

Jessica E. Thaxton, PhD, MsCR

Assistant Professor

Primary: Department of Orthopaedics and Physical Medicine

Secondary: Department of Microbiology & Immunology

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@ThaxtonLab

**Education**

Amherst College	Bachelor of Arts	2001
Brown University	Doctorate of Philosophy Pathobiology & Immunology <i>Magna Cum Laude</i>	2009
Medical University of South Carolina	Masters of Clinical Research	2015

Positions

Research Specialist , Harvard Medical School, Boston, MA Department of Transplantation Studied pancreatic islet transplantation and tolerance in macaques	2001-2002
Research Specialist , Garvan Institute of Medical Research, Sydney, Australia Department of Allergy & Inflammation Studied T regulatory cells in graft rejection in pancreatic islet transplantation	2002-2004
Graduate Student , Brown University, Providence, RI Department of Microbiology & Immunology Researched immunity in fetal tolerance and loss	2005-2009
Post-doctoral Fellow , Oregon Health & Sciences University, Portland, OR Department of Microbiology & Immunology Researched virus-specific T cells in breast cancer mouse models and patients	2010-2012
Post-doctoral Fellow , Medical University of South Carolina, Charleston, SC Department of Microbiology & Immunology Discovered a role for ER stress in T cell anti-tumor immunity	2012-2015
Assistant Professor , Tenure-Track, Medical University of South Carolina, Charleston, SC Departments of Orthopaedics and Microbiology & Immunology Independent translational research program in ER stress and anti-tumor immunity	2016-Present

Membership of Professional Societies

Sheridan Center for Teaching and Learning, Brown University	Member	2005-2009
Sigma Xi	Member	2009-Present
Cancer Immunology Program, Medical University of South Carolina	Member	2016-Present
Menten Club, Medical University of South Carolina	Member	2017-Present
American Association of Immunologists	Member	2015-Present
American Association of Cancer Research	Member	2015-Present
American Association of Immunologists	Member	2019-Present
Society for Immunotherapy of Cancer	Member	2015-Present
Society for Immunotherapy of Cancer Early Career Scientist Committee	Member	2018-Present
Society for Immunotherapy of Cancer Membership Committee	Member	2018-Present
Society for Immunotherapy of Cancer Sparkathon Class	Member	2018-Present

Training Awards & Fellowships

GAANN National Training Grant, Brown University 2005-2007
Department of Microbiology & Immunology
Immunity in Fetal Tolerance and Loss

Environmental Toxicology National Training Grant, Brown University 2007-2009
Department of Microbiology & Immunology
Immunity in Fetal Tolerance and Loss

NIH Ruth Kirschstein Fellowship, Oregon Health & Science University 2011-2012
Department of Microbiology & Immunology
Virus-specific T cells in Cancer Patients

Department of Defense Breast Cancer Research Program Post-Doctoral Fellowship 2012-2015
Department of Microbiology & Immunology, Oregon Health & Science University
Department of Microbiology & Immunology, Medical University of South Carolina
Virus-specific T cells in Cancer Patients

NCI Paul Calabresi Clinical Oncology Fellowship 2016-2018
Hollings Cancer Center, Medical University of South Carolina
ER Stress in T Cell Anti-Tumor Immunity

Honors & Awards

2005	GAAAN Training Award, Brown University
2006	1 st Place Research Retreat Presentation, Brown University
2007	ISRI Graduate Travel Award, Rio de Janeiro Brazil
2007	Environmental Toxicology Award, Brown University
2008	ASRI Graduate Travel Award, Chicago, IL
2008	ASRI Outstanding New Investigator Award
2009	SRI Graduate Travel Award, Philadelphia, PA
2010	NIH Ruth Kirschstein NRSA Fellowship
2011	Early Clinical Investigator Award
2012	Department of Defense Breast Cancer Research Fellowship Award
2013	ESMO Postdoctoral Travel Award, Brussels, Belgium
2016	NCI Paul Calabresi Clinical Oncology Scholarship
2017	Selection to Immuno-oncology Young Investigators' Forum, Houston TX
2017	Dean's Nominee, AAMC Young Female Faculty Leadership Series
2017	Selection to AAMC Young Female Faculty Leadership Series
2017	Harper Drolet Award for Excellence in Sarcoma Research
2017	Re-selection for NCI Paul Calabresi Clinical Oncology Scholarship

