CV 2020 Walter P. Drake

Walter P. Drake 2020

Walter P. Drake
Curriculum Vitae 2020

Research Scientist and Attorney
Citizenship: USA

Name: Walter Peter Drake

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Education:

Bachelor Degree (B.A.), Johns Hopkins University (Baltimore, Maryland) 1968
Masters Degree (M.A.), Molecular Biology, Johns Hopkins University 1971
Doctor of Law (J.D.), University of Baltimore School of Law 1975
Doctor of Philosophy (Ph.D.), Stem Cell Biology, Panama College of Cell Science 2013
Doctor of Naturopathic Medicine (N.D.), Blue Marble University (Dominica) 2018

Law License: State of Maryland
Doctor of Naturopathic Medicine: Qualified for Licensure in Idaho

Summary of Body of Work

Research Scientist in the areas of tumor immunology and stem cell medicine, with over 30 published papers in bio-medical journals, including the latest: Comella K., Parlo M, Daly R, Depasquale V, Edgerton E, Mallory P, Schmidt R, Drake WP: *"Safety Analysis of Autologous Stem Cell Therapy in a Variety of Degenerative Diseases and Injuries Using the Stromal Vascular Fraction"*. **J Clin Med Res 2017: 9(11): 935-942.**

CEO, Bengal Bioscience Inc, a development stage company engaged in formulating transdermal botanical extracts and bio-medicines from Amniotic Fluid.

Doctor of Naturopathic Medicine, specializing in bioidentical hormones and stem cell therapy

Attorney-at-Law experienced in complex bankruptcy and tax issues, currently specializing in crowdfunding, investments, securities and business law including bankruptcy.

Director, Blue Marble Education Group, which includes *Panama College of Cell Science, Blue Marble University, and Blue Marble University Medical School*

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Early Science

My studies began in the Department of Biology, Johns Hopkins University in Baltimore. In 1968, the Department was engaged in advancing the understanding of molecular biological interactions between the primary cell molecules: DNA, RNA, and Proteins. After 3 years at Hopkins, it appeared that the only models being studied were bacterial models, the interaction between bacteria and their viruses, principally the T4 phage. And although the study of bacterial models had over the years produced our primary understanding of the interaction between DNA, RNA and proteins, I wanted to work with animal models. Having completed all course requirements for a PhD degree, but lacking a completed dissertation, I left Hopkins in 1971 with a Masters Degree in Molecular Biology and joined the research laboratory of Michael R. Mardiney Jr., MD. He was Chief of the Immunology Section of the Baltimore Cancer Research Center and was using various animal models, primarily the mouse, to study how immunotherapy could be used to control cancer.

Department of Biology (1971)
Mergenthaler Hall, Johns Hopkins University

The Baltimore Cancer Research Center (BCRC) was a joint research collaboration between the National Cancer Institute and the U.S. Public Health Service Hospital, and indeed its labs occupied the grounds of the Hospital located at Wyman Park Drive in Baltimore. The BCRC was formed in 1965 and for a little over 10 years thereafter, it conducted both clinical studies with cancer patients, and basic research with animal models.

When I started there in 1971, the Section of Immunology headed by Dr. Mardiney was experimenting with BCG, short for "Bacille Calmette Guerin", a vaccine preparation still used internationally as a prophylactic for


Professor Georges Mathé with laboratory mouse Circa 1970

tuberculosis. BCG had been found by Professor Georges Mathé in France to boost the immune response in patients with cancer. Dr. Mathé was the Director of the Institute of Cancer and Immunotherapeutics at the Paul-Brouse Hospital in Villejuif, France. Dr. Mardiney had met Dr. Mathé and the 2 labs had a loose association, sharing data and concepts. Some of our research reports were published in Biomedicine (the European Journal of Clinical and Biological Research) edited by Dr. Mathé.

