

CURRICULUM VITAE

BIOGRAPHICAL

Name: Denise S. O'Keefe, PhD.

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EDUCATION AND TRAINING

UNDERGRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Degree Received and Year</i>	<i>Major Subject</i>
1987-1989	La Trobe University, Melbourne, Australia	Bach. Science, 1989	Genetics/Microbiology

GRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Degree Received and Year</i>	<i>Major Professor and Discipline</i>
1990	La Trobe University, Melbourne, Australia	Honors, 1990	Laboratory of Dr. Jenny Graves, Genetics/Human variation
	Thesis: Development of a Novel Method to isolate a probe for Fragile-X Syndrome		

POST-GRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Name of Program Director and Discipline</i>
1991-1995	University of Adelaide, Adelaide, Australia	Ph.D., 1996 Medicine/ Molecular Oncology Mentor: Alex Dobrovic, Ph.D.
	Thesis title: Molecular Analysis of Changes in ABO Blood Group Antigen Expression in Haematological Malignancy	
1996-1997	Columbia University, New York, NY Department of Pathology, Genomic Imprinting and Epigenetics of Wilm's Tumor	Post-doctoral Fellow Mentor: Ben Tycko, MD., Ph.D.
1997-1999	Memorial Sloan-Kettering Cancer Center, New York, NY Department of Urology,	Post-doctoral Fellow Mentor: Warren Heston, Ph.D.
1999-2002	The role of Prostate-Specific Membrane Antigen, a unique folate hydrolase, in prostate cancer. The Cleveland Clinic Foundation, Cleveland, OH Dept. of Cancer Biology,	Res. Assoc. & Project Scientist Mentor: Warren Heston, Ph.D.

The role of Prostate-Specific Membrane Antigen, a unique folate hydrolase, in prostate cancer.

APPOINTMENTS AND POSITIONS

ACADEMIC:

<i>Years Inclusive</i>	<i>Name and Location of Institution or Organization</i>	<i>Title</i>
2005-present	University of Pittsburgh, Pittsburgh, PA Department of Urology	Assistant Professor
2003-2005	University of Pittsburgh, Pittsburgh, PA Department of Urology	Visiting Research Assistant Professor

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

American Association for Cancer Research	1997-present
American Association for the Advancement of Science	1999-present
The DNA Methylation (Epigenetics) Society	2005-present
Society for Basic Urology Research	2007-present

HONORS

<i>Title of Award</i>	<i>Year</i>
The Queen Elizabeth Hospital Research Foundation Postgraduate Scholarship.	1991-1995
Winner of the Promega Student award for academic excellence.	1995
C.R. Bard Postdoctoral Fellowship, awarded by the American Foundation for Urologic Disease (AFUD). Proposal entitled "Biological Characterization of Prostate-Specific Membrane Antigen in normal tissues and prostate cancer."	1999-2001
Prostate Health Council Scholar, awarded by the American Foundation for Urologic Disease.	1999-2001
Principal investigator for Postdoctoral-traineeship grant entitled "Characterization of Prostate-Specific Membrane Antigen (PSMA) for use in therapeutic and diagnostic strategies against prostate cancer." Awarded by the U.S. Army, number DAMD17-99-1-9523.	1999-2002
Edwin Beer Fellow in Urology, from the New York Academy of Medicine. (Mentor: Robert H. Getzenberg)	2004-2006
Society for Basic Urology Research Young Investigator 2007 Award	2007
Prostate Cancer Foundation Award	2007
Nominated by the NCI Division of Cancer Prevention for a PECASE (The Presidential Early Career Award for Scientists and Engineers) award	2010
Featured under the "Spotlight on a basic scientist" heading in the Nutrition Frontiers Newsletter, Published by the National Cancer Institute Nutritional Sciences group	2011

PUBLICATIONS (H-index, 13, average cites per manuscript, 28.8)

Refereed Articles:

1. **O'Keefe DS**, Dobrovic A: A rapid and reliable method for genotyping the ABO blood group (1993). *Human Mutation*, 2:67-70. cites: 31 I.F. 7.9*
2. Evdokiou A, Webb GC, Peters GB, Dobrovic A, **O'Keefe DS**, Forbes IJ, Cowled PA: Localization of the human growth arrest-specific gene (GAS1) to chromosome bands 9q21.3-q22, a region frequently deleted in myeloid malignancies (1993). *Genomics*, 18:731-733. cites: 20 I.F. 3.2*
3. Dobrovic A, **O'Keefe DS**, Sage RE, Batchelder E: Imprinting and loss of ABO antigens in leukemia (1993). *Blood*, 1684-1685. cites: 6 I.F. 10.1*
4. **O'Keefe DS**, Dobrovic A: Decreased stability of the O allele mRNA transcript of the ABO gene. (1996) *Blood*, 87: 3061-3062. cites: 6 I.F. 10.1*
5. **O'Keefe DS**, Dobrovic A: A rapid and reliable method for genotyping the ABO blood group. II: A² and O² alleles (1996). *Human Mutation*, 8:358-361. cites: 8 I.F. 7.9*
6. **O'Keefe D**, Dao D, Zhao L, Sanderson R, Warburton D, Weiss L, Anyane-Yeboha K, Tycko B. Coding mutations in p57KIP2 are present in some cases of Beckwith-Wiedemann syndrome but are rare or absent in Wilms tumors (1997). *American Journal of Human Genetics*, 61:295-303. cites: 96 I.F. 12.7*
7. Qian N, Frank D, **O'Keefe D**, Dao D, Zhao L, Yuan L, Wang Q, Keating M, Walsh C, Tycko B. The IPL gene on chromosome 11p15.5 is imprinted in humans and mice and is similar to TDAG51, implicated in Fas expression and apoptosis (1997). *Human Molecular Genetics*, 6:2021-2029. cites: 76 I.F. 7.8*
8. Dao D, Frank D, Qian N, **O'Keefe D**, Vosatka RJ, L, Walsh CP, Tycko B. IMP1, an imprinted gene similar to polyspecific transporter and multi-drug resistance genes (1998). *Human Molecular Genetics*, 7:597-608. cites: 62 I.F. 7.8
9. Kaplinsky, RS, Bacich DJ, **O'Keefe DS**, Rabbani F, Tomassi MJ, Huryk R, Bastar AL, Miller Jr. WH, Heston WDW, Fair WR. Neither PSMA RT-PCR nor MTHFR genotype predicts PSA failure after prostatectomy (1998). *Molecular Urology*, 2:221-227. Cited: 0 I.F.
10. **O'Keefe DS**, Su SL, Bacich DJ, Horiguchi Y, Luo Y, Powell CT, Zandvliet D, Russell PJ, Molloy PL, Nowak NJ, Shows TB, Mullins C, Vonder Haar R, Fair W, Heston WDW. Mapping, genomic organization, and promoter analysis of the human prostate specific membrane antigen gene (1998). *Biochimica Biophysica Acta*, 1443: 113-127. Cited: 65 I.F. 2.5
11. Bacich DJ, Earl CR, **O'Keefe DS**, Norman RJ, Rodgers RJ. Characterization of the translated products of the alternatively spliced luteinizing hormone receptor in the ovine ovary throughout the oestrous cycle (1999). *Molecular and Cellular Endocrinology*, 147:113-125. Cited: 5 I.F. 2.8
12. Chang SS, **O'Keefe DS**, Bacich DJ, Heston WDW, Reuter VE, Gaudin PB. Prostate-Specific Membrane Antigen (PSMA) is produced in tumor-associated neovasculature (1999). *Clinical Cancer Research*, 5(10):2674-81. Cited: 84 I.F. 5.7
13. Chang SS, Gaudin PB, Reuter VE, **O'Keefe DS**, Bacich DJ, Heston WDW. Prostate-Specific Membrane Antigen (PSMA): Much More than a Prostate Cancer Marker (1999). *Molecular Urology* 3(3) 313-319. Cited: 8
14. Gong MC, Chang, SS, Watt, F, **O'Keefe, D.S.**, Bacich, D.J., Uchida, A., Bander, NH, Reuter, VE, Gaudin, PB., Molloy, P.L., Sadelain, M. and Heston, W.D.W. An Overview of Evolving Strategies Incorporating Prostate-Specific Membrane Antigen (PSMA) as a Target for Therapy. (2000). *Molecular Urology* 4:217-22. Cited: 17
15. **O'Keefe, D.S.**, Uchida, A., Bacich, D.J., Watt, F.B., Molloy P.L. and Heston, W.D.W. Prostate-Specific Suicide Gene Therapy using the Prostate-Specific Membrane Antigen (PSMA) Enhancer (2000). *The Prostate*, 45:149-57 Cited: 37 I.F. 3.6
16. Watt F, Martorana A, Brookes DE, Ho T, Kingsley E, **O'Keefe D.S.**, Russell PJ, Heston WD, Molloy PL. A tissue-specific enhancer of the prostate-specific membrane antigen gene, FOLH1 (2001). *Genomics*, 73:243-54. Cited: 39 I.F. 3.2
17. Uchida, A., **O'Keefe, D.S.**, Bacich, D.J., Molloy, P.L. and Heston, W.D.W. *In vivo* suicide gene therapy model using a newly discovered Prostate-Specific Membrane Antigen (PSMA) Promoter/Enhancer: A potential alternative approach to androgen deprivation therapy (2001). *Urology*, 58:132-139. cited: 24 I.F. 2.1
18. Bacich, DJ, Ramadam, E, **O'Keefe, D.S.**, Bukhari, N, Wegorzewska, E, Ojeifo, O, Wrenn, CC, Bzdega, T, Wroblewska, B, Heston, WDW, Neale JH. Deletion of the Glutamate Carboxypeptidase II Gene in Mice reveals a second enzyme activity that hydrolyzes N-Acetylaspartylglutamate (2002). *J Neurochem.*, 83(1):20-9. cited: 26 I.F. 4.6
19. **O'Keefe, D.S.**, Bacich, D.J. and Heston, W.D.W. Comparative analysis of Prostate-Specific Membrane