2017	Society for Immunotherapy of Cancer Young Investigator Award
2018	Sparkathon Participant, Society for Immunotherapy of Cancer
2018	Sparkathon Winner, Team SITCure, Society for Immunotherapy of Cancer
2018	Oral Presenter, Society for Immunotherapy of Cancer, National Meeting
2019	Session Leader and Moderator, Society for Immunotherapy of Cancer, National Meeting
2020	Chair, Meet the Expert Events, Society for Immunotherapy of Cancer, National Meeting
2020	Co-Chair, Rapid Oral Sessions, Society for Immunotherapy of Cancer, National Meeting

Career Development & Leadership

2015-2018	K to R Grant Development Program
2017	Immune-oncology Young Investigators' Forum, Presentation Skills Workshop
2017	AAMC Young Female Faculty Leadership Series
2018	Women Scholars Initiative Career Development Program
2018	SITC Sparkathon Participant
2019	SITC Sparkathon, Blue Cross Blue Shield Initiative, Group Leader
2020	Graduate Course Co-Leader, Introduction to Immunology
2020	Co-Leader Program Project Application (P01), Cancer Immunology, MUSC

Teaching

The Princeton Review, Premiere Tutor, MCAT, GRE, SAT
Teaching Certificates I, II, III, Sheridan Center for Teaching and Learning, Brown University
Introduction to Immunology, Teaching Assistant, Warren Alpert School of Medicine, Brown University
Translation: Bench to Bedside, Lecturer, Masters of Clinical Research, MUSC
Basic Orthopaedic Science for Clinicians, Lecturer, Department of Orthopedics, MUSC
Advanced Immunology, Lecturer, Graduate School, MUSC
Introduction to Immunology, Course Co-Leader, MUSC

Mentoring

Katie Hurst	Research Specialist, Masters of Public Health Student, Lab Member
Kiley Lawrence	Medical Student, Medical University of South Carolina, Lab Member
Molly Sekar	Medical Student, Medical University of South Carolina, Lab Member
Rob Robino	Undergraduate Student, College of Charleston, Lab Member
Megan Tennant	Graduate Student, Medical University of South Carolina, Lab Member
Alexander Andrews	Postdoctoral Fellow, Medical University of South Carolina, Lab Member
Sophia Traven, MD	PGY5, Resident, Medical University of South Carolina, Lab Member
Christopher Leem	Masters Student, Medical University of South Carolina, Committee Chair
Aubrey Smith	Graduate Student, Medical University of South Carolina, Committee Member
Parker Dryja	Graduate Student, Medical University of South Carolina, Committee Member
Guillermo Rangel Rivera	MD/ PhD Student, Medical University of South Carolina, Committee Member
Catherine Mills	Graduate Student, Medical University of South Carolina, Committee Member
Thomas Benton	Graduate Student, Medical University of South Carolina, Committee Member
Lindsey Shehee	PGY3, Resident, Medical University of South Carolina, Lab Member
Victoria Spadafora	MD/ PhD Student, Medical University of South Carolina, Committee Member
Ashton Basar	PhD Student, Medical University of South Carolina, Committee Member
Sydney Larsen	Summer Undergraduate Research Program Mentee, Amherst College

Departmental & Institutional Service

2019	Microbiology & Immunology Chair Search Committee, MUSC	Committee Member
2019	Orthopaedic Resident Match Rankings, MUSC	Committee Member
2019	Graduate School Faculty, MUSC	Full Member
2019	Hollings Cancer Center, Grants Review Committee	Committee Member
2019	Hollings Cancer Center, LowVELO Fundraising	Keynote Speaker

2020	Hollings Cancer Center, Grants Review Committee	Committee Member
2020	Elected, College of Medicine Faculty Council, MUSC	Council Member
2020	Microbiology & Immunology Faculty Search Committee, MUSC	Committee Member

National Grant Review

FY20 Ovarian Cancer Research Program, Dept of Defense	September 2020
FY20 Peer Reviewed Cancer Research Program, Dept. of Defense	October 2020
FY21 Ovarian Cancer Research Program, Dept of Defense	September 2021

Editorial Activities

Cell Reports, <i>Ad Hoc Reviewer</i>	2021-Present
Cellular and Molecular Life Sciences, <i>Ad Hoc Reviewer</i>	2020-Present
Cells MDPI, <i>Ad Hoc Reviewer</i>	2019-Present
Journal of Immunology, <i>Ad Hoc Reviewer</i>	2012-Present
Breast Cancer Research & Treatment, <i>Ad Hoc Reviewer</i>	2015-Present

