

THE PATHWAY

March 2017

Volume 8, Issue 1

Residency Program Update

These are exciting times for the pathology residency program at MUSC. When not busy on their clinical rotations or studying, our residents have stayed active by serving on several local and national committees and taking part in numerous research projects. The final totals for the year are not in yet, but the majority of our residents presented projects at national meetings this year, and most of those who did not are already actively working on projects to present in the near future.

Additionally, all last year's graduating class passed their Anatomic and Clinical Pathology board examinations on their first attempt, a feat now accomplished by our last three graduating classes, raising our pass rates for first time takers to 97% for the Anatomic Pathology exam and 91% for the Clinical Pathology exam over the past six years. Our current fourth year residents are now buckling down and studying for their upcoming examinations in May so that we can continue our successful streak. Four of the five graduating residents this year will be staying at MUSC next year for their fellowship training (Ashley Cross- Surgical/GI pathology; Mike Stump- Hematopathology; Kate Eichel- Surgical pathology; and Daniel Skipper- Cytopathology), while the fifth, Chris Wenzinger, will be pursuing a hematopathology fellowship at the University of Virginia. Congratulations are in order for that group, as are a heartfelt "Thank You" for all that they've given back to the program and department over the past four years. On top of their academic accomplishments, by the time they finish in June this group also will have produced six children during their time with us!

Though we won't have to formally say "goodbye" to most of those folks for at least another year, we are very excited about the recent match results and the new crop of residents that will be joining us July 1. We have become accustomed to matching excellent residents year after year, but from a national perspective we are very fortunate.



**Steven L. Carroll, M.D., Ph.D.,
FASCP, FCAP**

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This newsletter is made possible from the generous contributions of MUSC's Pathology and Laboratory Medicine Faculty and Staff. The success of this publication is dependent upon this support.

Thank you for your interest, time and information. For inquiries, suggestions or submission information please contact Linda McCarson (mccarsli@musc.edu) or Lori Roten (roten@musc.edu).

Continued....

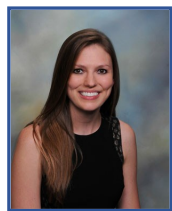
This year, nearly 10% of pathology residency positions across the country went unfilled in the match and graduating seniors from U.S. medical schools filled only 36% of the available positions, a significant drop from years past and the lowest rate of any medical specialty. So, while we would have been pleased to welcome the individuals below at any point in time, we are particularly thrilled given the current environment nationally. Please help me in welcoming the MUSC pathology residency class of 2021:



Daniel "Chad" Butler- Medical University of South Carolina: Chad was born in Summerville, SC and attended the University of South Carolina for his undergraduate degree. He then pursued a brief career as a medical illustrator before beginning medical school. Chad has a stated interest in forensic pathology and already has three publications in that discipline.



Anthony "Jake" Emanuel- Medical University of South Carolina: Another homegrown product, Jake is a native of Lexington, SC and graduated from Wofford College before beginning his medical school education. Jake has been involved in a variety of activities here at MUSC and collaborated with Chad on a publication. His interest in pathology began when shadowing his uncle, a private practice pathologist in Anderson, SC.



Madison Hannay- Lincoln Memorial University (Daniel Skipper's alma mater): Madison was born and raised in Tennessee, where she earned her undergraduate degree from the University of Tennessee before beginning her medical school education at LMU. Coming from a medical school without a residency program, Madison is eagerly looking forward to the opportunity to work on a collaborative team in an academic environment and be able to educate others.



Peter Houston- Meharry Medical College: Peter is a native of Alabama, earning his undergraduate degree at Tuskegee University and his Masters in Public Health from the University of Alabama at Birmingham. Peter already has two publications under his belt and, though he is committed to a career in medicine, has a variety of outside skills and interests. Peter is a 2nd Lieutenant in the U.S. Airforce and has contributed to his community through various outreach efforts including The 25th Day, a non-profit organization he founded with the goal of helping individuals attain jobs and career goals by providing support for writing resumes, cover letters, and personal statements.