- Antigen (PSMA) versus a prostate-specific membrane antigen-*Like* gene (2004). *The Prostate*, 58:200-210. cited: 10 I.F. 3.6
20. Balaji KC, Rao PS, Smith DJ, Louis S, Smith LM, Sherman S, Bacich D, **O'Keefe D**. Microarray analysis of differential gene expression in androgen independent prostate cancer using a metastatic human prostate cancer cell line model (2004). *Urol Oncol.*, 22(4):313-20. cites: 3 I.F. 1.1
 22. **O'Keefe, D.S.** and Heston, W.D.W. Clearing up the confusion over the Glutamate Carboxypeptidase II gene (2004). *American Journal of Medical Genetics A.*, 327:329-330. Cited: 1 I.F. 1.9
 23. Bacich D.J., Wozniak, K., Lu, M., **O'Keefe, D. S.** , Callizot, N., Heston, W.D.W. and Slusher, B.S. Mice lacking Glutamate Carboxypeptidase II are protected from peripheral neuropathy and ischemic brain injury (2005). *J. Neurochem.*, 95(2):314-23. Cited: 2 I.F. 4.6
 24. Collard R.L., Harya, N.S., Monzon, F.A., Maier, C.E., **O'Keefe, D.S.** Methylation of the ASC Gene Promoter is Associated with Aggressive Prostate Cancer (2006). *The Prostate*, 66:687-695. Cited: 2 I.F. 3.6
 25. Kelavkar UP, Harya N, Hutzley J, Bacich DJ, Monzon FA, Chandran U, Dhir R and **O'Keefe DS** . DNA methylation paradigm shift: 15-lipoxygenase-1 upregulation in prostatic intraepithelial neoplasia and prostate cancer by atypical promoter hypermethylation. (2007) *Prostaglandins & other Lipid Mediators*, 82(1-4):185-97. I.F. 2.3
 26. Bianco-Miotto, T., Hussey, D.J., Day, T.K, O'Keefe, D.S., Dobrovic, A. DNA methylation of the ABO promoter underlies loss of ABO allelic expression in a significant proportion of leukemic patients. (2009) *PLoS ONE*, 4(3):e4788. Epub 2009 Mar, 10.
 27. Yao, V., Berkman, CE., Choi, J., **O'Keefe, D.S.*** and Bacich, D.J.* Expression of Prostate-Specific Membrane Antigen (PSMA) increases cell folate uptake and proliferation and suggests a novel role for PSMA in the uptake of the non-polyglutamated folate, folic acid. (2010) *The Prostate*, 70(3):305-16. (equal senior author)
 28. Chang, G., Xu, S., Dhir, R., Chandran, U., **O'Keefe, D.S.**, Greenberg, N.M. Gingrich, J.R. Hypoexpression and epigenetic regulation of candidate tumor suppressor gene CADM-2 in human prostate cancer. (2010) *Clinical Cancer Research* 16(22):5390-401.
 29. Tomaszewski, J.J., Cummings, J.L., Parwani, A.V., Dhir, R., Mason, J.B., Nelson, J.B., Bacich, D.J.*, **O'Keefe, D.S.*** . Increased cancer cell proliferation in prostate cancer patients with high levels of serum folate. (2011). *The Prostate* (in press)

