BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
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NAME	POSITION TITLE
Angelo M. De Marzo	Professor of Pathology, Urology and Oncology
eRA COMMONS USER NAME (credential, e.g., agency login) ADEMARZ1	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of Colorado	B.S	1986	Molec Cell and Dev. Bio.
University of Colorado	M.D., Ph.D.	1994	Medicine Exp. Pathology
Johns Hopkins School of Medicine		1997	Pathology

A. Personal Statement

Our laboratory is extensively involved in tissue banking in the prostate cancer research program at Johns Hopkins, and I am director of the Pathology Core for our prostate SPORE. I am a trained surgical pathologist with clinical expertise and more than 10 years of experience in prostate pathology. Our laboratory focuses on the study of prostate cancer, paying special attention to disease etiology and prevention. We have postulated that inflammation and dietary practices result in injury to prostate epithelial cells. This injury results in DNA damage, cell death, regeneration, CpG island gene methylation, mutation and ultimately the formation of prostatic intraepithelial neoplasia (PIN), a neoplastic lesion that can lead to invasive prostate cancer. The laboratory is also interested in determination of the molecular and cellular mechanisms of neoplastic transformation in the prostate. For example, using human tissue specimens, genetically engineered mouse models, and cell culture systems, our group is studying the role of the MYC oncogene, and a number of its downstream target genes, in prostate cancer cell neoplastic transformation and cell growth regulation. Since MYC is a key regulator of stem cells, these studies have direct implications for stem cell models of prostate cancer formation. The laboratory also has a number of ongoing translational research efforts. One such program focuses on biomarker development, where our group has been leading efforts to apply novel biomarkers to human prostate tissues, where such biomarkers might aid the pathologist in making a diagnosis on challenging biopsy cases. As director of the tissue microarray core at Johns Hopkins, I have also been involved in tissue microarray technology including the development of an open source tissue microarray software and database system (TMAJ), implemented at a number of institutions.

B. Positions and Honors

Positions and Employment

1994-95	Intern, Dept. of Pathology, The Johns Hopkins University School of Medicine
1995-96	Resident, Dept. of Pathology, The Johns Hopkins University School of Medicine
1996-97	Chief Resident, Dept. of Pathology, The Johns Hopkins University School of Medicine
1997-98	Research Fellow, Depts. of Urology and Pathology, The Johns Hopkins University School of Medicine
1998-99	Instructor, Dept. of Pathology, The Johns Hopkins University School of Medicine
1999-02	Assistant Professor, Pathology, Urology, and Oncology, The Johns Hopkins University School of Medicine
2003	Director, Johns Hopkins Tissue Microarray Laboratory
2003-08	Associate Professor of Pathology, Urology, and Oncology, The Johns Hopkins University School of Medicine
2005	Associate Director for Pathology Cancer Research, The Sidney Kimmel Comprehensive Cancer Center
2008	Professor of Pathology, Urology, and Oncology. The Johns Hopkins University School of Medicine

Other Experience and Professional Memberships

2003	Ad Hoc Reviewer: U01 Application – NIH/NCI
2005	Ad Hoc Reviewer: Special Emphasis Panel R21 Application – NIH/NCI

2005	Study Section Initial Review Group Member: Bioengineering Sciences and Technology IRG, Center for Scientific NIH
2006	Integration Panel Committee Member – Department of Defense, Congressionally Directed Medical Research Prostate Cancer Research Program
2007, 06/07	Member of Special Emphasis Panel/Scientific Review Group, the Specialized Program of Research Excellence (SPORE), National Cancer Institute
2008	Ad Hoc Reviewer: Chemo/Dietary Prevention Study Section [CDP], R01 and R21 grants
2008	Prostate Cancer Foundation Challenge Awards Standing Peer Review Committee, 4/2008
2020-21, 09	Study Section Member ARRA RC1 Challenge Grant applications. Mail reviewer for ZRG1 OTC-K (58) in the Oncology-2 Translational Clinical IRG (OTC)
2011-12, 09	Member of Special Emphasis Panel/Scientific Review Group, the Specialized Program of Research Excellence (SPORE), National Cancer Institute, SPORE in Brain, Prostate, Kidney, Breast Cancers and Melanoma
Present	Editorial Board Member on The Prostate, Cancer Prevention Research

Honors

1998	Stowell-Orbison Award for Research by a Pathologist-In-Training, International Academy of Pathology
1998	Harvey/Burrough's Wellcome Clinician Scientist Award, The Johns Hopkins School of Medicine
1998	Mentored Clinician Scientist Award (K08), National Cancer Institute
2004	Donald S. Coffey Prostate Cancer Foundation Physician/Scientist Award