Heather O'Connor- Kansas City University of Medicine and Biosciences (Dr. Madory's alma mater): Heather was born and raised in Missouri, where she earned her undergraduate degree from Southeast Missouri State University. As a daughter of a chemist and microbiologist, Heather grew up with a microscope in her house but it wasn't until near the end of her third year of medical school when she found a home in pathology following an elective rotation with a private practice pathology group.

CONGRATULATIONS!

Dr. Frederick “Rick” S. Nolte

Dr. Nolte was invited to participate in the review of applications submitted to the Antimicrobial Resistance Rapid, Point-of-Need Diagnostic Test Challenge.

March 2-3, 2017



Dr. SuHua Sha has accepted to serve as an Associate Editor for the Journal of the Association for Research in Otolaryngology (JARO), beginning with the ARO meeting in San Diego in February. JARO is now entering its 16th year, and currently has the second highest impact factor rating of journals in Otolaryngology. The journal publishes 6 volumes a year, each consisting of 10-15 articles, in the areas of basic and clinical studies into basic mechanisms of hearing and balance.

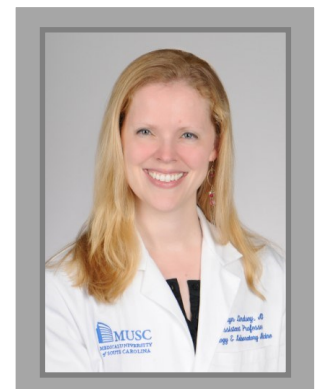


Dr. Kathryn Lindsey-2016 Young Investigator Challenge

In early 2016, The American Cancer Society journal *Cancer Cytopathology*, undertook an effort to identify promising young academic cytopathologists in our field with a recent initiative known as our Young Investigator Challenge. The challenge took the form of a call for papers involving original research relevant to cancer cytopathology and/or molecular cytopathology, and was open to faculty no more than 5 years removed from their fellowship.

Dr. Lindsey acted as first author on a paper submitted to our challenge entitled, "A Novel Simple Method for Cell Block Preparation: Implementation and Use Over Two Years." Her submission was strong enough to consider as a nominee, and was later published in our journal. Unfortunately, there was a great deal of competition among the nominated papers, and Dr. Lindsey's paper was not chosen as our final winner. We nonetheless applaud her contribution to our challenge.

Dr. Celeste N. Powers, Editor-in-Chief stated that Dr. Lindsey's energy and effort is highly valued by our journal and that she is truly a talent to keep an eye on within the field of cytopathology.



High-Impact Publication Approved for Print

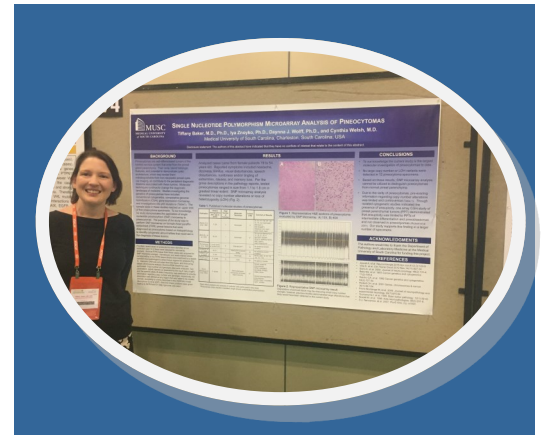
[Dr. Adriana Olar](#)

[Acta Neuropathol.](#) 2017 Mar;133(3):431-444. doi: 10.1007/s00401-017-1678-x. Epub 2017 Jan 27.

Global epigenetic profiling identifies methylation subgroups associated with recurrence-free survival in meningioma.

[Olar A](#)¹, [Wani KM](#)², [Wilson CD](#)³, [Zadeh G](#)⁴, [DeMonte F](#)⁵, [Jones DT](#)⁶, [Pfister SM](#)^{6,7}, [Sulman EP](#)^{2,8}, [Aldape KD](#)⁴.

