
PROFESSIONAL EXPERIENCE

- Associate Director, Simmons Center for Cancer Research** 2020-present
• Cancer labs and faculty from four colleges at Brigham Young University
- Associate Professor, Brigham Young University** 2018-present
• College of Life Sciences - Department of Microbiology and Molecular Biology
- Assistant Professor, Brigham Young University** 2012-2018
• College of Life Sciences - Department of Microbiology and Molecular Biology
- Research Instructor, Washington University in St. Louis** 2009-2012
• Medical School - Department of Pathology and Immunology
- Postdoctoral Research Fellow, Washington University in St. Louis** 2005-2009
• Medical School - Department of Pathology and Immunology

EDUCATION

- Ph.D. in Cell and Structural Biology, University of Illinois** 2005
• Molecular Immunology focus - Department of Biochemistry
- M.S. in Zoology, Brigham Young University** 2000
• Neuroendocrinology focus - Department of Zoology
- B.S. in Zoology, Brigham Young University** 1998
• Human Biology focus - Department of Zoology

AFFILIATIONS

- Review Editor for Frontiers in Immunology (Inflammation section) 2022-present
- Member of the BYU Sorensen Center for Moral and Ethical Leadership 2021-present
- Member of the Autumn Immunology Conference Executive Board 2019-2023

Member of the Autumn Immunology Conference General Council	2018-2021
Member of the BYU Simmons Center for Cancer Research Executive Board	2020-present
American Society of Microbiology Rocky Mountain Branch organizing committee	2018-2019
Member of the American Society for Microbiology	2018-present
Member of the BYU Gerontology Program	2018-present
Member of the American Association of Cancer Researchers	2015-present
Member of the Cancer Immunology working group (CIMM)	2015-present
Member of the BYU Simmons Center for Cancer Research	2014-present
Member of the American Association of Immunologists	2005-present
Member of the Golden Key Honor Society	1998

HONORS AND AWARDS

BYU College of Life Sciences Outstanding Teaching Award	2021
BYU College of Life Sciences Outstanding Research Award	2019
NIH Academic Research Enhancement Award (R15)	2013-2017
Microbiology and Molecular Biology Departmental Research Award	2013
Midwest Regional Center of Excellence Career Development Award	2009-2012
NIH Ruth L. Kirschstein Postdoctoral Fellow	2005-2008
NIH Research Symposium Co-chair	2004
NIH Research Symposium committee member	2003
NIH Cell and Molecular Biology (CMB) training grant	2002-2004
Neuroscience Deans Fellow Scholar	1999-2000
BYU Dean's List	Winter & Spring 1998
BYU Office of Research and Creative Activities Research Scholarship	1997
BYU Trustees Scholar	1992-1998

PUBLICATIONS

Links to all 44 publications (ORCID ID:0000-0003-3688-2191) can be found at NIH MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/1vOVvXHsKmg/bibliography/public/>

