

CURRICULUM VITAE

Devin B. Lowe, Ph.D.

Office Address

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EDUCATION

Ph.D., Microbiology and Immunology, 2010
Texas Tech University Health Sciences Center (TTUHSC), Lubbock, TX
Mentor: Ronald C. Kennedy, Ph.D.

B.S., Microbiology, 2005
Summa Cum Laude in Honors Studies
Texas Tech University (TTU), Lubbock, TX

RESEARCH TRAINING

Postdoctoral Fellowship (Tumor Immunology)
Department of Dermatology, University of Pittsburgh; Pittsburgh, PA, 2010-2013
Mentor: Walter J. Storkus, Ph.D.

Graduate Student (Tumor Immunology)
Department of Microbiology and Immunology, TTUHSC; Lubbock, TX, 2005-2010
Mentor: Ronald C. Kennedy, Ph.D.

Howard Hughes Medical Institute (HHMI)/TTU Research Fellow (Tumor Immunology)
Department of Microbiology and Immunology, TTUHSC; Lubbock, TX, 2002-2005
Mentor: Ronald C. Kennedy, Ph.D.

PROFESSIONAL APPOINTMENTS

2013-2015 Senior Scientist (Pre-clinical development), Experimmune; Abilene, TX

2015-2022 Assistant Professor (Tenure-Track), Department of Immunotherapeutics and Biotechnology (DIB), TTUHSC School of Pharmacy (SOP); Abilene, TX

2022-Present Associate Professor (Tenured), Department of Immunotherapeutics and Biotechnology (DIB), TTUHSC School of Pharmacy (SOP); Abilene, TX

PROFESSIONAL SOCIETIES

American Association for Cancer Research (AACR)
American Association of Immunologists (AAI)
Society for Immunotherapy of Cancer (SITC)
National Academy of Inventors (NAI)

HONORS

2010	TTUHSC Outstanding Graduate Student
2011-2013	American Cancer Society Postdoctoral Fellowship
2012, 2013	AAI Trainee Abstract Award
2016	TTUHSC Student Government Association – Outstanding Faculty Award (Biotechnology program)
2018	TTUHSC Phi Delta Chi – Faculty of the Month
2020	TTUHSC President’s Early Career Investigator Award
2021	TTUHSC GSBS Teaching Team of the Year – Cancer Biology and Therapeutics
2022	TTUHSC SOP P3 Teaching Team of the Year - Integrated Therapy and Practice VII: Oncology

SERVICE

Intramural (TTUHSC)

2015-Present	TTUHSC Graduate School of Biomedical Sciences (GSBS) Faculty – Biotechnology (Affiliate Member), Immunology and Infectious Diseases (Affiliate Member), Pharmaceutical Sciences (Full Member)
2015	SOP Curricular Renewal – Early Pharmacy Practice Experiences and Tracks committee
2016-Present	TTUHSC Institutional Animal Care & Use Committee (IACUC)
2016-2019	TTUHSC GSBS Ph.D. selection committee
2016	DIB faculty search committee (Professor/Chair level)
2016	DIB promotion & tenure guidelines committee
2017-2018	Chair, DIB research faculty search committee (Assistant/Associate Professor level)
2017	DIB teaching faculty search committee (Assistant Professor level)
2017-2018	SOP Student Assessment of Learning Committee
2017-2018	SOP Honor Council
2017	SOP Curricular Renewal - Pharmacy Immunology and Microbiology committee
2017-2020,	SOP Faculty Development Committee
2023-Present	
2019-2022	TTUHSC Founding Faculty Advisor, NCODA
2019-Present	TTUHSC GSBS Core Curriculum Coordination Committee
2020-2023	SOP Research Advisory Committee
2021	TTUHSC GSBS Mentor/Mentee Compact Taskforce
2021	TTUHSC President’s Awards – Early Career Investigator Award Subcommittee
2022	DIB teaching faculty search committee (Assistant Professor level)
2022	DIB research faculty search committee (Assistant/Associate Professor level)
2022	TTUHSC GSBS Graduation Awards Selection Committee
2022-Present	TTUHSC Faculty Senate
2023	Mary Kay Ash Foundation SOM Faculty Review Committee
2023-Present	GSBS Pharmaceutical Sciences Program Committee
2024	TTUHSC GSBS Graduation Awards Selection Committee

