broun, ER, Wheat, JL, Kneebone, P, Sundblad, K, **Hromas, R**, Tricot, G.: A randomized trial of the addition of gram positive prophylaxis to standard antimicrobial prophylaxis in patients undergoing bone marrow transplantation. *Antimicrob. Agents and Chemotherapy* 38:576-579, 1994.
31. **Hromas, R**, and Klemsz, M. The ETS oncogene family in development, proliferation, and neoplasia. *Int. J. Hematol.* 59:257-265, 1994.
32. **Hromas, R.**, Cornetta, K, Srour, E, Blanke, C., and Broun, E.R. Donor leukocyte infusion as therapy of life-threatening adenoviral infections after T-cell depleted bone marrow transplantation. *Blood* 84:1689-1690, 1994.
33. **Hromas, R.**, Clark, C., Blanke, C., Tricot, G., Cornetta, K., Heddermen, A., and Broun, E. R. Failure of ribavirin to clear adenovirus infections in T-cell Depleted allogeneic bone marrow transplantation. *Bone Marrow Transplantation* 14:663-4, 1994.
34. **Hromas, R**, Klemsz, M, Hufford, T, Huang, I, Desai, A, and Hoffman, R. Drosophila forkhead homologues are expressed in CD34+HLA-DR- primitive hematopoietic precursors. *Leukemia and Lymphoma* 15:439-444, 1994.
35. **Hromas, R.**, Morris, J., Cornetta, K., Berebitsky, D., Davidson, A., Sha, M., Sledge, M., and Rauscher, F., III. Aberrant Expression of the myeloid zinc finger gene, MZF-1, is oncogenic. *Cancer Res.* 55:3610-3614, 1995.
36. **Hromas, R**, and Costa, R. The hepatocyte nuclear factor-3/Forkhead transcription regulatory family in development, inflammation and neoplasia. *Crit. Rev. Oncol./Hematol.* 20:129-140, 1995.
37. Baumgartner, S., Martin, D., Chiquet-Ehrismann, R., Orazi, A., Sutton, J., Desai, A., Huang, I., Kato, K., and **Hromas, R**. The HEM family of proteins: Tissue-specific membrane-associated proteins expressed from Drosophila through mammals with essential functions in oogenesis. *J. Molec. Biol.* 251:41-49, 1995.
38. Broun, E.R., Sridhara, R., Sledge, G., Loesch, D., Kneebone, P., Hanna, M., **Hromas, R.**, Cornetta, K., and Einhorn, L.H. Tandem autotransplantation for the treatment of metastatic breast cancer. *J. Clin. Oncol.* 13:2050-2055, 1995.
39. Blanke, C., Clark, C., Broun, E.R., Tricot, G., Cunningham, I., Cornetta, K., Hedderman, A., and **Hromas, R**. Evolving pathogens in allogeneic bone marrow transplantation. *Am. J. Med.* 99:326-328, 1995.
40. Morris, J., Rauscher, F., III, Davis, B., Klemsz, M., Xu, D., Tenen, D., and **Hromas, R**. The myeloid zinc finger gene MZF-1 regulates the CD34 promoter in vitro. *Blood* 86:3940-3947, 1995.
41. **Hromas, R.**, Davis, B., Rauscher, F, III, Tenen, D., Xu, D., and Morris, J. Hematopoietic transcriptional regulation by the myeloid zinc finger gene MZF-1. *Curr. Topics Micro. Immunol.*

211:159-164, 1995.