1. Guerrero-Arguero I, Tellez Freitas CM, **Weber KS**, Berges BK, Robison RA, Pickett BE (2021) Alphavirus: Host pathogenesis, immune response, and vaccine & treatment updates. *Journal of General Virology* 102:001644. doi 10.1099/jgv.0.001644
2. Johnson DK, Magoffin W, Myers SJ, Finnell JG, Hancock JC, Orton TS, Freitas CMT, Persaud SP, Christensen KA and **Weber KS**. (2021) CD4 inhibits helper T cell activation at lower affinity threshold for full-length T cell receptors than single chain signaling constructs. *Frontiers in Immunology*. 11:561889. doi: 10.3389/fimmu.2020.561889
3. Adams K, **Weber KS***, and Johnson SM* (co-senior authors) (2020) Expososome and Immunity Training: How Pathogen Exposure Order Influences Innate Immune Cell Lineage Commitment and Function. *International Journal of Molecular Sciences* 21, 8462; doi:10.3390/ijms21228462
4. Gonzalez Murcia JD, Weinert A, Freitas CMT, Arens DK, Ferrel M, Grose JH, Wilson E, Kauwe JSK*, **Weber KS*** (2020) Atypical chemokine receptor ACKR2-V41A has decreased CCL2 binding, scavenging, and activation, supporting sustaining inflammation and increased Alzheimer's disease risk. *Scientific Reports* 10, 8019. doi.org/10.1038/s41598-020-64755-1
5. Velazquez EJ, Brindley TD, Shrestha G, Bitter EE, Cress JD, Townsend MH, Berges BK, Robison RA, **Weber KS** and O'Neill KL (2020) Novel monoclonal antibodies against thymidine kinase 1 and their potential use for immunotargeting of lung, breast and colon cancer cells. *Cancer Cell International* 20:127 10.1186/s12935-020-01198-8
6. Townsend MH, Freitas CMT, Larsen D, Piccolo SR, **Weber KS**, Robison RA, and O'Neill KL (2020) Hypoxanthine Guanine Phosphoribosyltransferase expression is negatively correlated with immune activity through its regulation of purine synthesis. *Immunobiology*. 20:151931. 10.1016/j.imbio.2020.151931
7. Turbitt WJ, **Weber KS**, and Norian LA (2020) Obesity and CD8 T cell metabolism: Implications for anti-tumor immunity and cancer immunotherapy outcomes. *Immunological Reviews* 10.1111/imr.12849
8. Whitley KV, Tueller JA and **Weber KS** (2020) Genomics Education in the Era of Personal Genomics: Academic, Professional, and Public Considerations. *International Journal of Molecular Sciences*. 21:768 10.3390/ijms21030768
9. Tueller JA, Whitley KV, and **Weber KS**. (2019) A Full Semester Flow Cytometry Course Improves Graduate and Undergraduate Student Confidence and Interest. *Biochemistry and Molecular Biology Education*. 1-9 doi.org/10.1002/bmb.21318
10. Johnston JD*, Cowger AE*, Graul RJ, Nash R, Tueller JA, Hendrickson NR, Robinson DR, Beard J, **Weber KS**. (2019) Associations between evaporative cooling and dust mite allergens, endotoxins, and β -(1 \rightarrow 3)-D-glucans in house dust: A study of low-income homes. *Indoor Air*. 29:1005–1017. doi.org/10.1111/ina.12600
11. Freitas CF, Burrell HR, Valdoz JC, Hamblin GJ, Raymond CM, Cox TD, Johnson DK, Anderson JL, **Weber KS**, and Bridgewater LC. The nuclear variant of bone morphogenetic protein 2 (nBMP2) is

