

## Curriculum Vitae

NAME: (Walter) Michael Kuehl  
TITLE: Chief, Molecular Pathogenesis of Myeloma Section  
DATE/ PLACE OF BIRTH: October 25, 1939, Evanston, IL  
CITIZENSHIP: United States  
MARTIAL STATUS: Married (Karen S. Kuehl)  
[Children: Peter (1969), Sarah (1970), Matthew (1975)]  
EDUCATION: Harvard College, A.B., Biomedical Sciences, 1961  
Harvard Medical School, M.D., 1965  
HONORS: A.B., magna cum laude, 1961  
M.D., magna cum laude, 1965  
Helen Hay Whitney Fellowship, 1971-74  
NIH Research Career Development Award, 1978-83

PROFESSIONAL ACTIVITIES:

Intramural NCI/NIH:

Member, Leukemia Lymphoma Myeloma Progress Review Group (LLM PRG)  
CCR Grand Rounds seminar committee  
Genetics, Genomics, and Proteomics Faculty Steering Committee  
Ad hoc reviewer – NIH Tenure Committee  
NCI Lymphoid Malignancies Working Group

Extramural/Professional Activities:

Extramural Grant Support:

Cell line development award from Multiple Myeloma Research Foundation (2007-2008)

Co-investigator:

Multi-institutional SPORE Grant (2003-2008): Program Director: K. Anderson (DFCI)  
Consortium using aCGH, SKY, FISH, expression arrays, and mutational analysis to identify  
novel genetic events in MM tumors and cell lines

Consulting:

Multiple Myeloma Research Foundation (MMRF)

Mayo Clinic (Arizona): proposed PO1 grant

University of Arkansas: ongoing PO1 grant and also grant from Grand Foundation

Conference organization and selected lectures

Michael Morley Keynote Lecture (UKMF), 2006

Xth International Myeloma Workshop, 2007

Co-organizer, 2006 multiple myeloma molecular biology workshop in Italy

Co-organizer, 2007 FASEB summer research conference on hematopoietic malignancies

Referee of manuscripts

Many journals

Grant/ fellowship reviews

Multiple Myeloma Research Foundation

Biomedical Research Council (Singapore)

Cancer Research UK

RESEARCH AND/OR PROFESSIONAL EXPERIENCE:

- 2005-2006                    Acting Chief, Genetics Branch, CCR, NCI, NIH, Bethesda, MD
- 2001-                        Chief, Molecular Pathogenesis of Multiple Myeloma Section; Deputy Chief Genetics Branch, CCR, NCI, NIH, Bethesda, MD
- 1996 -2001                Chief, Molecular Biology of Differentiation Section, Genetics Department, Medicine Branch, DCS, NCI, NIH, Bethesda, MD
- 1987 -1996                Chief, Molecular Biology of Differentiation Section, NCI-Navy Medical Oncology Branch, DCT, NCI, NIH, Bethesda, MD
- 1982 - 1987               Senior Investigator, NCI-Navy Medical Oncology Branch, DCT, NCI, NIH, Bethesda, MD
- 1982 - 1982               Professor, Department of Microbiology, University of Virginia Medical School
- 1979 - 1982               Associate Professor, Department of Microbiology, University of Virginia Medical School
- 1974 - 1979               Assistant Professor, Department of Microbiology, University of Vrginia Medical School
- 1971 - 1974               Research Fellow, Department of Cell Biology, Albert Einstein College of Medicine
- 1967 - 1971 -              Staff Associate, National Heart and Lung Institute
- 1965 - 1967               Intern and Resident in Medicine, Cleveland Metropolitan General Hospital