Extramural

2010-Present	Ad-Hoc Journal Review: Bioconjugate Chemistry, Cancer Immunology Immunotherapy, Cancer Medicine, Cancer Nanotechnology, Clinical and Translational Medicine, European Journal of Pharmacology, European Journal of Pharmaceutical Sciences, Journal of Immunology, Melanoma Research, Molecular Therapy – Oncolytics, Journal for ImmunoTherapy of Cancer (JITC), OncoImmunology, Frontiers in Immunology, Frontiers in Pharmacology, Pharmacological Research
2012	Category Judge: Intel International Science and Engineering Fair

2012, 2013 Category Judge: Pittsburgh Regional Science and Engineering Fair
 2013-Present Review Editor: Frontiers in Genitourinary Oncology
 2016 Scientific Reviewer, The Netherlands Organisation for Health Research and Development (ZonMw),
 Innovational Research Incentives Scheme (Veni)
 2017 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program
 2018 Scientific Reviewer, NSF Graduate Research Fellowship Program
 2018 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program
 2018 Scientific Reviewer, Cancer Research UK
 2019 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (January session)
 2019 Scientific Reviewer, Cancer Research UK
 2019 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (June session)
 2019 Scientific Reviewer, NIH CSR – Developmental Therapeutics study section
 2019 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (November session)
 2019 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section
 2020 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section (March session)
 2020 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (May session)
 2020 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section (June session)
 2020 Scientific Reviewer, DOD CDMRP – Peer Reviewed Cancer Research Program - Colorectal Cancer
 2020 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section (November session)
 2020 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (December session)
 2021 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section (March session)
 2021 Scientific Reviewer, DOD CDMRP - Breast Cancer Research Program (June session)
 2021 Scientific Reviewer, NIH CSR - Cancer Biotherapeutics Development study section (June session)
 2021 Scientific Reviewer, NIH CSR - NCI-J Career Development study section
 2021 Scientific Reviewer, DOD CDMRP - Melanoma Research Program
 2022 Scientific Reviewer, NIH CSR - NCI-J Career Development study section (June session)
 2022 Scientific Reviewer, NIH CSR - NCI-J Career Development study section (October session)
 2022 Scientific Reviewer, DOD CDMRP – Peer Reviewed Cancer Research Program - Colorectal Cancer
 2023 Scientific Reviewer, DOD CDMRP – Breast Cancer Research Program
 2023 Scientific Reviewer, NIH CSR - NCI-J Career Development study section
 2023 Scientific Reviewer, DOD CDMRP – Peer Reviewed Cancer Research Program - Colorectal Cancer
 2024 Scientific Reviewer, NIH CSR - NCI-J Career Development study section
 2024 Scientific Reviewer, DOD CDMRP – Breast Cancer Research Program

TEACHING

2013 Course Lecturer (University of Pittsburgh)
 -University of Pittsburgh Cancer Institute Summer Academy (Tumor Immunology Section)

2015-Present Course Lecturer (TTUHSC)
 -Advanced Oncology (PHAR 4218; **Course Director**): Spring 2018-2024
 -Biology of Cancer (GBTC 5340): Spring 2016-2020, 2022-2024
 -Biotech Lab Methods (GBTC 5020; **Co-Course Director**): Fall 2016-2024
 -Biotechnology Seminar (GBTC 6101; **Course Director**): Spring 2016-2024
 -Cancer Biology and Therapeutics (GPSC 5326): Spring 2021, 2023
 -Case Studies (PHAR 3361): Spring 2016-2019
 -Clinical Correlations 1 (PHAR 1250): Fall 2023, 2024