- expressed in macrophages and alters intracellular calcium mobilization. (2019) *Scientific Reports*. 9:934 doi.org/10.1038/s41598-018-37329-5
12. Bitner BF, Ray JD, Kener KB, Herring JA, Tueller JA, Johnson DK, Freitas CMT, **Weber KS**, Allen, M, Thompson A, Fausnacht D, McMillan RP, Hulver MW, Brown DA, Tessem JS, Neilson AP. (2018) Common microbial metabolites of dietary flavonoids exert potent anti-diabetes activities in β -cell and skeletal muscle cell models. *Journal of Nutritional Biochemistry*. 62:95-107 doi.org/10.1016/j.jnutbio.2018.09.004
 13. Weagel EG, Burrup W, Kovtun R, Velazquez EJ, Felsted AM, Townsend MH, Ence ZE, Suh E, Piccolo SR, **Weber KS**, Robison RA, and O'Neill KL. (2018) Membrane expression of thymidine kinase 1 and potential clinical relevance in lung, breast, and colorectal malignancies. *Cancer Cell International*. 18:135 doi.org/10.1186/s12935-018-0633-9
 14. Freitas CMT, Johnson DK, and **Weber KS**. (2018) T cell calcium signaling regulation by the CD5 co-receptor. *International Journal of Molecular Sciences*. 19(5), 1295; doi:10.3390/ijms19051295
 15. **Weber KS**, Bridgewater LC, Jensen JL, Breakwell D, Nielsen B, Johnson SM. (2018) Personal microbiome analysis increases engagement and interest in Immunology, Genomics, and Molecular Biology undergraduate courses. *PLoS ONE*. 13(4): e0193696. doi.org/10.1371/journal.pone.0193696
 16. Jensen J, Bailey E, Kummer T, and **Weber KS**. (2017) Using Backward Design in Education Research. *Journal of Microbiology & Biology Education*. Dec 2017 18(3): DOI: doi.org/10.1128/jmbe.v18i3.1367
 17. Weagel EG, Meng W, Townsend MH, Velazquez-Espinoza E, Brog RA, **Weber KS**, Robison RA, O'Neill KL. (2017) Biomarker analysis and clinical relevance of thymidine kinase 1 on the cell membrane of Burkitt's lymphoma and acute lymphoblastic leukemia. *OncoTargets and Therapy*. September 6, 2017. 10:4355-4367
 18. Freitas CMT, Hamblin GJ, Raymond CM and **Weber KS**. (2017) Naive T helper cell with high CD5 levels has improved calcium mobilization. *PLoS ONE*. May 31; 12(5): e0178799.
 19. Kempton CE, **Weber KS**, and Johnson SM (2017) Method to Increase Undergraduate Laboratory Student Confidence in Performing Independent Research. *Journal of Microbiology & Biology Education*. April 21, 2017 18(1) DOI: doi.org/10.1128/jmbe.v18i1.1230
 20. Townsend MH, Anderson MD, Weagel EG, Velazquez EJ, Peck CJ, **Weber KS**, Robison RA, and O'Neill KL. (2017) Non-Small Cell Lung Cancer Cell lines A549 and NCI-H460 Express HPRT on the Plasma Membrane. *OncoTargets and Therapy*. Mar 30, 2017:10 1921-1932
 21. Johnston JD, Kruman BA, Nelson MC, Merrill RM, Graul RJ, Hoyberg TG, Tuttle SC, Myers S, Cook RB, **Weber KS** (2017) Differential effects of air conditioning type on residential endotoxin levels in a semi-arid climate. *Indoor Air*. Jan 31, 2017 doi:10.1111/ina.12369
 22. Johnston JD, Barney T, Crandall J, Brown M, Westover T, Paulson S, Smith M, and **Weber KS**. (2017) Prevalence of house dust mite allergens in low-income homes with evaporative coolers in a semi-arid climate. *Archives of Environmental and Occupational Health*. 73:1 38-41. doi:10.1080/19338244.2017.1282846
 23. Johnston JD, Tuttle SC, Nelson MC, Bradshaw RK, Hoybjerg TG, Johnson JB, Kruman BA, Orton TS, Cook RB, Eggett DL, **Weber KS**. (2016) Evaporative Cooler Use Influences Temporal Indoor

