

CURRICULUM VITAE

NAME: Marcus W. Bosenberg, M.D., Ph.D.

PROPOSED FOR APPOINTMENT TO: Associate Professor of Dermatology
Clinician-Scholar Track

TERM: July 1, 2008 – June 30, 2013

SCHOOL : Yale University School of Medicine

EDUCATION:

B.A (Chemistry and Physics)	Cornell University, Ithaca, NY	1983-1986
Ph.D. Candidate (Chemistry)	Cornell University, Ithaca, NY	1986-1987
Ph.D. (Cell Biology)	Cornell University Graduate School of the Medical Sciences, New York, NY	1987-1993
M.D.	Cornell University Medical College, New York, NY	1987-1994

Postdoctoral Training:

Clinical:

Resident, Anatomic Pathology	Brigham & Women's Hospital, Boston, MA	1996-1998
Chief Resident, Anatomic Pathology	Brigham & Women's Hospital, Boston, MA	1999
Fellow, Dermatopathology	Harvard Medical School Dermatopathology Training Program, Boston, MA	1999-2000

Scientific:

Research Fellow, Genetics	University of Wisconsin, Madison, WI Advisor: Judith Kimble, PhD	1994-1996
Research Fellow, Oncology	Dana-Farber Cancer Institute, Boston, MA Advisor: Ronald DePinho, MD	2000-2002

CAREER/ACADEMIC APPOINTMENTS:

1996-1999	Clinical Fellow in Pathology	Harvard Medical School, Boston, MA
1999-2000	Clinical Fellow in Dermatopathology	Harvard Medical School, Boston, MA
2000-2002	Research Fellow in Adult Oncology	Dana-Farber Cancer Institute, Boston, MA
2001-2002	Instructor in Pathology	Harvard Medical School, Boston, MA
2002-present	Assistant Professor of Pathology	University of Vermont, Burlington, VT
2002-present	Member	Vermont Cancer Center, Burlington, VT
2007-present	Founding Faculty Member	Academy of Genomic Pathology, Davis, CA
2008-present*	Associate Professor of Dermatology, Pathology, and Genetics	Yale University, New Haven, CT *Pending review, appointment begins July 1

ADMINISTRATIVE POSITIONS:

University of Vermont

2003	Co-Chair Melanoma Mini-Symposium, Vermont Cancer Center
2003	Chair, 18 th Regional Cancer Symposium, Vermont Cancer Center
2005	Co-Chair, 20 th Regional Cancer Symposium, Vermont Cancer Center
2005-2006	Translational Cancer Research Design Team Leader
2003-present	MD-PhD Steering Committee, including screening of all applications
2003-present	Member, Faculty Senate

2004-present	Editorial Board, Innovations, Vermont Cancer Center
2005-present	Faculty Review Committee, Pathology
2005-2006	Vermont Cancer Center Steering Committee
2006-2007	Cell Signaling and Translational Cancer Research Program Leader Search Committee, Vermont Cancer Center
2006-present	Vermont Cancer Center Redesign Oversight Committee
2006-present	Environmental Pathology Training Grant Executive Committee
2007	Administrator Search Committee, Vermont Cancer Center
2007-present	Branding Oversight Committee, Fletcher Allen Health Care
2007-present	Transition Steering Committee, Vermont Cancer Center
2007-present	Strategic Planning Subcommittee, Vermont Cancer Center
2007-present	Director Search Committee, Vermont Cancer Center

BOARD CERTIFICATION:

Anatomic Pathology	American Board of Pathology	September 11, 2000
Dermatopathology	American Board of Pathology American Board of Dermatology	November 16, 2001

PROFESSIONAL HONORS & RECOGNITION:

Fellow	American Society of Dermatopathology	2003-present
Member	Metastasis Research Society	2004-present

GRANT HISTORY:**(A) Current Grants:**

2005-2010	National Cancer Institute	The Role of β -catenin Signaling in Malignant Melanoma Marcus Bosenberg, PI R01 CA112054 \$177,750 20% effort
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(B) Past Grants:

2004-2005	University of Vermont	DNA Methylation in Melanoma Marcus Bosenberg, PI \$15,000
2001-2006	National Cancer Institute	Pten Signaling in Melanoma Marcus Bosenberg, PI K08 CA89124 \$133,650 75% effort
2000-2001	Howard Hughes Medical Institute	Pten Signaling in Melanoma Marcus Bosenberg, PI \$65,000 100% effort
1994-1996	Jane Coffin Childs Memorial Fund for Medical Research	GLP-1 and LIN-12 Signaling in <i>C. elegans</i> Marcus Bosenberg, PI Postdoctoral Research Fellow

LECTURES, COURSES, WEB-BASED EDUCATION:**University of Vermont, College of Medicine**

2007	Colloquium Leader in Generations Course (10 students, 8 hours contact time, 16 hours preparation)
2006-present	One lecture in Connections Course (100 students, 1 hour contact time/year, 6 hours preparation/year)
2003- present	Two lectures and small group sessions in Cell and Molecular Biology Course (100 students, 4 hours contact time/year, 16 hours preparation/year)
2003	Co-led Pathology 301 and 302 colloquium groups (11 students, 12 hours of contact time, 6 hours of preparation)

- 2002- present Dermatopathology lectures for pathology and dermatology residents and medical student pathology fellows
(1 – 4 medical students, 24 hours of contact time/year, 160 hours of preparation/first year, 40 hours of preparation/year following first year)
- 2002-present Preceptor for small group sessions and pathology laboratories, several courses
(10 – 15 students, 5 hours of contact time/year, 3 hours of preparation/year)

University of Vermont, Graduate College

- 2006 Pathology 306. Co-Director and lecture on lung tumors
(6 students, 1 hour of contact time, 4 hours of preparation)
- 2006 Pathology 305. Lecture on stem cells in tissue regeneration
(6 students, 1 hour of contact time, 4 hours of preparation)
- 2005-present Cell and Molecular Biology 302. Two lectures on cancer and tumor progression
(10 students, 2.5 hours of contact time, 8 hours of preparation)
- 2003-present Cancer Biology 375. Two lectures on mouse models of cancer
(8 students, 2.5 hours of contact time, 8 hours of preparation)
- 2002-present Pathology 306. Lecture on skin anatomy and cancer
(6 students, 1 hour of contact time, 2 - 4 hours of preparation)

Web-based education:

Sole author of the National Cancer Institute's Skin Organ Site website that is part of the Mouse Models of Human Cancer Consortium's website (2000, 2003).

http://emice.nci.nih.gov/mouse_models/organ_models/skin_models

PROFESSIONAL SERVICE:

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| 2007-present | External Advisory Board
Skin SPORE grant | Yale University, New Haven, CT |
| 2007 | Ad hoc member, Tumor Cell Biology
Study Section (TCB) | National Inst of Health, Bethesda, MD |
| 2007 | Ad hoc member, Molecular Oncogenesis
Study Section (MONC) | National Inst of Health, Bethesda, MD |
| 2007 | Member, Melanoma Advisory Panel
to Congress | National Cancer Inst, Bethesda, MD |
| 2007 | Loan Repayment Program Review Panel | National Cancer Inst, Bethesda, MD |

2006-present	Grant Reviewer,	Melanoma Research Society, Philadelphia, PA
2005	Ad hoc member, SPORE Review Panel, Skin and Prostate	National Cancer Inst, Bethesda, MD
2000-present	Pathology Organ Site Leader (Skin)	Mouse Models of Human Cancer Consortium National Cancer Inst, Bethesda, MD

BIBLIOGRAPHY:

1. Peer-Reviewed Manuscripts

1. Bosenberg MW, Pandiella A, Massagué J. The cytoplasmic carboxy-terminal amino acid specifies cleavage of membrane TGF α into soluble growth factor. *Cell* 1992;71:1157-65.
2. Pandiella A, Bosenberg MW, Huang EJ, Besmer P, Massagué J. Cleavage of membrane-anchored growth factors involves distinct protease activities regulated through common mechanisms. *J Biol Chem* 1992;267:24028-33.
3. Bosenberg MW, Pandiella A, Massagué J. Activated release of membrane-anchored TGF- α in the absence of cytosol. *J Cell Biol* 1993;122:95-101.
4. Christenden S, Kodoyianni V*, Bosenberg M*, Friedman L, Kimble J. *lag-1*, a gene required for *lin-12* and *glp-1* signaling in *Caenorhabditis elegans*, is homologous to human CBF1 and *Drosophila* Su(H). *Development* 1996;122:1373-83.
5. Roehl H*, Bosenberg M*, Belloch R, Kimble J. Roles of the RAM and ANK domains in signaling by the *C. elegans* GLP-1 receptor. *EMBO J* 1996;15:7002-12.
6. Rudolph KL, Millard M, Bosenberg MW, DePinho RA. Telomere dysfunction and evolution of intestinal carcinoma in mice and humans. *Nat Genet* 2001;28:155-9.
7. Krop IE, Sgroi D, Porter, DA, Lunetta KL, LeVangie R, Seth P, Kaelin CM, Rhei E, Bosenberg MW, Schnitt S, Marks JR, Pagon Z, Belina D, Razumovic J, and Polyak K. HIN-1, a candidate breast tumor suppressor gene. *Proc Natl Acad Sci USA* 2001;98:9786-9801
8. Yantiss RK, Bosenberg MW, Antonioli DA, Odze RD. Utility of MMP-1, p53, E-cadherin, and collagen IV immunohistochemical stains in the differential diagnosis of adenomas with misplaced epithelium versus adenomas with invasive adenocarcinoma. *Am J Surg Pathol* 2002;26:206-215.

9. You MJ, Castrillon DH, Bastian BC, O'Hagan RC, Bosenberg MW, Parsons R, Chin L, DePinho RA. Genetic analysis of Pten and Ink4a/Arf interactions in the suppression of tumorigenesis in mice. *Proc Natl Acad Sci USA* 2002;99:1455-1460.
10. Kannan K, Sharpless NE, Xu J, O'Hagan R, Bosenberg MW, and Chin L. Components of the Rb pathway are critical targets of UV mutagenesis in a murine melanoma model. *Proc Natl Acad Sci USA* 2003;100:1221-1225.
11. Sharpless NE, Kannan K, Xu J, Bosenberg MW, DePinho RA, and Chin L. Both products of the mouse *Ink4a/Arf* locus suppress melanoma formation *in vivo*. *Oncogene* 2003;22:5055-5059.
12. Hornick JL, Bosenberg MW, Mentzel T, McMenamin ME, Oliveira AM, Fletcher CDM. Pleomorphic liposarcoma: clinicopathologic analysis of 57 cases. *Am J Surg Pathol* 2004; 28: 1257-1267.
13. Stahl JM, Sharma A, Cheung M, Zimmerman M, Cheng JQ, Bosenberg MW, Kester M, Sandirasegarane L, Robertson GP. Deregulated Akt3 promotes development of malignant melanoma. *Cancer Res* 2004; 64:7002-7010.
14. Argilla D, Chin K, Singh M*, Hodgson JG*, , Bosenberg M*, de Solorzano CO, Lockett S, Depinho RA, Gray J, Hanahan D. Absence of telomerase has minimal effects in mouse models of skin and pancreatic carcinogenesis elicited by viral oncogenes. *Cancer Cell* 2004; 6:373-385.
15. Bardeesy N, Kim M, Xu J, Kim RS, Shen Q, Bosenberg MW, Wong WH, Chin L. Role of epidermal growth factor receptor signaling in RAS-driven melanoma. *Mol Cell Biol.* 2005, 10:4176-4188.
16. Muthusamy V, Hobbs C, Nogueira C, Cordon-Cardo C, McKee P, Chin L, Bosenberg MW. Amplification of CDK4 and MDM2 in Malignant Melanoma. *Genes Chromosomes Cancer* 2006, 45:457-454.
17. Bosenberg M, Muthusamy V, Curley DP, Wang Z, Hobbs C, Nelson B, Nogueira C, Horner JW 2nd, Depinho R, Chin L. Characterization of melanocyte-specific inducible Cre recombinase transgenic mice. *Genesis.* 2006, 44:262-267.
18. Kim WY, Safran M, Buckley MRM, Glickman J, Bosenberg MW, Regan M, Kaelin WG. Failure to prolyl hydroxylate hypoxia-inducible factor α phenocopies VHL inactivation *in vivo*. *EMBO J.* 2006, 25:4650-62.
19. Muthusamy V, Duraisamy S, Bradbury CM, Hobbs C, Curley DP, Nelson, B, Bosenberg M. Epigenetic Silencing of Novel Tumor Suppressors in Malignant Melanoma. *Cancer Res.* 2006, 66: 11187-93.
20. Khoo CM, Carrasco DR, Bosenberg MW, Paik J-H, DePinho RA. *Ink4a/Arf* tumor suppressor does not modulate the degenerative conditions or tumor spectrum of the telomerase deficient mouse. *Proc Natl Sci USA Acad Sci* 2007, 104:3931-6.