Invited Oral Presentations

Endoplasmic Reticulum Distress Underlies CD8 TIL Dysfunction
 Lineberger Cancer Center, University of North Carolina, Chapel Hill NC

What's Next for Cancer Immunotherapy?
 Society for Immunotherapy of Cancer
 Annual Course, Subject Matter Expert (Virtual, National)

Metabolic Requirements for T Cell Protein Translation in Tumors
 iChem Conferences in Cancer Immunotherapy, (Virtual, National)

Metabolic Requirements for T Cell Protein Translation in Tumors
 Preston Robert Tisch Brain Tumor Center, Duke University, Durham NC

Metabolic Regulation of T Cell Translation in Tumors
 University of New Mexico Comprehensive Cancer Center, Albuquerque NM

Metabolic Regulation of T Cell Translation in Tumors
 Department of Regenerative Medicine, Medical University of South Carolina, Charleston, SC

What's Next for Cancer Immunotherapy?
 Society for Immunotherapy of Cancer
 Annual Course, Subject Matter Expert, Southeast Series, USA

Remodeling Translation Primes T Cell Antitumor Immunity
 Cancer Research Symposium, Hollings Cancer, Danielle Island, SC

Remodeling Translation Primes T Cell Antitumor Immunity
 Southeastern Immunology Symposium, Emory University, Atlanta, GA

ER Stress Sensor PERK in Antitumor Immunity
 Immune-oncology Young Investigators' Forum, MD Anderson Cancer Center, Houston, TX

Mitochondrial Reactive Oxygen Species in T cells in Tumors
 Southeastern Immunology Conference, Georgia Regents Cancer Center, Augusta GA

Chronic ER Stress Programs T Cell Mitochondrial Exhaustion in Tumors

Publications

24. Hunt E, Riesenberger BR, Hurst KE, Andrews AM, Tennant MD, **Thaxton JE**. Translational attenuation undermines T cell tumor control. *In preparation*, Journal of Experimental Medicine.
23. Andrews AM, Hunt E, Tennant MD, **Thaxton JE**. ER-mitochondrial crosstalk in tumor immunity. *Invited review in preparation*, Frontiers in Cell and Developmental Biology.
22. Tennant MD, Riesenberger BP, Hurst KE, Andrews AM, Leddy LR, Neskey DM, Hill EG, Gao P, Ball LE, **Thaxton JE**. Proteasome-mediated protein catabolism fuels antitumor immunity. *Under review*, Nature Metabolism.
21. Smith AS, Knockelmann HM, Wyatt MM, Dwyer CJ, Rangel Rivera GO, Rivera Reyes AM, **Thaxton JE**, Bartee EC, Rubinstein MP, Liu B, Paulos CM. B cells imprint adoptively transferred CD8⁺ T cells with enhanced tumor immunity. *Accepted with minor revision*, Journal for Immunotherapy of Cancer. <https://www.biorxiv.org/content/10.1101/2021.03.16.435714v1>