C. Selected Peer-reviewed Publications

Most relevant to the current application

1. Nelson WG, De Marzo AM, and Isaacs WB. Mechanisms of disease. The Molecular Pathogenesis of Prostate Cancer: a New Role for Inflammation? New Eng. J. Med., 2003; 349:366-81.
2. Van Leenders, GJ, Gage, WR, Hicks JL, Van Balken, B, Aalders, TW, Schalken, JA, and De Marzo AM. Intermediate Cells in Human Prostate Epithelium are Enriched in Proliferative inflammatory Atrophy. Am J Pathol, 2003; 162:1529-37.
3. De Marzo AM, Nelson WG, Isaacs WB, and Epstein JI. Pathological and Molecular Aspects of Prostate Cancer. Lancet, 2003; 361:955-64.
4. Nakayama M, Bennett CJ, Hicks JL, Epstein JI, Platz EA, Nelson WG, and De Marzo AM. Hypermethylation of the Human Glutathione S-transferase-pi Gene (GSTP1) CpG Island is Present in a subset of Proliferative Inflammatory Atrophy Lesions But Not in Normal or Hyperplastic Epithelium of the Prostate: A Detailed Study Using Laser-Capture Microdissection. Am J Pathol., 2003; 163:923-933.
5. Bethel CR, Faith D, Li X, Guan B, Hicks JL, Lan F, Jenkins RB, Bieberich CJ, and De Marzo AM. Decreased NKX3.1 Protein Expression in Focal Prostatic Atrophy, Prostatic Intraepithelial Neoplasia and Adenocarcinoma: Association with Gleason Score and Chromosome 8p Deletion. Cancer Res. 2006; 66:10683-90.
6. De Marzo AM, Platz EA, Sutcliffe S, Xu J, Grönberg H, Drake CG, Nakai Y, Isaacs WB, Nelson WG. Inflammation in Prostate Carcinogenesis. Nat Rev Cancer. 2007; 7:256-69.
7. Gurel B, Iwata T, Koh C, Jenkins RB, Lan F, Dang CV, Hicks JL, Morgan J, Cornish TC, Sutcliff S, Isaacs WB, Luo J, De Marzo AM. Nuclear MYC Protein Overexpression Is an Early Alteration in Human Prostate Carcinogenesis. Modern Path. 2008; 21:1156-1167. PMC Journal - In Process.
8. Yegnasubramanian S, Haffner MC, Zhang Y, Gurel B, Cornish TC, Wu Z, Irizarry RA, Morgan J, Hicks J, DeWeese TL, Isaacs WB, Bova GS, De Marzo AM, Nelson WG. DNA Hypomethylation Arises Later in Prostate Cancer Progression Than CpG Island Hypermethylation and Contributes to Metastatic Tumor Heterogeneity. Cancer Res, 2008; 68:8954-8967. PMCID2577392.
9. Dunn TA, Fedor H, Isaacs WB, De Marzo, AM, Luo J. Genome-Wide Expression Analysis of Recently Processed Formalin-Fixed Paraffin Embedded Human Prostate Tissues. Prostate, 2009 Oct 30; 69:214-8. PMCID2612089.
10. Parsons JK, Saria EA, Nakayama M, Vessella RL, Sawyers CL, Isaacs WB, Faith DA, Bova GS, Samathanam CA, Mitchell R, De Marzo AM. Comprehensive Mutational Analysis and mRNA Isoform

Quantification of TP63 in Normal and Neoplastic Human Prostate Cells. Prostate 2009; 69:559-69. PMCID2875878.

11. Hill KM, Kalifa S, Das JR, Bhatti T, Gay M, Williams D, Taliferro-Smith L, De Marzo AM. The Role of PI 3-Kinase p110 Beta in AKT Signally, Cell Survival, and Proliferation in Human Prostate Cancer Cells. Prostate. 2010 Jan 7 [Epub ahead of print]. NIHMS179040.
12. Haffner MC, Aryee MJ, Toubaji A, Esopi DM, Albadine R, Gurel B, Isaacs WB, Bova GS, Liu W, Xu J, Meeker AK, Netto G, De Marzo AM, Nelson WG, Yegnasubramanian S. Androgen-induced TOP2B-Mediated Double-Strand Breaks and Prostate Cancer Gene Rearrangements. Nat Genet. 2010; 42:647-8. PMC Journal - In Process.