42. Broun, E.R., Sledge, G., Loesch, D., Cornetta, K., **Hromas, R.**, Kneebone, P., Lottich, C., Schmidt, T., and Einhorn, L. Two cycles of high dose chemotherapy with autologous bone marrow support for patients with locally advanced breast carcinoma. *Breast J.* 1:308-314, 1995.
43. Broun, E.R., Nichols, C., Mandanas, R., Slazman, D., Turns, M., **Hromas, R.**, Cornetta, K., and Einhorn, L. Dose escalation study of high dose carboplatinum and etoposide with autologous bone marrow support in patients with recurrent or refractory germ cell tumors. *Bone Marrow Transplantation* 16:353-358, 1995.
44. Hoffman, S., **Hromas\*, R.**, Amemiya, C., and Mohrenweiser, H. The location of MZF-1 at the telomere of human chromosome 19 makes it vulnerable to degeneration in aging cells. *Leukemia Res.* 20:281-283, 1996. \*-Corresponding author.
45. **Hromas, R.**, Boswell, H. S., Shen, R., Burgess, G., Davidson, A., Cornetta, K., and Robertson, K. Forced expression of the myeloid zinc finger gene MZF-1 inhibits apoptosis and promotes oncogenesis in IL-3-dependent FDCP.1 cells. *Leukemia* 10:1049-1050, 1996.
46. Cornetta, K., Srour, E., Moore, A., Davidson, A., Broun, R., **Hromas, R.**, Moen, R., Morgan, R., Rubin, L., Anderson, W.F., Hoffman, R., and Trciot, G. Retroviral gene transfer in autologous bone marrow transplantation for adult acute leukemia. *Human Gene Therapy* 7:1323-1329, 1996.
47. Sutton, J., Costa, R., Field, L., Xu, D., Largaespada, D., Fletcher, C., Jenkins, N., Copeland, N., Klemsz, M., and **Hromas, R.** Genesis [now FoxD3], a winged helix transcriptional repressor with expression restricted to embryonic stem cells. *J. Biol. Chem.* 271:23126-23133, 1996.
48. Gharpure, V., Rubin, L., Amlin, J., Emanuel, D., Schroeder, W., Davidson, A., **Hromas, R.**, and Cornetta, K. Lymphocytosis of donor origin in cerebrospinal fluid, and marrow aplasia after donor leukocyte infusion for EBV-lymphoproliferative disease. *Bone Marrow Transplant.* 18:221-224, 1996.
49. Rigden, J., Cornetta, K., Srour, E., Broun, E.R., **Hromas, R.**, Baute, J., Hilton, J., Cox, E., Rubin, L., Gonin, R., and Tricot, G. Minimizing graft rejection in allogeneic T-cell depleted bone marrow transplantation. *Bone Marrow Transplantation* 18:913-919, 1996.
50. Broun, E.R., Nichols, C., Gize, G., Cornetta, K., **Hromas, R.**, Schacht, B., and Einhorn, L. Tandem high dose chemotherapy with autologous bone marrow transplantation for initial relapse of testicular germ cell cancer. *Cancer* 79:1605-1610, 1997.
51. **Hromas, R.**, Gray, P., Chantry, D., Godiska, R., Krathwohl, M., Fife, K., Aronica, S., Cooper, S., Broxmeyer, H., and Klemsz, M. Cloning and characterization of Exodus [now CCL20], a novel beta chemokine. *Blood* 89:3315-3322, 1997.
52. Orazi, A., **Hromas, R.**, Neiman, R., Greiner T., Lee, C., Rubin, L., Haskins, S., Heerema, N., Gharpure, G., Abonour, R., Srour, E., and Cornetta, K. Post-transplantation lymphoproliferative disorders in bone marrow transplant recipients are aggressive diseases with a high incidence of adverse histologic and immunobiologic features. *Am. J. Clin. Pathol.* 107:419-429, 1997.
53. Zhang, D., **Hromas, R.**, Licht, J., and Tenen, D. Transcription factors, normal myeloid

- development, and leukemia. *Blood* 90:489-519, 1997.
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**Manuscripts after number 16 were produced at Indiana University. Manuscripts after number 91 were produced at the University of New Mexico. Manuscripts after 128 were produced at the University of Florida.**

## **GRANTS AND FELLOWSHIPS**

Leukemia and Lymphoma Society Translational Research Award, "Targeting Transposase Domains for Leukemia Therapy," 10-1-12 to 9-31-15, PI- R. Hromas

NIH RO1 CA139429, "Epigenetic Control of NHEJ Repair," Total Direct Costs per annum \$250,000, 10-1-09 to 9-30-14, PI- R. Hromas.