20. Wallace, K, Nahhas GJ, Bookhout C, **Thaxton JE**, Brazeal JG, Sun S, Lewin DN, Nikolaishvili-Feinberg N, Cohen S, Wu JD, Baron JA, Alekseyenko AV. Immune protein expression in colorectal adenomas and colorectal cancer. Cancer Prevention Research. *In Press*. Forthcoming;
19. Rangel Rivera GO, Smith AS, Knockelmann HM, Wyatt MM, Dwyer CJ, Rivera Reyes AM, **Thaxton JE**, Paulos CM. [Fundamentals of T cell metabolism and strategies to enhance cancer immunotherapy](#). Frontiers in Immunology; 2021_Mar 18;12:645242. doi: 10.3389/fimmu.2021.645242. PMID: 33815400.
18. Thomas U. Marron, MD, PhD, Aideen E. Ryan, PhD, Sangeetha M. Reddy, MD, Msci, Sabina Kaczanowska, PhD, Rania H. Younis, BDS, MDS, PhD, Dipti Thakkar, PhD, Jiajia Zhang, MD, MPH, Todd Bartkowiak, PhD, Rachel Howard, PhD, Kristin G. Anderson, PhD, Daniel Olson, MD, Abdul Rafeh Naqash, MD, Ravi B. Patel, MD, PhD, Esha Sachdev, MD, María Esperanza Rodríguez-Ruiz, MD, PhD, Michal Sheffer, PhD, Sarah E. Church, PhD¹⁸, Christopher Fuhrman, PhD¹⁸, Abigail Overacre-Delgoffe, PhD¹⁹, Rosa Nguyen, MD, PhD¹³, Vaia Florou, MD, **Jessica E. Thaxton, PhD**, David H. Aggen, MD, PhD and Jennifer L. Guerriero, PhD. [Considerations for treatment duration in responders to immune checkpoint immunotherapy](#). Journal for Immunotherapy of Cancer; 2021 Mar;9(3):e001901. PMID: 33653801.
17. Mehta A, Cheney EM, Hartl C, Pantelidou C, Oliwa M, Castrillon JA, Lin J-R, Hurst, KE, Taveira M, Johnson NT, Oldham WM, Kalocsay M, Berberich MJ, Boswell SA, Kothari A, Johnson S, Dillon DA, Lipschitz M, Rodig S, Santagata S, Garber JE, Tung N, **Thaxton JE**, Mittendorf EA, Sorger PK, Shapiro GI, Guerriero JL. [Targeting immunosuppressive macrophages overcomes PARP inhibitor resistance in BRAC1-associated triple-negative breast cancer](#). Nature Cancer. 2020 Dec; 2, 66-82. <https://doi.org/10.1038/s43018-020-00148-7>.
16. Andrews AM, Tennant MD, **Thaxton JE**. [Metabolic stress relief for cancer immunotherapy: Implications for the ER stress response in tumor immunity](#). Cancer Immunol, Immuno. 2020 Oct 26; doi: 10.1007/s00262-020-02740-3. PMID: 33104836
15. Halbert CH, Jefferson MS, Danielson C, Froeliger B, Giordano A, **Thaxton JE**. [An observational study and randomized trial of stress reactivity in cancer disparities](#). Health Psychol. 2020 Sep;39(9):745-757. doi: 10.1037/hea0000882. PubMed PMID: 32833476.