Book Chapter: **O'Keefe DS**, Bacich DJ, Heston, WDW. Prostate-Specific Membrane Antigen (2001). Chapter 18, pp307-326, in "Prostate Cancer: Biology, Genetics and New Therapeutics", Eds. Leland Chung, William Isaacs and Johnathon Simons, Humana Press; ISBN: 0896038688

PROFESSIONAL ACTIVITIES

Teaching:

- Scientific Mentor for Laura Dewberry, undergraduate student from Tuskegee University as part of the DOD funded Historically Black Colleges/Universities Prostate Cancer Training Award (2010-2011)
- Advisor for Urology Resident (Jeff Tomaszewski) Research Rotation 2009-2010
- Scientific Mentor for Santanna Small, undergraduate student from Tuskegee University as part of the DOD funded Historically Black Colleges/Universities Prostate Cancer Training Award (2009-2010)
- Graduate student mentor, for Katy Gonyea-Sobek, 2008-present (Cellular and Molecular Pathology Program) Committee Member, Thesis Advisory and Comprehensive Exam Committee (Cellular and Molecular Pathology Program)
- Graduate student Ashwini Balakrishnan; Advisor, Richard Chaillet, MD,PhD. (Cellular and Molecular Pathology Program 2008-present)
- Fuel Metabolism: PBL and small group projects (4.5 hours/ year) MED, MS-1 (2010)
- Human Genetics: PBL and workshops (16 class hours /year) MED, MS-1 (2008)
- Human Genetics: PBL and workshops (16 class hours/year) MED5115, MS-1 (2007)
- Human Genetics course lecturer "Colorectal Cancer", for MED5115 MS-1 students (2007)
- SURP and/or summer student mentor 2004-2011
- Faculty Advisor of a student researcher, Hetal Chioxi, (10 credit hours/week, course 03-445 undergraduate research, Spring semester 2007) from Carnegie Mellon University.

- Service on a thesis review committee for a Masters of Biotechnology student at Flinders University, Adelaide, Australia (2006).
- Supervision of a graduate (studying first year Medicine) summer student (2006).
- Joint supervision of a medical student carrying out a yearlong lab research experience (2005-2006).
- Supervision of post-doctoral fellows (2004-2009).
- LaTrobe University, Melbourne Australia: Taught undergraduate practical classes and tutorials for Genetics I and Zoology I (1990). One 4 hour practical class per week, and one 50 minute tutorial class per week for the academic year (one semester each subject).