- Relative Humidity but not Dust Mite Allergen Levels in Homes in a Semi-arid Climate *PLoS ONE*. 11(1): e0147105. doi:10.1371/journal.pone.0147105
24. Steck R, Hill S, Weigel E, **Weber KS**, Robison R, O'Neill K. (2015) Pharmacologic immunosuppression of mononuclear phagocyte phagocytosis by caffeine. *Pharmacology Research & Perspectives*. 3(6), e00180, doi:10.1002/prp2.180
25. **Weber KS**, Jensen JL, Johnson SM (2015) Anticipation of personal genomics data enhances interest and learning environment in Genomics and Molecular Biology undergraduate courses. *PLoS ONE*. 10(8) e0133486
26. Olsen DS, Goar WA, Nichols BA, Bailey KT, Christensen SL, Merriam KR, Reynolds PR, Wilson E, **Weber KS**, Bridgewater LC. (2015) Targeted mutation of nuclear bone morphogenetic protein 2 (nBMP2) impairs secondary immune response in a mouse model. *Biomed Research International*. Volume 2015, Article ID 975789, 13 pages. doi:10.1155/2015/975789
27. Persaud SP, Parker CR, **Weber KS**, and Allen PM. (2014) Intrinsic CD4⁺ T cell sensitivity and response to pathogen are set and sustained by avidity for thymic and peripheral self-pMHC. *Nature Immunology*. 15(3):266-274
28. Lynch JN, Donermeyer DL, **Weber KS**, Kranz DM, and Allen PM. (2013) Subtle changes in TCR α CDR1 profoundly increase the sensitivity of CD4 T cells. *Molecular Immunology*. 53(3):283-294.
29. Graw F, **Weber KS**, Allen PM and Perelson AS. (2012) Dynamics of CD4⁺ T cell responses against *Listeria monocytogenes*. *Journal of Immunology*. 189(11):5250-5256
30. **Weber KS**, Li QJ, Persaud SP, Campbell JD, Davis MD, and Allen PM. (2012) Distinct populations of CD4⁺ helper T cells mediate CD4⁺ and CD8⁺ memory responses to infection. *Proceedings of the National Academy of Sciences. U S A*. 109(24):9511-9516 **Faculty of 1000 recommended.**
31. **Weber KS**, Hildner K, Murphy KM, and Allen PM. (2010) Trpm4 differentially regulates Th1 and Th2 function by altering calcium signaling and NFAT localization. *Journal of Immunology*. 185(5):2836-46
32. Persaud SP, Donermeyer DL, **Weber KS**, Kranz DM, and Allen PM. (2010) High-affinity T cell receptor differentiates cognate peptide-MHC and altered peptide ligands with distinct kinetics and thermodynamics. *Molecular Immunology*. 47(9):1793-801
33. Morley, SC, **Weber KS**, Kao H, and Allen PM. (2008) Protein kinase C- θ is required for efficient positive selection. *Journal of Immunology*. 181(7):4696-4708.
34. **Weber KS**, Miller MJ, and Allen PM. (2008) Th17 cells exhibit a distinct calcium profile from Th1 and Th2 cells and have Th1-like motility and NFAT nuclear localization. *Journal of Immunology*. 180(3):1442-1450
35. Donermeyer DL*, **Weber KS***, Kranz DM, and Allen PM. (2006) The study of high-affinity TCRs reveals duality in T cell recognition of antigen: specificity and degeneracy. *Journal of Immunology*. 177(10):6911-6919. (*co-first authorship)
36. Richman SA, Healan SJ, **Weber KS**, Donermeyer DL, Dossett ML, Greenberg PD, Allen PM, and Kranz DM. (2006) Development of a novel strategy for engineering high-affinity proteins by yeast

- display. *Protein Engineering Design and Selection*. 19(6):255-264.
37. **Weber KS**, Donermeyer DL, Allen PM, and Kranz DM. (2005) Class II-restricted T cell receptor engineered in vitro for higher affinity retains peptide specificity and function. *Proceedings of the National Academy of Sciences. U S A*. 102(52):19033-19038.
 38. Lephart ED, West TW, **Weber KS**, Rhees RW, Setchell, KD, Adlercreutz H, and Lund TD. (2002) Neurobehavioral effects of dietary soy phytoestrogens. *Neurotoxicology and Teratology*. 24, 5-16.
 39. Roper RJ, Weis JJ, McCracken BA, Green CB, Ma Y, **Weber KS**, Fairbairn D, Butterfield RJ, Potter MR, Zachary JF, Doerge RW and Teuscher C. (2001) Genetic control of susceptibility to experimental Lyme arthritis is polygenic and exhibits consistent linkage to multiple loci on chromosome 5 in four independent mouse crosses. *Genes and Immunity*. 2, 388-397.
 40. **Weber KS**, Setchell KD, Stocco DM and Lephart ED. (2001) Dietary soy-phytoestrogens decrease testosterone levels and prostate weight, without altering LH, prostate 5 α -reductase or testicular StAR levels in adult male Sprague-Dawley rats. *Journal of Endocrinology*. 170,591-9
 41. **Weber KS**, Setchell KD and Lephart ED. (2001) Maternal and perinatal brain aromatase: Effects of dietary soy phytoestrogens. *Developmental Brain Research*. 126, 217-221.
 42. Lephart ED, Call SB, Rhees RW, Jacobson NA, **Weber KS**, Bledsoe J and Teuscher C. (2001) Neuroendocrine regulation of sexually dimorphic brain structure and associated sexual behavior in male rats is genetically controlled. *Biology of Reproduction*. 64, 571-578.
 43. Lephart ED, Thompson JM, Setchell KD, Adlercreutz H and **Weber KS**. (2000) Phytoestrogens decrease brain calcium-binding proteins but do not alter hypothalamic androgen metabolizing enzymes in adult male rats. *Brain Research*. 859, 123-131.
 44. **Weber KS**, Jacobson NA, Setchell KD and Lephart ED. (1999) Brain aromatase and 5 alpha-reductase, regulatory behaviors and testosterone levels in adult rats on phytoestrogen diets. *Proceedings of the Society for Experimental Biology and Medicine*. 221(2), 131-135.