NIH RO1 CA140442 "Transposases in Etoposide Resistance," Total Direct Costs per Annum \$233,000, 6-15-09 to 6-14-12, PI- R. Hromas.

NIH RO1 HL093606 "The Transposase Metnase in Leukemic Decatenation," Total Direct Costs per annum- \$225,000, 7-1-08 to 6-30-12, PI- R. Hromas

NIH ASERT award, Fellowship for Sergio De Haro, PhD, "Autophagy in DNA repair," \$50,000/annum, 7-1-09 to 6-30-12

NIH HL093606 Supplement, Fellowship for Sheema Fnu, PhD, Total Direct Costs per annum \$50,000, 6-1-09 to 5-30-11, PI- R. Hromas.

NIH PA11959 "Metnase in replication stress," supports Leyma De Haro in her PhD studies. Total Direct costs per annum, \$26,839. 7-1-08 to 6-30-10.

Leukemia and Lymphoma Society SCOR "Comprehensive Molecular Technologies for Improved

Risk Classification and Therapy," PI- C. Willman, LLS 7388-06, Project 3- "Biological Models for Novel Outcome Genes in ALL," PI- R. Hromas, Direct Costs per Annum \$210,000, 10-1-05 to 9-30-10.

State of New Mexico, "New Treatments for Inflammatory breast cancer," \$150,000/annum, 7-1-08 to 6-30-10.

NIH RO1 Collaborative Supplement CA100862 "DSB Repair, Recombination, and Genome Stability," Direct Costs per Annum \$100,000, 3-1-05 to 2-28-07, co-PI- R. Hromas (with J. Nickoloff).

NIH T35 HL076595, "Institutional National Research Service Award Hispanic," Direct Costs per annum \$75,000, 10-1-03 to 9-31-08. PI- R. Hromas.

NIH RO1 HL075783, "Hex Regulates Hemangioblast Decisions," Direct Costs per annum- \$250,000, 7-1-04 to 6-30-08. PI- R. Hromas

NIH RO1 CA 102283 "Oct-4 Regulates Embryonal Carcinoma Differentiation," 7-1-03 to 6-30-08, Direct Costs per annum- \$175,000. PI- R. Hromas.

DOD BCRP Concept Award 0610593, "DNA Decatenation in breast cancer by Metnase," \$75,000 Direct costs, 8-13-06 to 8-13-07. PI- R. Hromas.

NIH RO1 HL66308: "Role of Exodus-2/6Ckine/SLC in GVHD" PI- Hromas, 7-1-01 to 6-30-06, Direct Costs per annum- \$323,425.

NIH PO1: "Biology of High Risk Germ Cell Tumors" CA 74295. Program PI- L. Einhorn. Project #1- "The Winged Helix Protein Genesis in Germ Cell Neoplasia," 9-1-99 to 8-30-03. PI- R. Hromas. Project 1 Direct Costs per annum- \$139, 409.

NIH Cancer Center Grant, Regulation of Cell Growth Research Program Leader- R. Hromas. 7-1-99 to 6-30-04. Research Program Direct Costs: \$10,250. PI- S. Williams.

Leukemia Society of America, Translational Research Award "Therapeutic potential of DCCL family of Chemokines" 9-1-98 to 8-30-01. Direct costs \$100,000 per annum. PI- R. Hromas. Completed.

Walther Oncology Center, "Winged helix proteins in germ cell tumors," 7-1-97 to 6-31-04, Direct costs \$86,000 per annum. PI- R. Hromas.