14. Dwyer CJ, Arhontoulis DC, Rangel Rivera GO, Knochelmann HM, Smith AS, Wyatt MM, Rubinstein MP, Atkinson C, **Thaxton JE**, Neskey DM, Paulos CM. [Ex vivo blockade of PI3K gamma or delta signaling enhances the antitumor potency of adoptively transferred CD8⁺ T cells](#). Eur J Immunol. 2020 May 8;. doi: 10.1002/eji.201948455. [Epub ahead of print] PubMed PMID: 32383488.
13. Hurst KE, Lawrence KA, Robino RA, Ball LE, Chung D, **Thaxton JE**. [Remodeling Translation Primes CD8⁺ T-cell Antitumor Immunity](#). Cancer Immunol Res, *Priority Brief*. 2020 May;8(5):587-595. doi: 10.1158/2326-6066.CIR-19-0516. Epub 2020 Feb 19. PubMed PMID: 32075802.
12. Hurst KE, Lawrence KA, Reyes Angeles L, Ye Z, Zhang J, Townsend DM, Dolloff N, **Thaxton JE**. [Endoplasmic Reticulum Protein Disulfide Isomerase Shapes T Cell Efficacy for Adoptive Cellular Therapy of Tumors](#). Cells. 2019 Nov 26;8(12). doi: 10.3390/cells8121514. PubMed PMID: 31779147; PubMed Central PMCID: PMC6953024.
11. Hurst KE, Lawrence KA, Essman MT, Walton ZJ, Leddy LR, **Thaxton JE**. [Endoplasmic Reticulum Stress Contributes to Mitochondrial Exhaustion of CD8⁺ T Cells](#). Cancer Immunol Res. 2019 Mar;7(3):476-486. doi: 10.1158/2326-6066.CIR-18-0182. Epub 2019 Jan 18. PubMed PMID: 30659052; PubMed Central PMCID: PMC6397687.
10. **Thaxton JE**, Wallace C, Riesenbergs B, Zhang Y, Paulos CM, Beeson CC, Liu B, Li Z. [Modulation of Endoplasmic Reticulum Stress Controls CD4⁺ T-cell Activation and Antitumor Function](#). Cancer Immunol Res. 2017 Aug;5(8):666-675. doi: 10.1158/2326-6066.CIR-17-0081. Epub 2017 Jun 22. PubMed PMID: 28642246; PubMed Central PMCID: PMC5585019.
9. Ansa-Addo EA, **Thaxton J**, Hong F, Wu BX, Zhang Y, Fugle CW, Metelli A, Riesenbergs B, Williams K, Gewirth DT, Chiosis G, Liu B, Li Z. [Clients and Oncogenic Roles of Molecular Chaperone gp96/grp94](#). Curr Top Med Chem. 2016;16(25):2765-78. doi: 10.2174/1568026616666160413141613. Review. PubMed PMID: 27072698; PubMed Central PMCID: PMC5041304.
8. Zhang Y, Wu BX, Metelli A, **Thaxton JE**, Hong F, Rachidi S, Ansa-Addo E, Sun S, Vasu C, Yang Y, Liu B, Li Z. [GP96 is a GARP chaperone and controls regulatory T cell functions](#). J Clin Invest. 2015 Feb;125(2):859-69. doi: 10.1172/JCI79014. Epub 2015 Jan 20. PubMed PMID: 25607841; PubMed Central PMCID: PMC4319419.
7. **Thaxton JE**, Liu B, Zheng P, Liu Y, Li Z. [Deletion of CD24 impairs development of heat shock protein gp96-driven autoimmune disease through expansion of myeloid-derived suppressor cells](#). J Immunol. 2014 Jun 15;192(12):5679-86. doi: 10.4049/jimmunol.1302755. Epub 2014 May 7. PubMed PMID: 24808359; PubMed Central PMCID: PMC4185284.
6. **Thaxton JE**, Li Z. [To affinity and beyond: harnessing the T cell receptor for cancer immunotherapy](#). Hum Vaccin Immunother. 2014;10(11):3313-21. doi: 10.4161/21645515.2014.973314. Review. PubMed PMID: 25483644; PubMed Central PMCID: PMC4514023.
5. **Thaxton JE**, Nevers T, Lippe EO, Blois SM, Saito S, Sharma S. [NKG2D blockade inhibits poly\(I:C\)-triggered fetal loss in wild type but not in IL-10-/- mice](#). J Immunol. 2013 Apr 1;190(7):3639-47. doi: 10.4049/jimmunol.1203488. Epub 2013 Mar 1. PubMed PMID: 23455498; PubMed Central PMCID: PMC3608719.
4. **Thaxton JE**, Nevers TA, Sharma S. [TLR-mediated preterm birth in response to pathogenic agents](#). Infect Dis Obstet Gynecol. 2010;2010. doi: 10.1155/2010/378472. Epub 2010 Aug 23. Review. PubMed PMID: 20827416; PubMed Central PMCID: PMC2933901.
3. **Thaxton JE**, Sharma S. [Interleukin-10: a multi-faceted agent of pregnancy](#). Am J Reprod Immunol. 2010 Jun;63(6):482-91. doi: 10.1111/j.1600-0897.2010.00810.x. Epub 2010 Feb 16. Review. PubMed PMID: 20163400; PubMed Central PMCID: PMC3628686.