## BIBLIOGRAPHY (since 1996, with peer-reviewed marked by asterisk)

- \*1. Chesi, M., Bergsagel, P.L, Brents, L.A., Smith, C.M., Gerhard, D.S., and Kuehl, W.M. Dysregulation of cyclin D1 by translocations into an IgH gamma switch region in two multiple myeloma cell lines. Blood 88: 674-681(1996).
- \*2. Bergsagel, P.L., Chesi, M., Nardini, E., Brents, L.A., Kirby, S.L., and Kuehl, W.M. Frequent, promiscuous translocations into IgH switch regions in multiple myeloma. Proc. Nat. Acad. Sci. 93:13931-13936(1996).
- \*3. Kuehl, W.M., Brents, L.A., Chesi, M., and Bergsagel, P.L. Selective expression of one c-myc allele in two human myeloma cell lines. Cancer Research. 56:4370-4373(1996).
4. Bergsagel PL, Nardini E, Chesi M, Kuehl WM IgH Translocations in Multiple Myeloma: a nearly universal event that rarely involves c-myc. Current Topics Microbiol Immunol 224: 283-287(1997).
5. Kuehl WM, Brents LA, Chesi M, Huppi K, Bergsagel PL. Dysregulation of c-myc in multiple myeloma. Current Topics Microbiol Immunol 224: 277-282(1997).
- \*6. Chesi M, Nardini E, Schrock E, Ried T, Brents LA, Kuehl WM, Bergsagel PL: Frequent translocation t(4;14)(p16.3;q32.3) in multiple myeloma is associated with increased expression and activating mutations of fibroblast growth factor receptor 3. Nature Genetics 16:260-263(1997).
7. Bergsagel, PL and Kuehl, WM The Molecular Biology of Multiple Myeloma. Chapter in Multiple Myeloma: Biology and Management. Editors: Malpas, JS, Bergsagel DE, and Kyle, R. Oxford University Press, Oxford. (1997).
- \*8. Chesi M, Bergsagel PL, Shonukan OO, Martelli ML, Brents LA, Chen T, Schrock E, Ried T, and Kuehl WM: Frequent Dysregulation of the c-maf Proto-Oncogene at 16q23 by translocation to an Ig Locus in Multiple Myeloma. Blood. 91:4457-4463 (1998).
- \*9. Chesi M, Nardini E, Lim RSC, Smith KD, Kuehl WM, and Bergsagel PL: The t(4;14) Translocation in Myeloma Dysregulates Both FGFR3 and a Novel Gene, MMSET, Resulting in IgH/MMSET Hybrid Transcripts. Blood. 92:3025-3034 (1998).
- \*10. Gabrea A, Bergsagel PL, Chesi M, Shou Y, and Kuehl WM: Insertion of excised IgH switch sequences causes overexpression of cyclin D1 in a myeloma tumor cell. Molecular Cell. 3:119-123 (1999)
11. Kirsch IR and Kuehl WM: "Gene rearrangements in lymphoid cells", Chapter in The Molecular Basis of Blood Diseases 3rd edition. Editors: Nienhuis A. et al. Raven Press, N.Y (2000)
12. Chesi M, Kuehl WM, and Bergsagel PL, "Recurrent immunoglobulin gene translocations identify distinct molecular subtypes of myeloma." Annals of Oncology. 11(Suppl. 1):S131-135 (2000)