Tiffany Baker was honored to be able to present her poster at the 2017 USCAP Annual Meeting in San Antonio, Texas. Her poster was entitled “Single Nucleotide Polymorphism Microarray Analysis of Pineocytomas” Tiffany Baker’s co-authors were *Drs. Iya Znoyko, Dayna J. Wolff and Cynthia Welsh.*



Awards for Graduate Students/Resident in Dr. Hainan Lang’s Laboratory.



LaShardai Brown, PhD Candidate was the graduate speaker at Ernest Just Scientific Symposium February 24, 2017

Title: Macrophages contribute to auditory nerve refinement by regulating glial cell numbers in the postnatal mouse cochlea”.

Kenyaria Noble, PhD Candidate won the *Graduate Student Travel Award* from the 40th ARO Midwinter Meeting, February 11-15, 2017.



Dr. Ryan Boerner, Resident, won the *Resident/Postdoc Travel Award* from the 40th ARO Midwinter Meeting, February 11-15, 2017.

30 Years of Collaboration

by Craig E. Crosson, PhD,
Senior Associate Dean for Research

This article was approved for our Department to include in this Newsletter by Dr. Crosson and provided by Allison Leggett, Director of Communications, in the COM Dean's Office. This article was originally in the COM Update on February 24, 2017, that Dean Ray DuBois emails out weekly.

It is always exciting when a discovery is made in a relatively short time period, but most researchers understand all too well that this is not the norm. Research that leads to scientific discoveries, improved care and better outcomes for patients often takes decades and is typically the work of many people, with one step building upon another. The research being conducted at MUSC by Dr. Judy Dubno and colleagues provides a wonderful example of how breakthroughs develop over time and are enhanced through collaborations.

Nearly 30 years ago, hearing scientist John H. Mills, Ph.D., brought together a multidisciplinary team of MUSC researchers including audiologists, histopathologists, biochemists and electrophysiologists to study the causes of age-related hearing loss. This NIH-funded program, currently directed by [Judy R. Dubno, Ph.D.](#), Professor and Director of the Hearing Research Program in the Department of Otolaryngology-Head and Neck Surgery, has included projects headed by investigators from both Dr. Dubno's Department and the Department of Pathology and Laboratory Medicine since its inception. Current projects are led by Dr. Dubno, [Mark A. Eckert, Ph.D.](#), [Bradley A. Schulte, Ph.D.](#), and [Hainan Lang M.D., Ph.D.](#)

Early studies with laboratory animals conducted at MUSC under carefully controlled conditions identified a metabolic component to age-related hearing loss, which is associated with a decline in the endocochlear potential, an electrical potential of 80-100mV in the cochlea that acts like a battery to drive auditory transduction. These early studies with laboratory animals also pointed to a genetic component to age-related hearing loss and, along with more recent laboratory animal and human studies, have shown that hearing loss in older adults is a consequence of accumulated environmental stresses to the cochlea and an intrinsic genetically-controlled aging process with as much as 60% of hearing loss in older adults being attributed to heritability.



Craig E. Crosson, PhD



Judy R. Dubno, PhD



Mark A. Eckert, PhD

Continued.....

In parallel with laboratory animal studies, the research team has collected audiometric data and DNA samples from more than 800 research participants aged 55 years and older and has been able to stratify their hearing loss into metabolic and non-metabolic phenotypes. Taking advantage of this large human database, Dr. Schulte, Vice Chair for Research in the Department of Pathology and Laboratory Medicine, is now conducting a whole exome sequencing (WES) study to identify genetic variants associated with metabolic hearing loss.

Approximately 100 genes implicated in metabolic hearing loss have been identified through a combination of laboratory animal studies and studies of adults with normal and impaired hearing, and these candidate genes will be the initial focus of the WES. Once relevant mutations are identified, the team will attempt to localize the proteins involved to specific tissues and cell-types in the mouse and human inner ear using histochemical and biochemical techniques. Ultimately, gene knockout animal models will be developed to better determine how the mutations affect hearing.