21. Yang G, Curley D, Bosenberg M, Tsao H. Loss of Xeroderma Pigmentosum C (Xpc) Enhances Melanoma Photocarcinogenesis in Ink4a-Arf-deficient Mice. *Cancer Res.* 2007, 67:5649-57.
22. Gurumurthy S, Hezel AF, Berger JH, Bosenberg MW, Bardeesy N. LKB1 deficiency sensitizes mice to carcinogen-induced tumorigenesis. *Cancer Res.* 2008 Jan 1;68(1):55-63.

*Denotes equal contribution to a particular manuscript

2. Case Reports, Technical Notes, Letters

1. Chang HY, Wong KM, Bosenberg M, McKee PH, Haynes HA. Myelogenous leukemia cutis resembling stasis dermatitis. *J Am Acad Dermatol.* 2003;49:128-129.
2. Pritt B, Bosenberg M, Winn W. A Painful Cutaneous Nodule on the Forearm of an Immunocompromised Patient. *Lab Med.* 2006, 37(6):343-345.
3. Curley D and Bosenberg MW. A new mechanism of release from senescence: suppression of p16INK4a by beta-catenin. *Pig Cell Mel Res.* 2008, 21:5-6.

3. Reviews, Chapters, Books

1. Bosenberg MW, Massagué J. Juxtacrine cell signaling molecules. *Curr Op Cell Biol* 1993;5:832-8.
2. Borowsky AD, Munn RJ, Galvez JJ, Cardiff RD, Ward JM, Morse HC 3rd, Kogan SC, Aldape KD, Louis DN, Bosenberg MW. Mouse models of human cancers (part 3). *Comp Med.* 2004; 54:258-270.
3. Bosenberg MW. Skin. In "Mouse Models of Human Cancer". E. Holland Ed. 2004, Wiley & Sons, Hoboken, NJ, 151-170.
4. Cardiff RD, Anver MR, Boivin GP, Bosenberg MW, Maronpot RR, Molinolo AA, Nikitin AY, Rehg JE, Thomas GV, Russell RG, Ward JM. Precancer in Mice: Animal models used to understand, prevent, and treat human precancers. *Toxicological Pathol.* 2006, 34:699-707.

4. Papers "in press"

1. Saulnier Sholler GL, Straub JA, Kalkunte S, Dorf L, Illyene S, Bosenberg M, Ashikaga T, Brard L, Nishi R. Nifurtimox induces apoptosis in neuroblastoma cells. (submitted to *Cancer Research*).
2. Kabbarah O, Nogueira C, Feng B, Scott K, Nazarian R, Kwong L, Xiao Y, Bosenberg M, Cordon-Cardo C, Granter S, Duncan L, Ramaswamy S, Golub T, Wagner S, Brennan C, Chin L. Integrative Genome Comparison of Primary and Metastatic Melanomas (submitted to *PNAS*).

3. Tonks I, Nurcombe V, Cool SM, Mould A, Walker GJ, Keith P, Hacker E, Schroder W, Bosenberg M, Cotterill A, Hayward NK, Kay GF. Melanocyte-specific ablation of *Rb1* and *Trp53* results in aneuploidy in vitro but not neoplastic transformation in vivo (submitted to Development).
4. Smalley KS, Contractor R, Nguyen TK, Xiao M, Medina CA, Edwards R, Muthusamy V, King AJ, Flaherty KT, Bosenberg M, Herlyn M, Nathanson KL. Identification of a novel sub-group of melanomas with C-kit/CDK4 co-amplification and sensitivity to imatinib mesylate (Gleevec®) (submitted to Cancer Research).
5. Wu M, Jung L, Cooper AB, Fleet C, Chen L, Breault L, Clark, K, Cai Z, Vincent S, Bottega S, Shen Q, Richardson A, Bosenberg M, Naber SP, DePinho RA, Kuperwasser C, Robinson MO. Tissue transgenic model of human breast cancer in mice (submitted to Cancer Cell).