At that time, little did I know or appreciate that history would remember Dr. Mathé as one of the early pioneers in stem cell transplantation. As reported in the British Medical Journal, Volume 319, p 1308 (1999): "...the milestone contribution of Georges Mathé from Paris mark the beginning of the adventure into stem cell transplantation....[he] successfully treated patients who had received lethal doses of radiation from a nuclear accident, with allogeneic bone marrow transplantation in 1958".

Under Dr. Mardiney, and with substantial federal funding for the US "War on Cancer", the Immunology Section and the BCRC made major contributions toward patient treatment regimens. Moreover, many physicians that trained in the Immunology Section went on to head major cancer centers around the country. With the collaboration of Dr. Mardiney, I completed many independent investigations and became lead author on 20 published biomedical reports and co-author/contributor to 9 others.

The earliest report, Drake WP et al "Preservation of Cellular Antigenicity in Tumor Cells By the Use of Formalin Fixation", Cancer Research 32:1042-1044 (1972), showed that formalin treated tumor cells could elicit a strong immune response measured by the development of antibody to the cells when injected into a mouse. Over the years, this study has been cited many times by other scientists. In 2003, this report was cited as the basis to make a patient vaccine by treating a patient's tumor cells with formalin and injecting into the patient with beneficial results. **Pizza G, et al, "Allogeneic Gene-Modified Tumour Cells in Metastatic Kidney Cancer: Preliminary Report", Folio Biological (Praha) 49: 147-159 (2003).**

In 1976, the BCRC laboratories moved to the University of Maryland Medical Center. By 1978, both the name and the mission had changed, with the resulting departure of most of the staff. Meanwhile, shortly thereafter, the United States Public Health Service Hospital was transferred to a federal Health Maintenance Organization (HMO) called the Wyman Park Health Systems, and eventually acquired by Johns Hopkins which incorporated it into the US Family Health Plan at Johns Hopkins Hospital.

Having obtained a law degree (Doctor of Jurisprudence from University of Baltimore School of Law) I departed as well to pursue a law career.

Michael R. Mardiney Jr., MD went on to become a pre-eminent allergist and immunologist, treating pediatric and adult patients in the Baltimore Maryland area. Sadly, I lost my friend and colleague April 2015. The Life of Dr Mardiney . He taught me Immunology and he taught me to always be the best you can be....

Michael R. Mardiney Jr, MD

Professor Georges Mathé continued to speak at international conferences concerning the role of immunotherapy in cancer treatment. In 2002, he was awarded the Grand Medal (highest national award) from the French National Academy of Medicine. He died in October 2010. Some people think he was the **father of adult stem cell transplantation**. About Professor Doctor George Mathe

Adventures in Law

Walter P. Drake circa 1996

By 1978, I began what would become a 20 year legal career of great variety. I busied myself **drafting complex contracts and negotiation**, including purchase/ sale of businesses, federal and state securities filings, representation of health care companies, financing liens, mortgages, commercial leases, representation of health care companies. For several years, I was managing partner in 5 lawyer group specializing in medical malpractice claims, responsible for training and supervising legal support staff. After that I started my own law firm which was a general practice and concentrated on Civil Trials, Bankruptcy, Tax, and Small Business Law including the filing of stock prospectus with the Securities and Exchange Commission. **Representation of health care companies** included Clinica Corp., a development stage company founded to develop cancer screening tests based on some of the work with the RNAase enzyme test that was being investigated at the BCRC. I also served as attorney for Immunodiagnostics and Immunotherapeutics Inc., a company headed by my friend and colleague, Dr. Michael Mardiney, which was engaged in quantifying and packaging immunotherapeutic protocols and antigenic substances.

Law Office of Walter P. Drake
Berlin, Maryland, USA
2000

Former Member, **American Bar Association**, and **American Trial Lawyers Association.** Formerly practiced before the **U.S. Tax Court**, and the **U.S. Bankruptcy Court**.