Dr. Schulte plans to sequence genes from 400 research participants and hopes to identify some relevant gene mutations over the next two years. Once identified it may be possible to develop therapies to target these mutations – either by correcting the defect through genetic engineering or by modulating protein expression with a novel or existing drug.

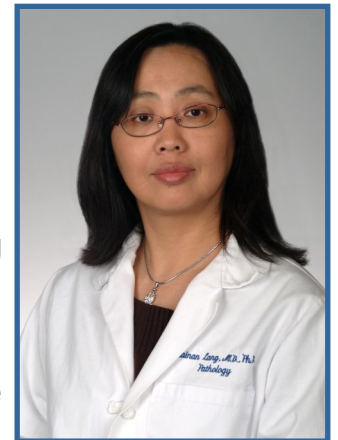
This exciting work has the potential to positively affect the lives of so many. It has been made possible through sustained leadership and effective integration of basic and clinical science. Over the life of this project, MUSC's Department of Otolaryngology-Head and Neck Surgery has maintained outstanding research funding, ranking consistently among the top 10 in NIH funding for Otolaryngology Departments in U.S.

We are all proud of the work being done in the College of Medicine and across the MUSC campus, and we are fortunate to work alongside researchers like Drs. Mills, Dubno, Schulte, Eckert, Lang, and the many others who have been involved in these ongoing efforts.

Thank you to the many scientists who come to work every day to change what's possible through research.



Bradley A. Schulte, PhD



Hainan Lang, MD, PhD

GRADUATE STUDIES UPDATE

February 15, 2017

GRADUATE STUDIES UPDATE

Student Update

- Qualifying exam new deadline June 2017
 - 3 students (April/May)
 - Lauren McLean (Dr. Smits)
 - Ralph Tanios (Dr. Carroll)
 - Kenyaria Noble (Dr. Lang)
- PhD student proposal new deadline April 15th (written material) defend by June 2017
 - 2 students
 - Jon DiMaina, PhD (Dr. Cheung)
 - Nate Jensen, MSTP (Dr. Cheung)
- MS students defense dates this spring
 - Bradley Krisanits - April 12th
 - Laurel Black - April 13th
- 3 new MS students joined department
 - Clare Burton (Findlay)
 - Jaime Randise (Turner)
 - Narges Anbardar (Turner)
- PhD defense dates for the spring – TBA
 - Jamie Mills – May 2017
- MS applications for Fall 2017
 - Interested faculty contact Dr. Turner for review

Council News

- Annual Evaluation Forms are being updated
 - To encourage critical/constructive feedback
- PhD Interview weekends
 - Tomorrow; March 16th (need 2 faculty to present)
- Minimum credit requirements will be 6 (merit) beyond the core plus biostats (4 credits)
- Journal club, discussions about a requirement

RESEARCH DIVISION UPDATE



Statistics for the Division of Research from **January** through **March**. Eleven grant proposals were submitted requesting \$1,756,457 in total first year costs. Also, during this period four grants were awarded totaling \$186,982. Congratulations and many thanks to everyone involved in obtaining these awards.

Bradley Schulte, Ph.D., Vice Chair of Research

GRANT APPLICATIONS SUBMITTED - 1/1/2017-3/31/2017

Principal Investigator	Proposed Start Date	Title	Total 1st YR Dollars
Findlay, Victoria	11/1/2017	Lifestyles associated reactive metabolites and their negative impact on breast cancer risk	\$366,325
LaRue, Amanda	3/9/2017	IPA:Marzena Swiderska-Syn; Targeting HSC-derived Circulating Fibroblast Precursors in Pulmonary Fibrosis	\$33,975
Lazarchick, John	1/6/2017	Safety, tolerability and pharmacokinetics study of single and multiple subcutaneous doses of turoctocogalfa pegol in patients with hemophilia A	\$48,520
Lazarchick, John	1/12/2017	Immuno Def 8& Precision Study	\$72,904
Mehrotra, Meenal	3/2/2017	Efficacy of Treg transplant as cellular therapy in a mouse model of Osteogenesis Imperfecta	\$224,250
Sha, Suhua	3/5/2017	Deceleration of Age-Related Hearing Loss	\$142,025
Singh, Avtar	2/8/2017	IPA - Khan; Mechanisms of Neuroprotective therapy in TBI	\$31,583
Spyropoulos, Demetri	2/16/2017	Investigation into a Likely Inflammatory Promoter of Colorectal Cancer	\$186,875
Spyropoulos, Demetri	3/3/2017	Using Embryonic Stem Cell Biomarkers to Predict Human Health Impacts of Petroleum/Dispersant Component Exposures	\$500,000
Spyropoulos, Demetri	3/10/2017	Novel Temperature-Chemical Based Infusion to greatly reduce metabolism and extend stasis in Microgravity during Human Space travel	\$50,000
Wang, Qi	3/17/2017	Proteomic Landscapes of recurrent tumors from a mouse of HER2 positive breast cancer	\$100,000
Total Proposals	11		\$1,756,457