BOOK CHAPTERS

1. Velazquez EJ, Brindley TD, Shrestha G, Bitter EE, Cress JD, Townsend MH, Berges BK, Robison RA, **Weber KS** and O'Neill KL (2021) Novel monoclonal antibodies against thymidine kinase 1 and their potential use for immunotargeting of lung, breast and colon cancer cells. In: Heidari A, editor. *Prime Archives in Cancer Research*. Hyderabad, India: Vide Leaf.
2. Freitas CMT, Johnson DK, and **Weber KS**. (2019) Calcium signaling in Human Health and Disease – T cell calcium signaling regulation by the CD5 coreceptor. *International Journal of Molecular Sciences*. 292-312 doi.org/10.3390/books978-3-03897-538-0
3. Stone JD, Yin Y, Mo M, **Weber KS**, Donermeyer DL, Allen PM, Mariuzza RA, and Kranz DM. (2012). Engineering High-Affinity T Cell Receptor/ Cytokine Fusions for Therapeutic Targeting, Protein Engineering, Prof. Pravin Kaumaya (Ed.), ISBN: 978-953-51-0037-9, InTech,

SCIENTIFIC COMMENTARIES ABOUT WORK

Nature Immunology News and Views feature on my publication. March 2014
http://www.nature.com/ni/journal/v15/n3/full/ni.2832.html?WT.ec_id=NI-201403

PATENTS

US Patent family with Dr. Kim O'Neill

Use of car and bite technology coupled with an scFv from an antibody against human thymidine kinase 1 to specifically target tumors.

(US10434153) – Issued on 10/8/2019; Expires 5/20/2036

(US10821162) – Issued on 11/03/2020

(US10828355) – Issued on 11/10/2020

(US11052138) – Issued on 07/06/2021

US (US20170166657) and World (WO2017025944) patents pending with Dr. Kim O'Neill

Macrophage chimeric antigen receptor (moto-car) in immunotherapy

MEDIA REPORTS ABOUT WORK

1. E Scholarly Community Encyclopedia “Exposome” entry <https://encyclopedia.pub/4232>
2. KSL feature on Autism study. December 16, 2020
<https://www.ksl.com/article/50068434/byu-study-researching-potential-link-between-gut-bacteria-and-autism-in-children>
3. Daily Herald feature on Autism study. November 15, 2020
https://www.heraldextra.com/news/community/their-voice-byu-autism-study-looking-for-volunteers/article_6728bd1b-2ec0-57a0-8551-0475f505712d.html
4. BYU News feature on Alzheimer’s disease publication and work. June 2, 2020
<https://news.byu.edu/intellect/byu-study-takes-next-step-toward-treatment-for-alzheimers-disease>
5. BYU Radio interview about microbiome work with Julie Rose (Top of Mind Show). August 13, 2018
<http://www.byuradio.org/episode/16beae4a-c292-4977-a45a-6d67b7934977?playhead=5233&autoplay=true>
6. BYU Home page feature on microbiome publication and work. April 11, 2018
<https://news.byu.edu/news/want-students-more-engaged-class-let-them-sample-tiny-creatures-living-them>
7. CBS news story about microbiome publication findings.
<http://kutv.com/news/local/byu-professors-students-who-study-their-microbiomes-are-more-engaged-in-class>
8. Science Daily news story about microbiome publication findings.
<https://www.sciencedaily.com/releases/2018/04/180411145049.htm>
9. Ask the Truth news story about microbiome publication findings
<http://asktruth24.com/student-engagement-in-class-could-be-improved-using-personal-data/92/#comment-12>
10. BYU Life Sciences magazine highlight of T cell and dust mite projects. Fall 2017/Winter 2018
<http://lsmagazine.byu.edu/Fall2017Winter2018/Health-Defenders>
11. BYU Radio interview about work with Julie Rose on the Top of Mind Show. January 23, 2017
<https://www.byuradio.org/episode/46b02b63-3495-4fac-8a83-07f63f63956a/top-of-mind-with-julie-rose-world-events-weekend-warriors-punching-the-clock?playhead=4779&autoplay=true>