Back Into Science

By chance, in 2001, while in Thailand on a sabbatical of uncertain duration, I came across reports of the curing of blindness in a Thai patient through the use of stem cell injections. There came further reports of Thailand establishing a "National Stem Cell Mega Project" to fund and coordinate stem cell therapies. Like those others of us that were overseas, it became clear to me that a lot of *avant-garde* research and treatment was going on around the world that was not happening in the USA. These advances were not even being reported in the US. There seemed to be a lot of opportunities to participate in this new field with more freedom from governmental regulation. Except for the USA where restrictions many times disable clinical progress, there was at that time the emergence of the new field of stem cell therapy- valuable and beneficial treatments using a patient's own stem cells- that were being offered internationally, particularly in China, Thailand, Singapore, Panama, Sweden, Germany, and Russia. I immediately created **The Drake Biomedical Institute** to dig into this new science, and in part, to match patients to available treatments.

Visions of stem cell clinics danced in my brain. I started studying the field, and in particular, tried to catalog protocols. "Expansion" protocols (wherein stem cells are multiplied *in vitro* prior to re-implantation) were difficult to ascertain. My vision was to eventually create a clinic, or if not that, then a lab for manipulating and expanding autologous stem cells derived from patients.

It was fascinating to learn that a tube of blood drawn from a patient could hold the cure or control for many really serious debilitating diseases!!

In parallel, I became acquainted with the owner of the company in Bangkok which was treating heart patients with stem cells. The company name was **VesCell**, and the owner was Don Margolis, an American living full

time in Bangkok. Don Margolis is an amazing man, and a pioneer not only in the treatment of disease with stem cells harvested from the patient, but also a loud voice of patient advocacy questioning why these miracle treatments were not available in the USA. Don created the Repair Stem Cell Institute, the gold standard for USA patients seeking information on international stem cell treatments. He did what I had hoped to do with the **Drake Biomedical Institute**, only 1000 times better.

I had hoped to establish a stem cell clinic in Thailand, but after a lot of development work, with initially welcoming attitude and offers of lab space, eventually the Thais decided to keep this new field all to themselves and over time, that country became one of the world leaders in providing stem cell therapies using a patient's own cells.

Walter P. Drake, JD, PhD
Research Scientist
Founder, Drake Biomedical Institute
Thailand circa 2005

In 2005, so excited was I about this new medicine using stem cells, that I founded the **Panama College of Cell Science** in the Republic of Panama, a virtual graduate program offering a 3 year online PhD degree in stem cell biology. Many of us figured that a lot more people have got to be educated to work in this new medical field, and there would be a need for many research assistants and lab personnel, clinical assistants, managers of clinics, biomedical engineers, developers of equipment and instrumentation for stem cell expansion and treatment, and so forth. The Republic of Panama was chosen, because of the fine treatment center there (Stem Cell Institute-Panama) and the hope that possibly some of our students could obtain some hands-on lab and clinic experience.

I continued to study stem cell medicine, which many of us call the "new medicine", for a total of 18 years, finally becoming an expert in stem cell therapy. Along the way, the Panama College of Cell Science continued to grow , training clinicians, lab technicians, pharmaceutical scientists and physicians in the new techniques being developed in many countries. I became knowledgeable in the modern techniques using the PRP and SVF fractions of stem cells from a patient, to effect cures of our most debilitating diseases. These treatments are offered in many countries but not generally in the US. I was fortunate to achieve a first name basis with many experts in many countries including the top expert in the US, and came to know every major stem cell clinic in the most active countries: Thailand, Panama, Mexico, China, Bahamas, USA, and who is treating what.