GRANTS AWARDED - 1/1/2017-3/31/2017

Lazarchick, John	1/6/2017	Safety, tolerability and pharmacokinetics study of single and multiple subcutaneous doses of turoctocogalfa pegol in patients with hemophilia A	\$48,520
Lazarchick, John	1/12/2017	Immuno Def 8& Precision Study	\$72,904
LaRue, Amanda	3/9/2017	IPA:Marzena Swiderska-Syn; Targeting HSC-derived Circulating Fibroblast Precursors in Pulmonary Fibrosis	\$33,975
Singh, Avtar	2/8/2017	IPA - Khan; Mechanisms of Neuroprotective therapy in TBI	\$31,583
Totals Awarded	4		\$186,982

FACULTY FOCUS

by Christopher Metts, M.D.



The list of folks that have given me the opportunity to return to medicine is long, but there is one person in particular that deserves more gratitude than I can possibly show for her unwavering support during my convoluted professional journey.

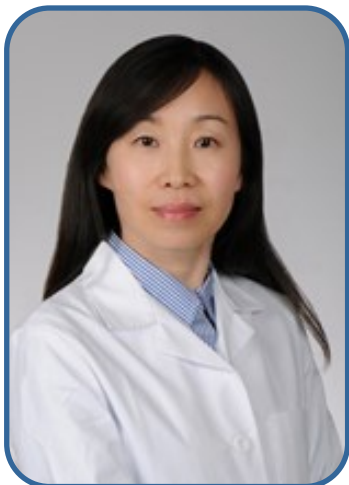
My wife, Jennifer, and I have been an item for nearly thirty years. I admired her from afar for months before my friends physically forced me to dance with her on fraternity row at our alma mater, Wofford College. She followed me to Charleston three years later when I was accepted to MUSC's College of Medicine, and quickly joined the community by acting with theatre companies at Footlight Theatre, Dock Street Theatre, and Gorilla Theater. When I decided to leave medicine to start a small business dedicated to web development, at a

time when no one around us knew what the internet was, she emptied her savings to become the first investor in Slicker, Inc. Together, we wore all the hats in this startup. We built our office, painted the walls, swept the floors, did the books, hired, fired, and proceeded to become one of the most recognized and respected web development firms in the region. For many years, she was the face of the company, while I hid behind the curtain programming. She was indeed our secret weapon, being instantly trusted by prospective clients, and immensely capable of managing the complicated development process. At one point, while eight months pregnant with our first daughter, she sold a website to a notoriously thrifty politician who was skeptical of the importance of a professionally developed website. The website we created set the standard for campaigns, and played a part in helping our client become governor of South Carolina. This project put us on stage as we expected it would, and set us on a path for rapid growth. Over the years we have developed hundreds of sites, and have counted as clients almost every major tourist attraction in Charleston, most of the restaurants on East Bay Street, and many of the most popular artists and musicians in the area.