- Clinical Correlations 6 (PHAR 3251): *Spring 2020-2022*
- Clinical Research & Literature Evaluation (PHAR 1241): *Fall 2016-2018*
- Core IV: Biomedical Seminar Series (GSBS 5174): *Fall 2015, 2017-2018*
- Experimental Design and Biostatistics (GPSC 5230): *Fall 2020-2022*
- Grant Writing (GPSC 5101): *Summer 2023*
- Immunology and Immunopathology (GBTC 5330): *Fall 2015*
- Immunology Journal Club (GPSC 5101): *Fall 2019*
- Integrated Therapy and Practice VII (PHAR 3407; **Campus Coordinator**): *Spring 2019-2024*
- Introduction to Biotechnology (GBTC 6301): *Spring 2016-2024*
- Principles of Disease (PHAR 1221): *Spring 2018*
- Principles of Immunology (PHAR 1432, GPSC 5375): *Fall 2015-2024*

GRADUATE STUDENT ADVISORY COMMITTEES

Caryn Lawrence, M.S., Biotechnology Candidate, TTUHSC*

Harold Ames, M.S., Biotechnology, TTUHSC, 2015
 Jasper Nyandoto, M.S., Biotechnology, TTUHSC, 2015
 Camille Bivens, M.S., Biotechnology, TTUHSC, 2016*
 Krysten Doll, M.S., Biotechnology, TTUHSC, 2016
 Alexis Mobley, M.S., Biotechnology, TTUHSC, 2016*
 Ricardo Flores, M.S., Biotechnology, TTUHSC, 2017
 Christian Herrera, M.S., Biotechnology, TTUHSC, 2017*
 Andres Saucedo, M.S., Biotechnology, TTUHSC, 2017
 Min Xie, M.S., Biotechnology, TTUHSC, 2018
 Trevor Anderson, M.S., Biotechnology, TTUHSC, 2019*
 Hannah Seah, M.S., Biotechnology, TTUHSC, 2020
 Hanvin (Tim) Kang, M.S., Biotechnology, TTUHSC, 2020
 Brent Wesley, M.S. Biotechnology, TTUHSC, 2021
 Reese Berger, M.S. Biotechnology, TTUHSC, 2022*
 Colton Hernandez, M.S. Biotechnology, TTUHSC, 2022
 Shirley Muya, M.S. Biotechnology, TTUHSC, 2022
 Savanna Piersall, M.S. Biotechnology, TTUHSC, 2022*

Faizah Alabi, Ph.D. Candidate, TTUHSC
 Patricia Back, Ph.D. Candidate, TTUHSC
 Beth Daugherty, Ph.D. Candidate, TTUHSC*
 Francis Izuchukwu, Ph.D. Candidate, TTUHSC*
 Wyatt Paulishak, Ph.D. Candidate, TTUHSC

Hong-My Nguyen, Ph.D., TTUHSC, 2023
 Mariam Oladejo, Ph.D., TTUHSC, 2023
 Trevor Anderson, Ph.D., TTUHSC, 2024*
 Shreyas Gaikwad, Ph.D., TTUHSC, 2024
 Amanda Wooster, Ph.D., TTUHSC, 2024*

*Primary Research Mentor

PHARMACY STUDENT MENTOR

Landon Cook, Pharm.D. Candidate, TTUHSC
Bilal Karoum, Pharm.D. Candidate, TTUHSC
Karla Reyes, Pharm.D. Candidate, TTUHSC
Faith Upton, Pharm.D. Candidate, TTUHSC

Charlie Nguyen, Pharm.D., TTUHSC, 2019
Christie Baker, Pharm.D., TTUHSC, 2020
Cody Cedergren, Pharm.D., TTUHSC, 2020
Christine Kim, Pharm.D., TTUHSC, 2021
Anthony Phan, Pharm.D., TTUHSC, 2021
Sara Powell, Pharm.D., TTUHSC, 2021
Taybor Flores, Pharm.D., TTUHSC, 2022
Nam Hyong Dam, Pharm.D., TTUHSC, 2023
Berkley Freund, Pharm.D., TTUHSC, 2023
Harmony Kouadio, Pharm.D., TTUHSC, 2024

PATENTS

Storkus WJ, Bose A, Taylor JL, Zhao, X, Lowe DB. Immunogenic tumor associated stromal cell antigen peptides and methods of their use. United States Patent # 9,345,770 (Awarded 06/2016)

Lowe DB, Wooster AL. Method to express, purify, and biotinylate eukaryotic cell-derived major histocompatibility complexes. PCT/US2019/056281 (Filed 10/15/2019).