Forty-five years after the publication of my first research report as a young immunology scientist, and following

years of study in the field of stem cell medicine, I was privileged to be included as co-author on **the first definitive paper published in the US establishing the safety of adult stem cell therapy.** The lead scientist for the paper was Dr. Kristin Comella, probably the most innovative clinical stem cell scientist in the US who has pioneered ways forward for adult stem cell treatment in the US via exceptions to the normal FDA rules, by classifying a patient treatment as either "patient specific clinical trial", "treatment under Institutional Review Board Approval", or "compassionate use". She has opened the door to more than 1000 clinical trials being undertaken in the US using a patient's own stem cells, or alternatively, adult stem cells harvested from umbilical cord of healthy newborns. The paper is ***"Safety Analysis of Autologous Stem Cell Therapy in a Variety of Degenerative Diseases and Injuries Using the Stromal Vascular Fraction",* J Clin Med Res 2017: 9(11): 935-942**

Back to the USA 2018-Present
Current Interests

Bengal Bioscience Inc. was formed specifically to create transdermal formulations of herbal extracts, thereby bypassing the gut and liver metabolism and delivering beneficial compounds directly to the blood. Many herbal extract powders have poor solubility and delivery by application to the skin would hopefully enhance their effectiveness. More important is to investigate ancient texts with an eye to identifying useful plant extracts and then subjecting them to modern extraction and purification techniques. Chinese herbalism goes back almost 7000 years to the ancient Sumerians who used herbs as medicines. One of the earliest texts **The Ebers Papyrus** (c. 1550 BC) from ancient Egypt has a prescription for Cannabis sativa (marijuana) applied topically for inflammation and lists 850 plant medicines. In China, the **Shennong Bencaojing, "**The Classic of Herbal Medicine", was practiced around 2800 BC. The first translation of the ancient texts on herbalism, **De Materia Medica,** created in the first century AD, lists 4,740 uses of plant based compounds, in a 5 volume book by the Greek, **Dioscorides**, which detailed the medicinal uses of 600 plants. My company, incorporated in North Carolina, is now a development stage company seeking funding to pursue the production of new transdermal creams formulated either from amniotic fluids-the new "fountain of youth"-or from botanical biomedicines.

Law Office: My law business is being refocused to specialize solely in Crowdfunding law and managing Crowdfunding offerings for start-ups and for investors. One of the problems for investors of crowdfunding products is getting your money out. My interest is in the various workarounds for this. I think it is important, when using the crowdfunding platforms for raising money, to also sell the investor exit as well. The exit, or payout, is much more important than the business concept. More information can be found on my law office website at: WalterDrakeAttorney.com.

Alternative Medicine Practice: As women all over the world found out over the last 15 years that modern medicine had failed them in connection with hormone replacement therapy using cancer causing substitutes for naturally occurring bio-identical hormones, it is time to review and update medically active compounds extracted from plants as a substitute for the dangerous pharmaceuticals being used today. As a **Doctor of Naturopathic Medicine**, I will be expanding my practice in the US, specializing in bio-identical hormones and stem cell therapies, if an when time permits.

Director, Blue Marble Education Group. I continue to enjoy serving as Director of this family of online educational institutions, which includes the *Panama College of Cell Science, Blue Marble University, and Blue Marble University Medical School*. Now serving 5 continents, the group offers US style education at a modest cost, using semi-retired and retired volunteers who share the vision of affordable, elegant education. Organized in the Republic of Panama, the *Panama College of Cell Science* has offered the first and still only 3 year online PhD program in stem cell biology since 2005. *Blue Marble University*, organized in the Commonwealth of Dominica, offers a wide variety of online doctoral degrees for working adults. All degrees have been deemed equivalent to regionally accredited US colleges and universities by various foreign education evaluators.