The years running our business have been challenging and rewarding. We have worked with people from all walks of life, and have been afforded so many unique opportunities to learn from others and help our clients meet their goals. Many of my own goals, however, were not being met through this work. Developing websites and applications for others was always meant to be a means to an end, and that was to provide resources to develop my own applications for medical informatics. Three years ago, it became clear that the constant need to take on new clients was preventing work on my own projects. Once again, when I decided that the best path forward included completing the residency in Clinical Pathology that I started so long ago, Jennifer's support was complete. She was the breadwinner for a year while I studied for board exams, and carried our family for two years while I moved to St. Louis for a residency position at Washington University.

We are both extremely grateful that the department has welcomed me back. I am so fortunate to finally be in a position where I can do the work I love, and be surrounded by peers focused on improving healthcare. Hopefully, together we can build systems that have a real impact on the practice of pathology and patient's lives. If so, Jennifer deserves more credit than I do.

Thank you Jennifer, and I'll see you on the dance floor.



Targeting PI3K/Akt signaling by traditional Chinese Medicine plant extracts In Breast Cancer

by Qi Wang, Ph.D.

The class-1 PI3K pathway, arguably the most important signal pathway controlling cell growth and death, is activated by the lipid phosphatidylinositol 3,4,5-trisphosphate (PIP₃), a critical signaling molecule located at the cell membrane. The level of PIP₃ is tightly regulated by the activities of a lipid kinase PI3K and a lipid phosphatase PTEN, which act as “on/off” switches in opposition to each other under normal conditions. Activation of PI3K occurs in response to growth factor stimulation and the subsequent activation of receptor tyrosine kinases (RTKs). The activated p110 catalytic subunit of PI3K primarily uses phosphatidylinositol 4,5-trisphosphate (PIP₂) as a substrate to generate PIP₃. By increasing the cellular level of PIP₃, PI3Ks activate the serine/threonine kinase Akt and other downstream effector pathways to regulate multiple cellular functions including proliferation and survival. The tumor suppressor PTEN (phosphatase and tensin homologue) functionally antagonizes PI3K activity via its intrinsic lipid phosphatase activity and reduces the cellular pool of PIP₃ by converting it back to PIP₂^{1,2}.

In human cancers, the PI3K/Akt signaling pathway is frequently activated by RTKs and somatic mutations in specific components of this signaling pathway. In breast cancer, ERBB2 receptor tyrosine kinase is constitutively activated by overexpression or gene amplification in 15-20% of breast tumors³. The *PIK3CA* gene, which encodes the p110a isoform of PI3K, is frequently mutated in many types of human cancer. Notably, more than 25% of breast cancer patients harbor *PIK3CA* mutations, making *PIK3CA* the most commonly mutated oncogene in breast cancer⁴. While *PIK3CA* is frequently mutated in breast cancers, an additional 25% of patients breast tumors have lost PTEN tumor suppressor activity⁵. Genetic alterations of three isoforms of Akt, a major effector of PI3K, have also been observed in breast cancers⁶. Thus, the mechanism of PI3K pathway activation will affect not only effective therapeutic approach but also the clinical benefit from PI3K inhibition.

Numerous small molecules that inhibit the PI3K/Akt signaling pathway are in clinical development. The pan PI3K inhibitors inhibit all of the catalytic subunit isoforms of class IA PI3Ks, p110 α , p110 β and p110 δ , whereas isoform-selective inhibitors only inhibit individual isoforms. However, it remains unclear which type of inhibitor will be more effective clinically. Similarly, it is unknown whether there will be an advantage to isoform-specific Akt inhibitors. The primary concern lies with the additional toxicity caused by complete inhibition of all isoforms when using non-selective inhibitors and efficiency to turn off PI3K/Akt signaling when using isoform-selective inhibitors. Another potential reason for the limited efficacy of single-agent PI3K pathway inhibitors is the presence of signaling feedback loops in cells. For instance, feedback activation of PI3K from mTORC1 inhibition might result in the hyperactivation of Akt-independent effectors of PI3K signaling. Dual PI3K-mTOR inhibitors might, therefore, mitigate this feedback activation of PI3K signaling and yield greater therapeutic benefit⁷. However, a critical issue that will influence the advantage of dual PI3K-mTOR inhibitors is whether the complete inhibition of all p110 isoforms, mTORC1 and mTORC2 will be tolerable in patients or whether the use of these inhibitors will necessitate sacrificing the complete inhibition of one or more of the potential targets. Thus, the need of developing new inhibitors with minimum toxicity is urgent. These inhibitors are expecting to effectively shut down PI3K/Akt signaling in cancers with *PIK3CA* mutations, PTEN loss or RTK-dependent activation and might even be effective in cancers with Akt mutations or amplifications, without the introduction of systemic toxicity.