12. BYU Life Sciences magazine story on effort to provide authentic learning experiences. June 2016
<http://lsmagazine.byu.edu/Issues/Spring2016/SevenReasonstoSeekOutAuthenticLearningExperiences.aspx>
13. BYU Radio interview about dust mite publication on the Matt Townsend Show. June 2, 2016
<http://www.byuradio.org/episode/fedd537-d4cc-45e9-87b1-f5bc139c7ad9/the-matt-townsend-show-the-abolitionists-war-on-soda-allergies-and-dust-mites?playhead=6580&autoplay=true>
14. Fox Evening News interview and TV feature on dust mite publication and work. May 11, 2016
<http://fox13now.com/2016/05/11/research-from-byu-suggests-utah-countys-climate-makes-dust-mites-less-of-a-concern/>
15. KSL News radio story about dust mite publication and work. May 10, 2016.
<https://audioboom.com/boos/4549098-new-byu-study-shows-low-numbers-of-dust-mites-in-utah-county-homes>
16. ABC News story about dust mite publication and work. May 9, 2016
<http://www.good4utah.com/news/top-stories/are-dust-mites-really-a-problem-in-utah>
17. BYU News feature on dust mite publication and work. May 6, 2016
<https://news.byu.edu/news/dust-mites-invading-your-mattress-maybe-not-say-byu-researchers>
18. BYU Home page feature on T cell publication and work. February 13, 2014
<http://news.byu.edu/archive14-feb-helper-t-cells.aspx>
19. KSL News Radio story about recent T cell publication and work. February 18, 2014
http://img.ksl.com/audio/2014_02_14_scott_and_maria3.mp3 Starts at minute 34:14
20. BYU ElevenNews at Noon feature on my lab and T cell work. February 20, 2014
<http://elevennews.byu.edu/2014/02/helper-t-cells/>

GRANT FUNDING

External grants (awarded)

NIH/NIAID (1R15AI107753-01)	6/1/13-5/31/17
NIH Academic Research Enhancement Award (R15)	\$449,087
The role of antigenic strength in the primary and memory responses of pathogen specific CD4 ⁺ T cells	
NIH/MRCE (U54 AI057160)	8/1/09-2/28/12
MRCE Career Development Award in Biodefense and Emerging Infectious Diseases	\$350,617
Determining optimal ligand affinity for generating protective CD4 ⁺ T cell responses to <i>Listeria monocytogenes</i> .	

Internal grants (awarded)

2022 James Bobbitt Alzheimer's Grant	\$20,000
Molecular characterization of a cytokine receptor allele with a protective effect on Alzheimer's disease	
2020 Interdisciplinary Research (IDR) Origination Award	\$40,000
Trust the Gut: Developing a Simple Fecal Test to Screen Infants at Risk for Autism	
2020 Gerontology Research Grant	\$10,000
Characterization of a CCRL2 allele with a protective effect on Alzheimer's disease	
2019 James Bobbitt Alzheimer's Grant	\$15,000