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Biomedical Publications
of
Walter P. Drake

1. Drake WP, Ungaro PC, and Mardiney MR Jr.: Preservation of Cellular Antigenicity of Tumor Cells by the Use of Formalin Fixation. **Cancer Research 32:1042-1044, 1972.**

2. Markham RV, Sutherland TC, Cimino EF, Drake WP, and Mardiney MR Jr.: Immune Complexes Localized in the Renal Glomeruli of AKR Mice: The Presence of MuLV gs-1 and C-Type RNA Tumor Virus gs-3 Determinants. **European Journal of Clinical and Biological Research 17(7):11-15, 1972.**

3. Ungaro PC, Drake WP, Buchholz DH, and Mardiney MR Jr: Alteration of Specificity of AntiTumor Antisera by the Use of Passively Administered Antibody. **Cancer Research 32:1521-1525, 1972.**

4. Drake WP, Ungaro PC, and Mardiney MR Jr: Formalin-Fixed Cell Preparations for Use in the Automated Trypan Blue Cytotoxic Assay. **Transplantation 14:127-130, 1972.**

5. Ungaro PC, Drake WP, and Mardiney MR Jr: The Formalinization of Antibody to Tumor Cells in Altering the Immune Response. **Cancer Research 32:2241-2247, 1972.**

6. Drake WP, Ungaro PC, and Mardiney MR Jr: The Measurement and Manipulation of Hemolytic Complement Levels in Tumor Bearing C57BL/6 Mice. **Biomedicine 18:284-289, 1973.**

7. Ungaro PC, Drake WP, and Mardiney MR Jr: Augmentation of Antitumor Antibody Activity by the Use of Lyophilization. **Journal of the National Cancer Institute 50:201-204, 1973.**

8. Ungaro PC, Drake WP, and Mardiney MR Jr: Repetitive Administration of Bacillus Calmette Guerin in the Treatment of Spontaneous Leukemia of AKR Mice. **Journal of the National Cancer Institute 50:125-128, 1973.**

9. Drake WP, Ungaro PC, and Mardiney MR Jr: The Passive Administration of Antiserum and Complement in Producing Anti-El4 Cytotoxic Activity in the Serum of C57BL/6 Mice. **Journal of the National Cancer Institute 50:909-914, 1973.**

10. Drake WP, and Mardiney MR Jr: The Enhancement of Antitumor Antibody Binding to Cross-Reactive Normal Tissue Antigens. **Transplantation 16:189-198, 1973.**

11. Drake WP, LeGendre SM, and Mardiney MR Jr: Depression of Complement Activity in Three Strains of Mice After Tumor Transfer. **International Journal of Cancer 11:719-724, 1973.**

12. Mardiney MR Jr, Ungaro PC, and Drake WP: Immunoprophylaxis and the Treatment of Leukemia in AKR Mice: Repetitive Use of BCG. **National Cancer Institute Monograph, 39:89-90, 1973.**

13. Drake WP, Cimino EF, Mardiney MR Jr, and Sutherland JC: Prophylactic Therapy of Spontaneous Leukemia of AKR Mice with Polyadenylic acid-Polyuridylic acid (Poly A:U). **Journal of the National Cancer Institute 50:941-944, 1974.**

14. Drake WP, and Mardiney MR Jr: Parameters of Serum Complement in Relation to Tumor Therapy. **Biomedicine 21:206-209, 1974.**

15. Drake WP, Pokorney DR, and Mardiney MR Jr: In Vivo Abrogation of C3 and C5 by Administration of Cobra Venom Factor and Heterologous Anti-C3. J**ournal of Immunological Methods 6: 61-72, 1974.**

16. Drake WP, and Mardiney MR Jr: Complement Mediated Alteration of Antibody Specificity in vivo. **J. Immunol. 114: 1052-1057, 1975.**

17. Drake WP, Roberts GC, Pendergrast WJ, and Mardiney MR Jr: The Kinetics of the Interaction of Heterologous Anti-Tumor Serum and Heterologous Complement in Non-Tumor Bearing Mice. **Biomedicine 22(6): 502-508, 1975.**

18. Drake WP, Pokorney DR, Chipman S, Levy CC, and Mardiney MR Jr: Elevated Ribonuclease Activity in the Thymus and White Blood Cells of Genetically Cancer Prone Mice. **J. Experimental Med. 141: 918-923, 1975.**

19. Drake WP, Kopyta LP, Levy CC, and Mardiney MR Jr: Alterations in Ribonuclease Activities in the Plasma, Spleen, and Thymus of Tumor-Bearing Mice. **Cancer Research 35: 322-324, 1975**.