NIH RO1 HL48914: "Hematopoietic role of the zinc finger gene MZF-1," 7-1-97 to 6-30-02. Direct costs \$212,606 per annum for 5 years. PI- R. Hromas. Completed.

Leukemia Society of America Scholar award: started 7-1-94 to 6-30-99, Direct Costs per annum \$40,000. Completed.

NIH R29 HL 48914: "Hematopoietic role of the zinc finger gene MZF-1," 7-1-92 to 6-30-97. Direct Costs \$70,000 per annum. PI- R. Hromas. Completed.

Basic Science Research Grant, Indiana University Medical Center, 7-1-91 to 6-30-92, \$22,123.00. PI- R. Hromas. Completed.

NIH Research Hematology Fellowship #HL07093-15, 7/1/89-6/30/90, University of Washington, Seattle, Washington Direct costs: \$28,400.00. Completed.

Associate Investigator Career Development Award, "Trans-Acting-Factors Regulate the Kappa Immunoglobulin Enhancer", VA Award #103.808, 7/1/87-6/30/88, University of Iowa, Iowa City, Iowa. Direct costs: \$34,000.00. PI- R. Hromas. Completed.

NIH Research Hematology Fellowship #HLO7544-9,10, "Thrombosis and Hemostasis", 7/1/85-6/30/87, University of Iowa, Iowa City, Iowa Direct costs: \$24,200.00 per year. Completed.

## **EDUCATIONAL CURRICULUM**

Produced and presented curriculum to first year medical students at the University of New Mexico on DNA Repair and on Clinical Presentations and Management of the Leukemias, 2008-present.

Authored Pocket Hematology-Oncology for medical students and residents, also available on the web at <http://hsc.unm.edu/crtc/physicians>, 2003, 2<sup>nd</sup> edition 2006.

Designed and wrote the entire curriculum for the medical student and resident Hematology-oncology clinical rotations at the University of New Mexico, including self-assessment exams, 2003.

Director for the Hematology/Oncology section of the sophomore medical student Introduction to Clinical Medicine (personally gave all 12 lectures). Designed novel curriculum and wrote entire course book, Course X601 at Indiana University, 1999-2003.

Instructing Internal Medicine residents and Hematology/Oncology fellows during two months as Staff Physician on the Bone Marrow Transplant Unit, and during a weekly hematology clinic at Indiana University, 1990-2003.

Designed and led a biochemistry course on the Molecular Basis of Human Disease (B503) for first year medical students (weekly for 3 months, 24 hours total class time) 1992-4 at Indiana University.

Team teaching the medical student biochemistry course (B800), one lecture on the molecular origins of leukemia at Indiana University, 1990-2.

## **MENTORING**

Post-doctoral Research Fellows

Mary Lou Meyer, MD, 1992-3

David Xu, MD, 1992-5

Mary Cavalier, MD 2000-3

Evelyn Guo, MD, 2001-3

Bowman Award, Best Post-Doctoral Research at Indiana University, 2002

Shangming Zhang, MD 2001-3

Elizabeth Williamson, PhD 2003-5 (now Research Assoc. Prof.)

Kimi Kong, PhD, 2005-2010

Katie Rasila, MD, 2005-6

Justin Wray, PhD, 2007-present

Sheema Fnu, PhD, 2008-present  
Leah Damiani, PhD, 2008-present  
Mario Benevenitez, MD 2008-present  
Sudha Singh, PhD, 2009-10 (now Research Asst. Prof.)  
Sergio De Haro, PhD, 2009-11  
Ilan Shamagum, PhD, 2009-11  
George Cain, PhD, 2009-10  
Grace Wu, PhD, 2009-present  
Brian Reinert, PhD, 2011-present  
Xuili Cong, PhD, 2011-present  
Arun Jaisal, PhD, 2011-present