The sources of many of the drugs and active ingredients of medicines are derived from natural products. Nearly 70% of all cancer drugs originated from natural products⁸. Thus, natural products hold great promise for discovery and development of new pharmaceuticals. Medical plants, including Traditional Chinese Medicine (TCM) plants, have historically proven their value as a source of molecules with therapeutic potential, and nowadays represent an important pool for the identification of novel drugs. In collaboration with researchers at Harvard University, our laboratory screened compounds from a library of TCM plants comprising 466 extracts. We performed CellTiter-Glo® Luminescent Cell Viability Assay in a human mammary epithelial cell line HMEC-p53DD-p110a^{H1047R} cells, which being engineered to express mutant p110a^{H1047R} that constitutively active Akt signaling. 19 extracts inhibit the cell by more than 80% as compared to cells treated with DMSO, comparable with the effect of a pan PI3K inhibitor BKM120, suggesting their potential role in PI3K signaling (Figure1). 1561-D12, an extract from *rabdosia rubescens*, reduced cell viability in a maximal manner. We further identified that 1561-D12 induced growth arrest by preferentially suppressing Akt-mTOR signaling in human breast cancer cells. It is worth noting that this extract selectively impaired the cell growth of human breast cancer cells with hyperactivation of AKT (p-Akt^{High}), but not p-Akt^{Low} cells and non-transformed human mammary epithelial cells. Moreover, 1561-D12 also effectively prevented the tumor initiation of mouse mammary tumors driven by p110a^{H1047R}. Our results suggest that TCM plant extracts may serve as potent and durable therapeutic regimens for the treatment of breast cancers with hyperactivation of PI3K/Akt signaling.

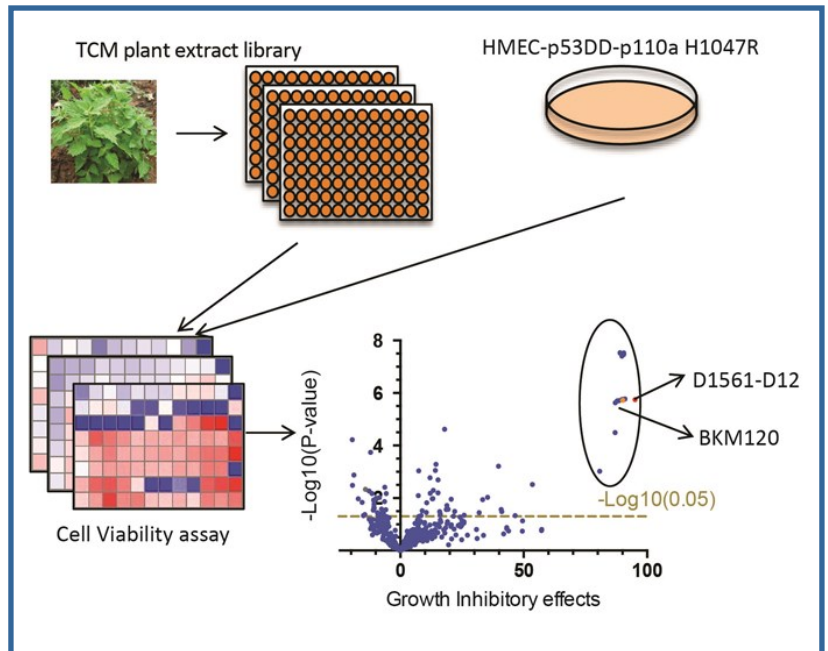


Figure 1. Schematic design of screening the TCM plant extracts. HMEC-p53DD-p110a^{H1047R} cells were seeded in 96-well plates and treated in triplicate with TCM plant extracts. 72 hours after exposure to extracts, cell numbers were assessed using cellTiter-Glo luminescent cell viability assay. Volcano plots were generated by plotting the growth inhibitory effects. $p < 0.05$. Candidate compounds were highlighted and indicated by a circle.