20. Drake WP, Pokorney DR, Ruckdeschel JC, Levy CC, and Mardiney MR Jr: A White Blood Cell Ribonuclease Assay for the Possible Monitoring of Malignancy. **J. Natl. Cancer Institute 54(6): 1475-1478, 1975.**

21. Drake WP, Schmuckler M, Pendergrast WJ, Davis AS, Lichtenfeld JL, and Mardiney MR Jr: Abnormal Profile of Human Nucleolytic Activity as a Diagnostic Test For Cancer. **J. Natl. Cancer Institute 55:1055, 1975.**

22. Pendergrast WJ, Drake WP, and Mardiney MR Jr: The Dependence of Successful Immunotherapy on Adequate Tumor Burden. **J Natl. Cancer Institute 55: 1223-1225, 1975.**

23. Drake WP, Pendergrast WJ Jr., Kramer RE, and Mardiney MR Jr.: Enhancement of Spontaneous

C3H/HeJ Mammary Tumorigenesis by Long-Term Polyadenylic-Polyuridylic Acid Therapy. **Cancer Res. 35(11): 3051-3, 1975.**

24. Drake WP, Pokorney DR, Kopyta LP, and Mardiney MR Jr.: In Vivo Decomplementation of Guinea Pigs with Cobra Venom Factor and Anti-C3 Serum: Analysis of the Requirement of C3 and C5 for Mediation of Endotoxin-Induced Death. **Biomedicine Express 25(3): 91-94, 1976.**

25. Drake WP, Pendergrast WJ Jr., Kramer RE, and Mardiney MR Jr.: The Age-Dependant Efficacy of Polyadenylic-Polyuridylic Acid Therapy Upon the Development of Spontaneous Leukemia in AKR Mice. **Cancer Res. 36(3): 1172-5, 1976.**

26. Pendergrast WJ Jr., Drake WP, and Mardiney MR Jr.: A Proper Sequence for the Treatment of B16 Melanoma: Chemothrerapy, Surgery, and Immunotherapy. **J. Natl. Cancer Inst. 57(3): 539-44, 1976.**

27. Drake WP, Roberts GC, and Mardiney MR Jr.: Latent Homology of Murine Lymphoid Antigens Revealed Through the Complement Mediated Absorption of Xenogenic Antiserum. **Biomedicine 24(5): 329-33, 1976.**

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29. Drake WP, Frazier LM, Sidle D, and Mardiney, MR Jr.: Alteration of Cellular Ribonuclease Associated With Murine Oncogenic Virus Infection. **Biomedicine 28: 24-28, 1978.**

30. Drake WP: Use of Formalin to Create Cellular Environments for Stem Cell Differentiation. **Letter to Michael R. Mardiney Jr. MD, September 23, 2007. Published online by Drake Biomedical Institute (DrakeBiomedicalInstitute.wordpress.com) at: https://drakebiomedicalinstitute.files.wordpress.com/2010/10/lettertomichael1.pdf**

31. Comella K., Parlo M, Daly R, Depasquale V, Edgerton E, Mallory P, Schmidt R, Drake WP: Safety Analysis of Autologous Stem Cell Therapy in a Variety of Degenerative Diseases and Injuries Using the Stromal Vascular Fraction. **J Clin Med Res 2017: 9(11): 935-942** [doi: https://doi.org/10.14740/jocmr3187w%5D Full Text: http://www.jocmr.org/index.php/JOCMR/article/view/3187/1954

32. Drake, WP and Hicks, LV Sr., "A Transdermal Formulation of Icariin for Use as a Substitute for Sildenafil and a Showing of No Clinical Efficacy", **International Journal of Science and Research (IJSR), 8(9): 939 – 943, 2019.** https://www.ijsr.net/search_index_results_paperid.php?id=ART20201251

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