#### Medical Student Research Fellows

Tim Johnston 1992  
Alpina Deasi, 1993  
Irene Huang, 1993  
Brent Hollenbeck, 1994  
Michael Sha, 1994  
Jon Bielfield, 1994  
Greg Montgomery, 1995  
Mark Rosenthal, 1995  
Matt Hufford, 1996  
Adrian Butler, 1997

#### PhD Graduate Students (Dissertation Advisor on all)

David Mack 1996-2003  
Kent Christopherson II 1997-2001  
Yong-Hao Hou 1998-2002  
Trevor Starnes 1999-2002  
Walther Award for Best Graduate Student Research at Indiana University, 2002  
David Haines 2000-3 (went to medical school before completion)  
Leyma De Haro, 2007-2010  
Jason Rogers, 2010-present

#### ASH Graduate Student Awards

Kent Christopherson, 1999  
Yong-Hao Hou, 1999  
Trevor Starnes, 2001

#### Medical Student Faculty Advisor.

David Breitweiser, 1994  
David Chang, 1995  
Michael Sha, 1996  
Rod Robinson, 1996  
David Bowman, 1997  
Soupan Wu, 1998  
Danielle Peoni, 2000  
Stephanie Jeske, 2002  
Jeremy Rogers, 2002  
Jared Basham, 2002  
Justin Wray, 2009

## Undergraduate Student Research Projects

Trish Hufford, 1993  
Karina Hill, 2004  
Dorothy Cuylear, 2004-5  
Leah Martinez, 2005-7  
Ben Abeyta, 2006-7  
Amanda Gonzales, 2008  
Sean Chester, 2008  
Will Pham, 2009

## Thesis Committee Member

Jill Sutton, Developmental Biology  
Burt Webb, Microbiology/Immunology  
Melissa Bowker-Kinley, Biochemistry  
Stacey Nelson, Microbiology/Immunology  
Marcus Fields, Microbiology/Immunology

## Faculty Mentored

Ed Chan, MD- "AML1 mutations in secondary acute myeloid leukemia," 2002-3,  
Became Director of Hematologic Clinical Trials, Eli Lilly.  
Kathy Miller, MD- "Anti-angiogenic agents in breast cancer therapy," 2001-2, DoD grant  
David Potter, MD- "Role of Calpain in metastasis." 2001-3, NIH RO1,  
Assistant then tenured Associate Professor, Indiana University  
Claire Verschraegen, MD- "Novel chemotherapeutic agents." 2003-4,  
Luis Padilla-Paz, MD- "HPV in cervical oncogenesis." 2003-4  
Ian Rabinowitz, MD- "Mutations in human AML." 2003-4, "Directing Oncology Out-  
patient Clinics," 2006-7, became Chief of Hematology-Oncology, UNM, 2011  
Rebecca Chan, MD- "Hemangioblast Development," 2002-4, NHLBI RO1,  
Assistant then tenured Associate Professor of Pediatrics, Indiana University.  
Richard Dahl, PhD- "Lineage decisions in myelopoiesis," 2004-7, ACS, LLS grants,  
Tenure track faculty position at Notre Dame Cancer Center  
Elizabeth Williamson, PhD- "End joining DNA repair," 2005-8  
Research Assistant Professor, UNM, Associate Professor, UF  
Dave Garcia, MD- "Genetics of the Coumadin Response in Cancer Patients," 2006-8,  
Became Director of the Coumadin Clinic, UNM, 2006  
Edward Libby, MD- "Generation of a Stem Cell Transplantation Program and Training  
as In-patient Medical Director," 2006-7, then Associate Director Myeloma  
Program, Fred Hutchinson Cancer Center, 2011.  
Katie Rasila, MD- "Novel therapy for NHL,": 2007-present  
Claire Verschraegen, MD- "Minority Community Clinical Oncology Program," 2007, NCI  
MB-CCOP PI at UNM, Chief of Hematology-Oncology at University of  
Vermont, 2011  
Richard Crowell, MD- "DNA repair differences in minorities with lung cancer," 2007  
Richard Lauer, MD- "Oncology Executive Medical Director," 2007-2008,  
Medical Executive Committee, UNM, ASCO Committee on Practice, 2010  
Dennie Jones, Jr., MD- "Chromatin changes in bronchodysplasia progression," 2007-8  
Became Deputy Director, University of Kentucky Cancer Center, 2011  
Amy Tarnower, MD- "Directing Oncology Out-patient Clinics," 2008  
Julie Bauman, MD- "Inhibiting DNA repair to enhance chemotherapy," 2009-10,  
ACS IRG  
Sudha Singh, PhD- "The role of c1orf124 in trans-lesion DNA repair," 2010,  
Research Assistant Professor, UNM