Additional recent publications of importance to the field (in chronological order)

1. Meeker AK, Hicks JL, Iacobuzio-Donahue CA, Montgomery EA, Westra WH, Chan TY, Ronnett BM, De Marzo AM. Telomere Length Abnormalities Occur Early in the Initiation of Epithelial Carcinogenesis. Clin Cancer Res. 2004; 10: 3317-26.
2. c-Myc Suppression of miR-23a/b Enhances Mitochondrial Glutaminase Expression and Glutamine Metabolism. Gao P, Tchernyshyov I, Chang TC, Lee YS, Kita K, Ochi T, Zeller KI, De Marzo AM, Van Eyk JE, Mendell JT, Dang CV. Nature. 2009; 458:762-5. PMCID2729443.
3. Sfanos KS, Wilson BA, De Marzo AM, Isaacs WB. Acute Inflammatory Proteins Constitute the Organic Matrix of Prostatic Corpora Amylacea and Calculi in Men with Prostate Cancer. Proc Natl Acad Sci U S A, 2009; 106:3443-8. PMCID2651291.

D. Research Support

Ongoing Research Projects

2P50CA103175-06A2 (Bhujwalla) 09/22/11-07/31/16
NCI JHU ICMIC Program
This center grant funds an *in vivo* Cellular and Molecular Imaging Center at Johns Hopkins. The program consists of four research components, four developmental projects, one career development award and four resources.

P50 CA58236 (Nelson) 09/30/97-08/31/13
NCI
SPORE in Prostate Cancer
Core 2 – Tissue Archive Core
The major goals of this project are to provide a core facility for pathology for the Prostate SPORE. This involves a tissue repository, tissue microarray production, pathology diagnostics, immunohistochemistry, and DNA microarray facilities.

P50DK082998-01A109 (Getzenberg) 09/30/09-07/31/14
NCI
Novel Translational Approaches to BPH/LUTS
Project 1 (Platz)
Benign prostatic hyperplasia (BPH) or lower urinary tract symptoms (LUTS) represents one of the most common diseases occurring in aging men in the United States. These are complex diseases that require molecular classification and novel therapeutic approaches. To address these needs, we have prepared this application for a George M. O'Brien Urology Center which is focused on BPH/LUTS. The Center consists of four projects, each of which is translational / clinical in nature. This O'Brien Center should provide new insights and approaches to these common issues that affect almost all men as they age. The goal of Project 1 is to test whether intraprostatic inflammation and focal atrophy contribute to lower urinary tract symptoms (LUTS) and their progression irrespective of concurrent transition zone hyperplasia or diagnosis of benign prostatic hyperplasia (BPH), and to determine whether finasteride reduces the extent of intraprostatic inflammation and focal atrophy and thus LUTS.

Completed Projects Within Last Three Years

Johns Hopkins Medical Institution (Eisenberg) 04/01/10-03/31/12
Patrick C. Walsh Prostate Cancer Research Foundation

Molecular Studies in men with Prostate Cancer treated with androgen deprivation.
To evaluate clinical and molecular parameters that can help identify patients that will or will not benefit from androgen deprivation.

Johns Hopkins Medical Institution (De Marzo) 04/01/09-03/31/11
Patrick C. Walsh Prostate Cancer Research Foundation
MYC Induced Transformation of Prostate Epithelial Cells.
The aim of this project is investigate mechanism by which the oncogenic transcription factor MYC transforms prostate epithelial cells.

Maryland Technology Development Corp (Isaacs) 07/01/08-06/30/11
Developing Methods for the Identification and Isolation of Prostate Cancer Stem Cells
The major goal of this project is to accelerate rational development of effective therapies for both the prevention and treatment of prostate cancer.

5P30CA006973-469041 (Nelson) 05/07/97-04/30/11
NCI
Comprehensive Cancer Center Core Grant
Regional Oncology Research Center
The major goals of this core are to provide a center for the creation of tissue microarrays (TMAs), and for imaging of TMA slides for Johns Hopkins and other researchers.

U54 CA091409 (Nelson) 07/13/01-08/31/11
NCI
Howard/Hopkins Cancer Center Partnership
Biospecimen Core
The major aim of this grant proposal is to continue the development of a sustainable partnership between Howard University Cancer Center (HUCC) and the Sidney Kimmel comprehensive Cancer Center (SKCCC) at Johns Hopkins that enhances the research, training, education, and outreach missions of both institutions. The primary mission of this Core is to serve investigators at both institutions in their studies related to health disparities by providing high quality prostate tissue specimens obtained from both African American and Caucasians with the ultimate goals of contributing to the prevention and/or cure of prostate cancer and the understanding of the basis of the marked disparity in prostate cancer incidence and outcomes.

PC050457 (De Marzo) 01/01/06-12/31/08
Department of Defense Congressional Dir. Med. Research Program
Interactions Between Dietary Factors and Inflammation in Prostate Carcinogenesis
The major goals of this project are to determine whether there are synergistic actions between diet and infectious agents in causing chronic inflammation and cancer in the rat prostate.