Characterization of a CCRL2 Mutant Chemokine Receptor and its Protective Role in Inflammation and Alzheimer's Disease	
2018 James Bobbitt Alzheimer's Grant	\$15,000
Characterization of Mutant Chemokine Receptors and their Role in Inflammation and Alzheimer's Disease	
2018 Graduate Mentoring Grant	\$15,000
Role of CD5 in T cell metabolism and cognitive function	
2018 BYU CEMENT Research Grant	\$5,000
The role of antigenic strength in the primary and memory responses of pathogen specific CD4 ⁺ T cells	
2018 BYU College of Life Sciences Teaching Enhancement Grant	\$7,000
Developing Applicable Student Understanding using Flow Cytometry Analysis Software	
2018 Gerontology Research Grant	\$10,000
Characterization of Mutant Chemokine Receptors and their Role in Inflammation and Alzheimer's disease	
2017 BYU College of Life Sciences Teaching Enhancement Grant	\$3,000
Improving molecular biology and immunology student engagement with novel 3D molecular models	
2017 BYU Mentoring Environment Grant	\$20,000
T cell immunotherapy of infectious disease and cancer	
2016 BYU College of Life Sciences Translational Research Grant	\$15,000
Co-PI with Dr. Kim O'Neill on a Chimeric Antigen Receptors immunotherapy project	
2016 BYU College of Life Sciences Teaching Enhancement Grant	\$8,700
Integrating microbiome metagenomic analysis into the classroom to improve student learning	
2015 John A. Widtsoe Scholarly Grant	\$25,000
Engineering chimeric antigen receptors to combat infectious disease.	
2015 BYU Mentoring Environment Grant	\$20,000
Improving the memory response of pathogen specific helper T cells	
2015 BYU College of Life Sciences Teaching Enhancement Grant	\$2,000
Printing and integrating novel 3D molecular models to enhance learning in Molecular Biology courses.	
2014 BYU Mentoring Environment Grant	\$20,000
Improving the memory response of pathogen specific helper T cells.	
2014 BYU College of Life Sciences Teaching Enhancement Grant	\$8,500
Integrating personal genome testing into genomics courses to improve student learning	

Journal Reviewer

Review Editor for Frontiers in Immunology (Inflammation section)

Ad Hoc Reviewer – Frontiers in Genetics

Ad Hoc Reviewer – Frontiers in Education

Ad Hoc Reviewer - PLOS Pathogens – Public Library of Science Pathogens

Ad Hoc Reviewer - The European Journal of Immunology

Ad Hoc Reviewer – Viruses

Ad Hoc Reviewer - Cells

Ad Hoc Reviewer - OncoImmunology

Ad Hoc Reviewer - Personalized Medicine

Ad Hoc Reviewer – Advanced Science

Ad Hoc Reviewer - The American Journal of the Medical Sciences

Ad Hoc Reviewer - JoVE – Journal of Visualized Experiments

Ad Hoc Reviewer - PLOS ONE – Public Library of Science ONE

Ad Hoc Reviewer - Clinical and Translational Medicine

Ad Hoc Reviewer - Cell Death and Disease

Ad Hoc Reviewer – Virulence

Ad Hoc Reviewer – International Journal of Molecular Sciences

Ad Hoc Reviewer – Biomaterials

Ad Hoc Reviewer – Journal of Clinical Medicine

Ad Hoc Reviewer – Computational and Structural Biotechnology Journal

External Grant Reviewer

NIH study section – Special emphasis - Academic Research Enhancement Awards (2018)

NIH study section – Special emphasis - Academic Research Enhancement Awards (2017)

NIH study section – Biomedical Sensing, Measurement and Instrumentation (2017)

Reviewer for Wellcome Trust Principle Research Fellowships (2017)

Internal Grant Reviewer

Reviewed BYU Simmons Center for Cancer Research fellowship grant submissions (2021)

Reviewed BYU Simmons Center for Cancer Research fellowship grant submissions (2020)

Reviewed BYU Simmons Center for Cancer Research fellowship grant submissions (2019)

Reviewed submissions for Simmons Center for Cancer Research Summer Fellowships (2018)

Reviewed mentored undergraduate grants for the BYU College of Life Sciences (2017)

Reviewed BYU Simmons Center for Cancer Research fellowship grant submissions (2016)

Reviewed ORCA grant submissions for the BYU College of Life Sciences (2015)

Reviewed BYU Graduate Studies Fellowship Proposals (2015)

Reviewed ORCA grant submissions for the BYU College of Life Sciences (2014)

Reviewed ORCA grant submissions for the BYU College of Life Sciences (2013)