Wood L, Paulishak W, Lowe DB, Nieuwenhze MV, Lyu J. Listeria monocytogenes as a vector for tumor-specific delivery of chemotherapeutic agents. PCT/US2023/032390 (File 09/11/2023).

PUBLICATIONS

Peer-Reviewed Journal Articles:

1. Kennedy RC, Shearer MH, Lowe DB, Jumper CA, Chiriva-Internati M, Bright RK. Anti-idiotypic responses abrogate anti-CD4 induced tolerance to a tumor specific antigen and promote systemic tumor immunity. *Cancer Immunol Immunother* 53:987-994, 2004.
2. Lowe DB, Shearer MH, Tarbox JA, Kang HS, Jumper CA, Bright RK, Kennedy RC. In vitro simian virus 40 large tumor antigen expression correlates with differential immune responses following DNA immunization. *Virology* 332:28-37, 2005.
3. Lowe DB, Shearer MH, Kennedy RC. DNA vaccines: successes and limitations in cancer and infectious disease. *J Cell Biochem* 98:235-242, 2006.
4. Lowe DB, Shearer MH, Jumper CA, Bright RK, Kennedy RC. Fcγ receptors play a dominant role in protective tumor immunity in a murine model of experimental pulmonary metastases. *J Virol* 81:1313-1318, 2007.
5. Chiriva-Internati M, Grizzi F, A Weidanz J, Ferrari R, Yuefei Y, Velez B, Shearer MH, Lowe DB, Frezza EE, Cobos E, Kast WM, Kennedy RC. A NOD/SCID tumor model for human ovarian cancer that allows tracking of tumor progression through the biomarker Sp17. *J Immunol Methods* 321:86-93, 2007.
6. Lowe DB, Shearer MH, Jumper CA, Kennedy RC. SV40 association with human malignancies and mechanisms of tumor immunity by large tumor antigen. *Cell Mol Life Sci* 64:803-814, 2007.
7. Lowe DB, Shearer MH, Jumper CA, Kennedy RC. Towards progress on DNA vaccines for cancer. *Cell Mol Life Sci* 64:2391-2403, 2007.