Peer Reviewing:

- Grant reviewer for the Italian Association of Cancer Research Summer 2006
- Prostate Cancer Training Award #3 Study Section for the Department of Defense Congressionally Directed Medical Research Program, June 2006
- Prostate Cancer Training Award #1 Study Section for the Department of Defense Congressionally Directed Medical Research Program, September 2008
- Prostate Cancer Research Program Adhoc #1 reviewer (Training and Idea awards) for the Department of Defense Congressionally Directed Medical Research Program, October 2008
- Prostate Cancer Research Program PRE-CET-B Study Section (Idea and Synergistic awards for Clinical and Experimental Therapeutics B Preproposal reviewing), for the Department of Defense Congressionally Directed Medical Research Program, March-April 2009.
- Prostate Cancer Research Program Training Awards PCTA-4 Study Section, for the Department of Defense Congressionally Directed Medical Research Program, July 2009
- Prostate Cancer grants for the Florida Department of Health Bankhead-Coley program: postdoctoral training grants - Feb-March 2010
- Prostate Cancer grants for the Florida Department of Health Bankhead-Coley program: Team Science Projects (NIH P30 style grants) – Feb-March 2010.
- Florida Department of Health James and Esther King Biomedical Research Program: Postdoctoral Training awards – Feb-March 2010
- Prostate Cancer Research Program PRE-CET-B (Idea and Synergistic awards for Clinical and Experimental Therapeutics B Preproposal reviewing), for the Department of Defense Congressionally Directed Medical Research Program, March-April 2010
- Prostate Cancer Research Program Training Awards PCT-4 Study Section, for the Department of Defense Congressionally Directed Medical Research Program, August 2010

Other Research Related Activities:

Patent: “DNA Encoding the Prostate-Specific Membrane Antigen-Like Gene and Uses Thereof.” Heston, W.D.W. and **O’Keefe, D.S.**– USSN 09/973,382. Issued 2004.

Patent (published) "Method of determining the prognosis of human cancers". **O'Keefe, D.S.** Kelavkar, U.P. and Dhir, R. US application number 60/793,100

Provisional Patent Application "Identification of a novel retrovirus in patients with benign prostatic hyperplasia" - No. 61/407,846. Filed October 28, 2010

Journals Refereed for:

Journal of Andrology
Asian Journal of Andrology
Journal of Urology
Brain Research
Cancer Research
Cancer Letters
Targeted Protein Database
BMC Cancer
Open Prostate Cancer Journal

Book Chapter Editorial Reviews:

Methods in Molecular Biology entitled "Epigenetics Protocols II". Edited by Trygve Tollefsbol, Ph.D., D.O.

Editorial Boards:

Associate Editor and Subject Advisor for genetics, for BMC Research Notes
Editorial board member for "The Open Prostate Cancer Journal"

CURRENT RESEARCH INTERESTS:

Epigenetic and genetic events in prostate cancer. Novel therapeutic agents for prostate cancer. Biological role of Secretoglobin 3A1 in the prostate. Role of Folate nutrition in prostate cancer epigenesis. Role of the prostate cancer field-defect. Novel viruses and their regulation by DNA methylation. Chemoprevention for prostate cancer.

Service:

1. University and Medical School

- a. Faculty search committee for the Department of Urology Director of Research (2005-2006)
- b. Faculty search committee for the Department of Urology
- c. Poster and abstract judging for graduate student presentations (2007-2008), for the IBMGP
- d. Advisory committee for tissue banking / database interface for researchers (ad hoc over 2005-2009)
- e. Poster judging for UPCI Retreat (2010)

2. Community Activities

- a. Mentoring high-school student for summer research immersion experience and science competitions
- b. Presentation at the "US TOO!" Prostate Cancer Support Group meeting "Nutrition and Prostate Cancer : the perspective of a biologist". November 2007

Updated 2/8/2011 DOK