References

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- 2 Parsons, R. Human cancer, PTEN and the PI-3 kinase pathway. *Seminars in cell & developmental biology* **15**, 171-176 (2004).
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- 6 Clark, A. R. & Toker, A. Signalling specificity in the Akt pathway in breast cancer. *Biochemical Society transactions* **42**, 1349-1355, doi:10.1042/bst20140160 (2014).
- 7 Fan, Q. W. *et al.* A dual phosphoinositide-3-kinase alpha/mTOR inhibitor cooperates with blockade of epidermal growth factor receptor in PTEN-mutant glioma. *Cancer research* **67**, 7960-7965, doi:10.1158/0008-5472.can-07-2154 (2007).
- 8 Newman, D. J., Cragg, G. M. & Snader, K. M. The influence of natural products upon drug discovery. *Natural product reports* **17**, 215-234 (2000).

NEW ARRIVALS:

Maria Garnovskaya

Staff Scientist

Start Date: 3/06/17 in Dr. Olar's Lab

Aditi Peyush

Student

Start Date: 1/30/17 in Dr. Mehrotra's Lab

Lab

Song Pan

Visiting Scholar

Start Date: 2/21/17 in Dr. Sha's Lab

Jonathan Simpson

Student

Start Date: 1/30/17 in Dr. Hardiman's Lab

Lab

Yanzhong Wang

Visiting Student

Start Date: 2/21/17 in Dr. Wang's Lab

Lab

Shenghui Qin

Postdoctoral Fellow

Start Date: 2/13/17 in Dr. Wang's Lab

Lab

DEPARTURES:

Xiaoyuan He

Visiting Student

Left Dr. Wang's Lab on 3/15/17

John Kurtz

Research Specialist I

Left Dr. Smit's Lab on 2/28/17

Yuanping Zhu

Postdoctoral Fellow

Left Dr. Sha's Lab on 3/31/17

Ying Xiong

Research Assistant Professor

Left on 2/28/17

Thomas Nash

Student

Left Dr. Hardiman's Lab on 1/9/17

Carol Moskos

Research Specialist II

Left Dr. Hazen-Martin's Lab on 1/31/17

Lab



*Graham Elliot Gilmore
arrived on January 31, 2017
9 lbs 2 oz.
(Lisa Coulter's 1st Grandchild)*



March 15, 2017

Linda McCarson

Administrative Assistant

Nomination:

Very helpful. Always there to assist in any way she can.

Other Nominees: Raymond Edwards, Jason Flamm, Joyce Foster, Karen Geroulis, Brent Grimball, Beth Hansell, Dolly Hope, Jarvis Jenkins, Sonya Jordan, Teresa Kennedy, Mandy Prechtl, Lori Roten and Ashley Wooldridge

UPCOMING MEETINGS

American Association for Cancer Research

April 1-5, 2017, Washington DC

Pathology Spring Symposium

April 4-8, 2017, Kiawah Island

Clinical Faculty Meeting

April 19, 2017

Experimental Biology/ASIP Conference 2017

April 22-26, 2017, Chicago, IL

Association for Pathology Chairs Annual Conference 2017

May 9-12, 2017, Washington, DC

Research Faculty Meeting

May 17, 2017

All Hands Meeting

May 21, 2017

MUSC Department of Pathology & Laboratory Medicine Mission Statement:

To serve patients, health care providers, research scientists, scholars, and society by providing excellence and innovation in diagnostic services and educational resources in a respectful, professional and culturally diverse atmosphere.

Vision:

To become a preeminent leader in academic anatomic and clinical pathology while translating basic science discovery to improved clinical care.

www.musc.edu/pathology