- \*13. Tonon G, Roschke A, Stover K, Shou Y, Kuehl WM, and Kirsch IR: Spectral karyotyping combined with locus-specific FISH simultaneously defines genes and chromosomes involved in chromosomal translocations. *Genes Chromosomes and Cancer*. 27:418-423 (2000).
- \*14. Shou Y, Martelli, ML, Gabrea A, Qi Y, Brents LA, Roschke A, Dewald G, Kirsch IR, Bergsagel PL, and Kuehl WM: Diverse karyotypic abnormalities of the c-myc locus associated with c-myc dysregulation and tumor progression in multiple myeloma. *Proc. Natl. Acad. Sci.* 97:228-233 (2000)
- \*15. Kirsch IR, Green ED, Yonescu R, Strausberg R, Carter N, Bentley D, Braden V, Hilgenfeld E, Schuler G, Lash AE, Shen GL, Martelli M, Kuehl WM, Klausner RD, and Ried T: A systematic, high-resolution linkage of the cytogenetic and physical maps of the human genome. *Nature Genetics* 24:339-340 (2000).
- \*16. Janssen JWG, Vaandrager J, Heuser T, Jauch A, Kluin PM, Geelen E, Bergsagel PL, Kuehl WM, Drexler HG, Otsuki T, Bartram CR and Schurring E: Concurrent activation of a novel putative transforming gene, *myeov*, and *cyclin D1* in a subset of multiple myeloma cell lines with t(11;14)(q13;q32). *Blood* 95:2691-2698 (2000)
- \*17. Chesi M, Brents LA, Ely SA, Bais C, Mesri EA, Kuehl WM and Bergsagel PL: Activated fibroblast growth factor receptor 3 is an oncogene that contributes to tumor progression in multiple myeloma. *Blood* 97:729-736 (2001).
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- \*38. Dib A, Barlogie B, Shaughnessy JD, Kuehl WM. Methylation and expression of the p16INK4A tumor suppressor gene in multiple myeloma. *Blood*. 109: 1337-1338 (2007).
- \*39. Lenz G, Nagel I, Siebert R, Roschke AV, Sanger W, Wright GW, Dave SS, Tan B, Zhao H, Rosenwald A, Muller-Hermelink HK, Gascoyne RD, Campo E, Jaffe ES, Smeland EB, Fisher RI, Kuehl WM, Chan WC, Staudt LM. Aberrant immunoglobulin class switch recombination and switch translocations in activated B cell-like diffuse large B cell lymphoma. *J. Exp. Med.* 204: 633-43 (2007).
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42. Chng W, Glebov O, Bergsagel PL, Kuehl WM. Genetic events in the pathogenesis of multiple myeloma. *Best practice and research clinical hematology*. 20: 571-96 (2007).
- \*43. Chng WJ, Kuehl WM, Bergsagel PL, Fonseca R. Translocation t(4;14) retains prognostic significance even in the setting of high-risk molecular signature. *Leukemia*. 22: 459-61 (2008).
- \*44. Dib A, Gabrea A, Glebov O, Bergsagel PL, Kuehl WM. Characterization of MYC translocations in multiple myeloma cell lines. *J Nat Cancer Instit Monog*. 39: 25-31 (2008).
45. Kuehl WM. Modelling multiple myeloma by AID-dependent conditional activation of MYC. *Cancer Cell*. 13: 85-7 (2008).
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49. McKenna RW, Kyle RA, Kuehl WM, Grogan T, Harris NL, Coupland RW. Plasma cell neoplasms in revised WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues. *In Press*.

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\*51. Vatsveen TK, Tian E, Kresse SH, Meza-Zepeda LA, Gabrea A, Dai HY, Sundan A, Kuehl WM, and Borset M. OH-2: a hyperdiploid myeloma cell line without an IgH translocation has a complex translocation juxtaposing *MYC* near *MAFB* and the *IgK* locus. Submitted Genes Chrom Cancer

\*52. Pichiorri F, Suh S, Ladetto M, Kuehl M, Palumbo T, Drandi D, Zanesi N, Alder H, Hagan J, Taccioli C, Volinia S, Mujnder R, Palumbo A, Garzon R, Aqueilan RI, and Croce CM. MicroRNAs regulate critical genes associated with multiple myeloma pathogenesis. Submitted Proc Nat Acad Sci

PUBLICATIONS of collaborative work done in my lab for which I chose not to include myself as a co-author.

1. Knutsen T, Vakulchuk A, Mosijczuk AD, Gabrea A, Ried T, and Tretyak N. Complex rearrangements involving der(8)t(8;20) and der(14)t(8;14)t(11;14), CCND1, and duplication of IgH constant region in acute plasmablastic leukemia. *Cancer Genetics and Cytogen*. 164:137-141 (2006).

2. Keats JJ, Fonseca R, Chesi M, Schop R, Baker A, Chng W-J, Van Wier S, Tiedemann R, Shi C-X, Sebag M, Braggio E, Henry T, Zhu Y-X, Fogle H, Price-Troska T, Ahmann G, Mancini C, Brents LA, Kumar S, Greipp P, Dispenzieri A, Bryant B, Mulligan G, Bruhn L, Barrett M, Valdez R, TGrent J, Stewart AK, Carpten J, and Bergsagel PL. Promiscuous mutations activate the noncanonical NF- $\kappa$ B pathway in multiple myeloma. *Cancer Cell*. 12: 131-144 (2007).