2. **Thaxton JE**, Romero R, Sharma S. [TLR9 activation coupled to IL-10 deficiency induces adverse pregnancy outcomes.](#) J Immunol. 2009 Jul 15;183(2):1144-54. doi: 10.4049/jimmunol.0900788. Epub 2009 Jun 26. PubMed PMID: 19561095; PubMed Central PMCID: PMC2785500.
1. Walters S, Webster KE, Sutherland A, Gardam S, Groom J, Liuwantara D, Mariño E, **Thaxton JE**, Weinberg A, Mackay F, Brink R, Sprent J, Grey ST. [Increased CD4+Foxp3+ T cells in BAFF-transgenic mice suppress T cell effector responses.](#) J Immunol. 2009 Jan 15;182(2):793-801. doi: 10.4049/jimmunol.182.2.793. PubMed PMID: 19124722.

Clinical Trials & Immune Monitoring

Neoadjuvant a-PD-1 therapy to improve Outcomes in Oral Cavity Cancer Patients

PI: David M. Neskey, MD

Role: Collaborator

Industry Sponsorship & Collaborations

GlaxoSmithKline

Combination Therapy with PERK Inhibitors for Treatment of Solid Tumors

TEVA Pharmaceuticals

Combination Therapy with Omacetaxine for Treatment of Solid Tumors

Intellectual Patents

Modulation of the proteasome to improve tumor immunotherapy

Provisional Patent

Targeting ER dynamics to improve tumor immunotherapy

Provisional Patent

Active Grants

R01CA244361-01A1, NIH/NCI	07/01/2020-06/30/2025
<i>Targeting Chronic ER Stress in T Cells to Improve Immunotherapy</i>	1,143,750\$
Role: Principal Investigator	

R01 CA248359-01, NIH/NCI	04/01/2020-03/31/2025
Cancer Moonshot Initiative on Immunometabolism	1,140,605\$
<i>Exploitation of ER Stress Induced Immune Dysfunction to Improve Immunotherapy</i>	
Role: Principal Investigator	

R01CA226086-01A1, NIH/NCI	04/19/2019 - 03/31/2024
The Immune Contexture of Colorectal Adenomas and Serrated Polyps	\$75,752
Role: Co-Investigator	

Hollings Cancer Center Seed Grant Development Award	04/19/2019 - 03/31/2024
Targeting ER dynamics to improve tumor immunotherapy	\$25,000
Role: Principal Investigator	

Team Science Award, Hollings Cancer Center	12/01/2020 - 07/31/2021
Head and Neck Tumor SPORE Development	\$59,620
Role: Co-Principal Investigator	

Grants Pending

The Mark Foundation, Emerging Leader Award – Invited Submission 01/01/22 – 12/31/24
Targeting ER Dynamics to Improve Tumor Immunotherapy
Role: Principal Investigator

P01 CA236778-01A1, NIH/NCI 04/01/21 – 03/31/26
NF- κ B regulation in muscle wasting and pancreatic cancer-induced cachexia
Role: Co-Investigator

Expected Notification Date: JIT Approved – Award Notification Imminent

BC210285P1, DOD 09/01/21 – 08/31/24
Utilizing PARP inhibition to optimize immunotherapy for rapid translation to breast cancer patients
Role: Partnering Principal Investigator

R01 CA269499-01, NIH/NCI 04/01/22 – 03/31/27
Immunometabolic pathways enabled by PARP inhibition in breast cancer
Role: Co-Investigator

RFA-CA-21-001, NIH/NCI 09/01/21 – 08/31/25
AGR2-superantigen vaccine conjugate for the treatment of pancreatic ductal adenocarcinoma
Role: Co-Investigator

PAR-20-271, NIH 09/01/21 – 08/31/26
Selective targeting of CD38 hydrolase and cyclase activities as an antitumor strategy
Role: Co-Investigator

Completed Grants

MUSC Foundation for Research Development 01/01/2020-05/31/2021
Development of ER Stress Inhibitors to augment cancer immunotherapy 49,538\$
Role: Principal Investigator

TEVA Pharmaceuticals 11/01/2019-10/31/2020
Combination Therapy with Omacetaxine for Treatment of Solid Tumors. 37,500\$
Role: Principal Investigator

South Carolina Stress & Anti-Oxidants NIH COBRE Pilot 07/01/2019-08/31/2020
Targeting ERO1a to Restore CD8 TIL Proteostasis 40,000\$
Role: Project Leader

Hollings Cancer Center Clinical Concept Award 04/01/2019-03/31/2020
Combination Therapy with Omacetaxine for Treatment of Solid Tumors 50,000\$
Role: Principal Investigator

NIH/NCI K12 Paul Calabresi Clinical Oncology Fellowship 01/01/2016-12/31/2018
Targeting ER Stress for Cancer Immunotherapy 431,000\$
Role: Trainee

American Cancer Society Institutional Research Grant, Renewal 01/01/2017-12/31/2017
Lone Survivor: Stressful Role of the ER in CD8+ T cell metabolism 35,000\$
Role: Project Leader

American Cancer Society Institutional Research Grant 01/01/2016-12/31/2016
Lone Survivor: Stressful Role of the ER in CD8+ T cell metabolism 30,000\$
Role: Project Leader

Department of Defense Breast Cancer Research Post-Doctoral Fellowship
Chemotherapy necessitates increased immune control of chronic HHVs
Role: Principal Investigator

06/01/2012-05/31/2015
450,000\$

Early Clinical Investigator Award, Oregon Health & Sciences University
Chemotherapy necessitates increased immune control of chronic HHVs
Role: Principal Investigator

01/01/2011-12/31/2011
35,000\$