8. Lowe DB, Shearer MH, Jumper CA, Bright RK, Kennedy RC. Tumor immunity against an SV40 oncoprotein requires CD8+ T lymphocytes in the effector immune phase. *J Virol* 84:883-893, 2010.
9. Lowe DB, Shearer MH, Aldrich JF, Winn RE, Jumper CA, Kennedy RC. The role of the innate immune response and tumor immunity associated with simian virus 40 large tumor antigen. *J Virol* 84:10121-10130, 2010.
10. Aldrich JF, Lowe DB, Shearer MH, Winn RE, Jumper CA, Kennedy RC. Vaccines and immunotherapeutics for the treatment of malignant disease. *Clin Dev Immunol* 2010:697158, 2010.
11. Aldrich JF, Lowe DB, Shearer MH, Winn RE, Jumper CA, Kennedy RC. CD4+ T lymphocytes are critical mediators of tumor immunity to simian virus 40 large tumor antigen induced by vaccination with plasmid DNA. *J Virol* 85:7216-7224, 2011.
12. Zhao X, Bose A, Komita H, Taylor JL, Kawabe M, Chi Nina, Spokas L, Lowe DB, Goldbach C, Alber S, Watkins SC, Butterfield LH, Kalinski P, Kirkwood JM, Storkus WJ. IL-12 gene therapy results in the cross-priming of Tc1 cells reactive against tumor-associated stromal antigens. *Mol Ther* 19:805-814, 2011.
13. Lowe DB and Storkus WJ. Chronic inflammation and immunologic-based constraints in malignant disease. *Immunotherapy* 3:1265-1274, 2011.
14. Zhao X, Bose A, Komita H, Taylor JL, Chi N, Lowe DB, Okada H, Cao Y, Mukhopadhyay D, Cohen PA, Storkus WJ. Vaccines targeting tumor blood vessel antigens promote CD8+ T cell-dependent tumor eradication or dormancy in HLA-A2 transgenic mice. *J Immunol* 188:1782-1788, 2012.
15. Qu Y, Chen L, Lowe DB, Storkus WJ, Taylor JL. Combined Tbet and IL-12 gene therapy elicits and recruits superior anti-tumor immunity in vivo. *Mol Ther* 20:644-651, 2012.
16. Bose A*, Lowe DB*, Storkus WJ. Combined vaccine + axitinib therapy yields superior anti-tumor efficacy in a murine melanoma model. *Melanoma Res* 22:236-243, 2012.
*Both authors contributed equally to this work
17. Rao A, Lowe DB, Storkus WJ. Shock block for improved immunotherapy. *Oncoimmunology* 1:1427-1429, 2012.
18. Aldrich JF, Shearer MH, Lowe DB, Winn RE, Jumper CA, Kennedy RC, Bright RK. The role of gamma interferon in DNA vaccine-induced tumor immunity targeting simian virus 40 large tumor antigen. *Cancer Immunol Immunother* 62:371-382, 2013.
19. Chen L, Taylor JL, Sabins NC, Lowe DB, Qu Y, You Z, Storkus WJ. Extranodal induction of therapeutic immunity in the tumor microenvironment after intratumoral delivery of Tbet gene-modified dendritic cells. *Cancer Gene Ther*, 8:469-477, 2013.
20. Lowe DB, Taylor JL, Storkus WJ. Monitoring antigen-specific T cell responses using real-time PCR. *Methods Mol Biol*, 1186:65-74, 2014.
21. Lowe DB*, Bose A*, Taylor JL, Tawbi H, Lin Y, Kirkwood JM, Storkus WJ. Dasatinib promotes the expansion of a therapeutically superior T-cell repertoire in response to dendritic cell vaccination against melanoma. *Oncoimmunology*, 3:e27589, 2014.
*Both authors contributed equally to this work
22. Weidanz JA, Doll KL, Mohana-Sundaram S, Wichner T, Lowe DB, Gimlin S, Wawro Weidanz D, Magnusson R, Hawkins OE. Detection of human leukocyte antigen biomarkers in breast cancer with label-free biosensor technology. *J Vis Exp*, 97:e52159, 2015.
23. La-Beck NM, Jean G, Huynh C, Alzghari S, Lowe DB. Immune checkpoint inhibitors in cancer - ready for prime time? A therapeutic review and appraisal of landmark clinical studies. *Pharmacotherapy*, 35:963-976, 2015.
24. Lowe DB*, Bivens CK, Mobley AS, Herrera CE, McCormick AL, Wichner T, Sabnani MK, Wood LM, Weidanz JA*. TCR-like antibody drug conjugates mediate killing of tumor cells with low peptide/HLA targets. *Mabs*, 9(4):603-614, 2017.
*Corresponding authors
25. Wooster AL, Anderson TS, Lowe DB. Expression and characterization of soluble epitope-defined major histocompatibility complex (MHC) from stable eukaryotic cell lines. *J Immunol Methods*, 464:22-30, 2019.