Monte Shaheen, MD- "Pso4 in ICL DNA Repair," 2009-10, NHLBI K01

Minority Summer Research Program NIH T35 PI

Ten undergraduates each summer 2004-present placed in UNM laboratories, those in my lab listed above.

## **INTRAMURAL SERVICE**

Vice President, Florida Clinical Practice Association, UF & Shands, 2011-present

Member, UF & Shands Quality and Operations Committee, 2011-present

Member, UF & Shands Compensation Committee, 2011-present

UF College of Medicine Executive Committee, 2011-present

Chair, Clinical Research Committee, University of New Mexico Cancer Center, 2008-11 (recruited and trained replacement, M. Royce).

Director, Clinical Trials Office, University of New Mexico Cancer Center, 2008-11.

Member, University of New Mexico Health Science Center Faculty Practice Organization Executive Committee, 2006-7, recruited and trained replacement (R. Lauer, MD).

Member, University of New Mexico Health Science Center Post-Doctoral Association Steering Committee, 2007-2009

Member, Chair of Pathology Search Committee, University of New Mexico School of Medicine, 2007-8.

Member, Research Strategic Planning Committee, University of New Mexico Health Science Center, 2005-11.

Director of Oncology, Lovelace Health System, 2005-8. Recruited and trained replacement (A. Tarnower, MD).

University of New Mexico Department of Energy Radiation Permit Holder, 2005-11

Member, Cancer Committee, Lovelace Health System, 2005-8.

Physician and Patient Satisfaction Strategic Planning Committee, University of New Mexico Health Science Center, 2004.

Director, University of New Mexico Cancer Center Out-Patient Clinic, 2004-8, Trained replacement (I. Rabinowitz, MD).

Deputy Director, University of New Mexico Cancer Center, 2003-11.

Member, Department of Internal Medicine Executive Committee, University of New Mexico School of Medicine, 2003-11.

Oncology Physician-in-Chief, University of New Mexico Hospital, 2003-8. Recruited and trained replacement (R. Lauer, MD).

Medical Executive Committee, University of New Mexico Health Science Center, 2003-6.

Chair, Oncology Committee, University of New Mexico Health Science Center, 2003-2008. Recruited and trained replacement (R. Lauer, MD).

Attending Physician, University of New Mexico Hospital, 2003-11.

Deputy Director, Indiana University Cancer Center, 2002-3.

Research Program Director: Regulation of Cell Growth, Indiana University Cancer Center, 1997-2003.

Member, Institutional Animal Care and Utilization Committee, Indiana University 1997- 2002.

Member, Medical Student Research Committee, Indiana University, 1995-2003.

Indiana University Institutional Biosafety Committee, reviewer for human gene therapy protocols, 1994-2002.

Indiana University Microbiology/Immunology Chair Search Committee, 1995.

## **REFERENCES**

### Extramural

David Williams, MD  
Institute of Medicine  
Chief, Hematology  
Boston Children's Hospital and Harvard University

Kenneth Kaushansky, MD  
Institute of Medicine  
Dean, SUNY Stony Brook

David Scadden, MD  
Institute of Medicine  
Director, Stem Cell Institute  
Harvard University