26. Bommareddy PK, Lowe DB, Kaufman HL, Rabkin SD, Saha D. Multi-parametric flow cytometry staining procedure for analyzing tumor-infiltrating immune cells following oncolytic herpes simplex virus immunotherapy in intracranial glioblastoma. *J Biol Methods*, 6:e112, 2019.
27. Anderson TS, Wooster AL, La-Beck NM, Saha D, Lowe DB. Antibody-drug conjugates: an evolving approach for melanoma treatment. *Melanoma Res*, 31:1-17, 2021.
28. Wooster AL, Girgis LH, Brazeale H, Anderson TS, Wood LM, Lowe DB. Dendritic cell vaccine therapy for colorectal cancer. *Pharmacol Res*, 164:105374, 2021.
29. Nguyen HM, Guz-Montgomery K, Lowe DB, Saha D. Pathogenetic features and current management of glioblastoma. *Cancers*, 13:856, 2021.
30. Storkus WJ, Maurer D, Lin Y, Ding F, Bose A, Lowe DB, Rose A, DeMark M, Karapetyan L, Taylor JL, Chelvanambi M, Fecek RJ, Filderman JN, Looney TJ, Miller L, Linch E, Lowman GM, Kalinski P, Butterfield LH, Tarhini A, Tawbi H, Kirkwood JM. Dendritic cell vaccines targeting tumor blood vessel antigens in combination with dasatinib induce therapeutic immune responses in patients with checkpoint-refractory advanced melanoma. *J Immunother Cancer*, 9(11):e003675, 2021.
31. Anderson TS, Wooster AL, Piersall SL, Okpalanwaka IF, Lowe DB. Disrupting cancer angiogenesis and immune checkpoint networks for improved tumor immunity. *Semin Cancer Biol*, 86:981-996, 2022.
32. McCormick AL, Anderson TS, Daugherty EA, Okpalanwaka IF, Smith SL, Appiah D, Lowe DB. Targeting the pericyte antigen DLK1 with an alpha type-1 polarized dendritic cell vaccine results in tumor vascular modulation and protection against colon cancer progression. *Front Immunol*, 14:1241949, 2023.
33. Anderson TS, McCormick AL, Daugherty EA, Oladejo M, Okpalanwaka IF, Smith SL, Appiah D, Wood LM, Lowe DB. Listeria-based vaccination against the pericyte antigen RGS5 elicits anti-vascular effects and colon cancer protection. *Oncol Immunology*, 12(1):2260620, 2023.
34. Anderson TS, McCormick AL, Smith SL, Lowe DB. Modeling antibody drug conjugate potential using a granzyme B antibody fusion protein. *BMC Biol*, 22(1):66, 2024.
35. Taylor JL, Kokolus KM, Basse PH, Filderman JN, Cosgrove CE, Watkins SC, Gambotto A, Lowe DB, Edward RP, Kalinski P, Storkus WJ. Therapeutic anti-tumor efficacy of DC-based vaccines targeting TME-associated antigens is improved when combined with a chemokine modulating regimen and/or anti-PD-L1. *Vaccines*, 12(7):777, 2024.

Peer-Reviewed Book Chapters:

1. Lowe DB, Shearer MH, Jumper CA, Kennedy RC. Immunity to Bacteria. In: *Encyclopedia of Life Sciences*. John Wiley & Sons, Ltd: Chichester <http://www.els.net/> [DOI: 10.1002/9780470015902.a000481.pub2], 2007.
2. Lowe DB, Shearer MH, Jumper CA, Zhou E-M, Kennedy RC. Plasmid DNA as prophylactic and therapeutic vaccines for cancer and infectious diseases. In: *Plasmids: current research and future trends*, G Lipps, (Ed.), Caister Academic Press, 2008.
3. Lowe DB, Taylor JL, Storkus WJ. Combination therapies to improve delivery of protective T cells into the melanoma microenvironment. In: *Melanoma - From Early Detection to Treatment*, H Duc, (Ed.), Intech, 2013.
4. Sabins, NC, Taylor JL, Lowe DB, Storkus WJ. Molecular immunotherapeutics and vaccines for renal cell carcinoma and its vasculature. In: *Molecular Vaccines*, M Giese, (Ed.), Springer, 2013.
5. Lowe DB, Finke JH, Garcia JA, Storkus WJ. Vaccines in RCC: Clinical and Biological Relevance. In: *Renal Cell Carcinoma: Molecular Targets & Clinical Applications*, 3rd Edition, RM Bukowski, R Figlin, and R Motzer, (Eds.), Springer, 2015.

INVITED LECTURES

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|------|---|
| 2016 | Distinguished Speaker, TTUHSC SOP 15 th Annual Research Days; Amarillo, TX |
| 2017 | Seminar Speaker, TTUHSC SOP Translational Research Interest Group (TRIG); Abilene, TX |
| 2017 | Seminar Speaker, TTUHSC Department of Immunology and Molecular Microbiology; Lubbock, TX |
| 2018 | Seminar Speaker, University of Texas at Arlington College of Nursing and Health Innovation; Arlington, TX |

2019 Distinguished Speaker, Abilene Interdisciplinary Symposium on Cancer and Biomedical Research; Abilene, TX
2022 Seminar Speaker, Abilene Christian University; Abilene, TX

SELECTED ABSTRACTS

Herrera CE, Lowe DB, Bivens CK, Mobley AS, McCormick AL, Wichner T, Sabnani MK, Wood LM, Weidanz JA. TCR-like antibody drug conjugates mediate killing of tumor cells with low peptide/HLA targets. The American Association of Immunologists, Washington, DC, 12-16 May 2017. (Selected for block symposium presentation)

Anderson TS, Wooster AL, Oladejo M, Wood LM, Lowe DB. Listeria monocytogenes-based vaccines to mediate targeted ablation of the tumor-associated vasculature in colorectal cancer. AACR Special Conference: Tumor Immunology and Immunotherapy, Boston, MA, 21-24 Oct. 2022.

Wooster AL, Anderson TS, Piersall SL, Lowe DB. Analysis of the effects of therapeutic vaccination with tumor vascular-primed dendritic cells in a mouse model of colon cancer. AACR Special Conference: Tumor Immunology and Immunotherapy, Boston, MA, 21-24 Oct. 2022.

Okpalanwaka IF, Daugherty EA, McCormick AL, Anderson TS, Smith SL, Lawrence C, Lowe DB. A PD-L1 x CD3 bispecific antibody enhances the anti-tumor efficacy of regorafenib in pre-clinical colon cancer models. AACR Special Conference in Cancer Research: Tumor Immunology and Immunotherapy, Boston, MA, 18-21 Oct. 2024. (Selected for a travel award)

RESEARCH SUPPORT

Active:

None

Completed:

DoD Career Development Award (W81XWH-18-1-0293) (PI: Lowe, DB) 09/30/2018-09/29/2023

Immunotherapeutic targeting of colon cancer vascularization to achieve long-term immunity against primary and metastatic disease

We will develop listeria-based vaccines that encode vascular targets to treat colon cancer in primary and metastatic pre-clinical disease models and determine immune-driven mechanisms of protection. We will also evaluate the protective index of a synergistic listeria-based vaccine and antibody therapeutic regimen.

Role: PI

Total costs: \$542,982

NIH/NCI 1 R15 CA215874-01A1 (PI: Lowe, DB) 09/01/2018-08/31/2023

Immunotherapeutic targeting of colon cancer vascularization to achieve long-term protective immunity

The goals of this grant are to identify "protective" stromal peptide/HLA-A2 targets via dendritic cell vaccination for treating primary colon cancer disease. We will also assess the therapeutic efficacy of a co-applied anti-stromal dendritic cell vaccine and antibody drug conjugate approach.

Role: PI

Total costs: \$453,079

CPRIT RP210154 (PI: Reynolds, CP) 08/18/2021-03/17/2023

Texas regional excellence in cancer developmental therapeutics center at TTUHSC

Project specific title: Developing bispecific antibodies to colorectal cancer

The goal of this project is to isolate unique binders against vascular targets expressed within the colon cancer microenvironment and create bispecific antibodies that stimulate CD8+ T cell cytotoxic responses.

Role: Project PI

Total costs: \$100,000

DoD Career Development Award (CA191281) (PI: Saha, D) 09/01/2020-01/2022

Immunotherapeutic targeting of glioblastoma with oncolytic virus and listeria-based anti-cancer vaccine

This grant will explore the utility of combining oncolytic herpes viruses with a listeria-based vaccine and/or bispecific antibody for pre-clinically treating glioblastoma

Role: Co-I

Total costs: \$550,491

NSF National I-Corps Program (1936449) (PI: Lowe, DB) 06/15/2019-11/30/2021

I-Corps: Enhanced major histocompatibility complexes to improve the detection of immune cells

The goal of this grant is to commercialize our technology surrounding the ability to design and express enhanced MHC molecules.

Role: PI

Total costs: \$50,000

American Cancer Society 121002-PF-11-151-01-LIB (PI: Lowe, DB) 07/01/2011-08/31/2013

Sunitinib enhanced crosspriming of T cells against RCC stromal antigens

This project determined synergistic timing for dendritic cell vaccines to activate resident tumor vascular-specific CD8+ T cells in metastatic renal cell carcinoma patients receiving the small molecule drug sunitinib.

Role: PI

Total costs: \$150,000