Society Leadership and Responsibilities

Review Editor for Frontiers in Immunology - Inflammation section (2022-present)

Member of the BYU Sorensen Center for Moral and Ethical Leadership (2021-present)

Member of the Autumn Immunology Conference Executive board (2020-2023)

Member of the Autumn Immunology Conference General Council (2018-2020)

American Society of Microbiology Rocky Mountain Branch organizing committee (2018-2019)

Member of the American Society for Microbiology (2018-present)

Member of the BYU Gerontology Program (2018-present)

Member of the American Association of Cancer Researchers (2015-present)

Member of the Cancer Immunology working group (CIMM) (2015-present)

Member of the BYU Simmons Center for Cancer Research (2014-present)

Member of the American Association of Immunologists (2005-present)

University Appointments and Administrative Responsibilities

Member of the College of Life Sciences Dean Search Committee (2021-2022)

Member of the College Curriculum Committee (2015-present)

Member of the MMBIO executive committee (2015-present)

Chair of the MMBIO Undergraduate Committee (2015-present)

Member of Research Instrument Core committee (2014-present)

Chair of the MMBIO Collaborative Research Committee (2013-present).

Member of the MMBIO Undergraduate Committee (2012-2015)

General Service

Review Editor for Frontiers in Immunology - Inflammation section (2022-present)

Facilitator for BYU Simmons Center for Cancer Research Fellow Think Tank webinar (6/3/20)

MMBIO club presentation on career preparation and finding your calling in life (9/17/19)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2019)

Panelist for new BYU professors preparing for their 3rd and 6th year review. (2018)

Reviewed two chapters of Janeway Immunobiology textbook (2018)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2018)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2017)

Organized Unlocking the Secrets of DNA class at Empowering Your Future conference (2016)

Taught Personal Genomics Immunotherapy class at Orem Golden Kiwanas club meeting (2016)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2016)

Taught Unlocking the Secrets of DNA class at Empowering Your Future conference (2016)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2015)

Helped organize and oversee the MMBIO 494R class trip to Yellowstone (2014)

Organized the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2014)

Helped the MMBIO club and Chemical engineering at Provo Kids Science Palooza (2014)

Initiated the MMBIO Faculty Research Lunch (10 weeks; 20 faculty presenters) (2013)

TEACHING EXPERIENCE

MMBIO 294R	Undergraduate Mentored Research - F/W/Sp/Su 2018-2022
MMBIO 441	Advanced Molecular Biology – Winter 2013-2015
MMBIO 442	Advanced Molecular Biology laboratory – Winter 2014-2022
MMBIO 463	Immunology – Winter 2016-2022
MMBIO 494R	Advanced Undergraduate Mentored Research – F/W/Sp/Su 2012-2022
MMBIO 522	Flow Cytometry - Fall 2014-2022
MMBIO 551R	Graduate Immunology – Winter 2016-2022
MMBIO 694R	Graduate Mentored Research – F/W/Sp/Su 2013-2022

GUEST LECTURES / TEACHING SERVICE

Fall 2020	HONORS 120 – Interdisciplinary Introduction	Taught 2 seminars
Fall 2019	MMBIO 463 – Immunology	Taught 2 lectures
Fall 2019	MMBIO 121 – General Biology; Health and Disease	Guest lecture
Win 2019	MMBIO 121 – General Biology; Health and Disease	Guest lecture
Win 2018	MMBIO 121 – General Biology; Health and Disease	Guest lecture
Fall 2017	MMBIO 121 – General Biology; Health and Disease	Guest lecture
Win 2017	MMBIO 121 – General Biology; Health and Disease	Guest lecture
Fall 2017	MMBIO 463 – Immunology	Graded poster presentations

Fall 2016	MMBIO 661 – Molecular Genetics	Guest lecture
Fall 2016	MMBIO 425 – Diagnostic Techniques	Guest lecture
Fall 2016	MMBIO 463 – Immunology	Guest lecture
Fall 2016	MMBIO 463 – Immunology	Graded poster presentations
Win 2016	MMBIO 468 – Genomics	Guest lecture
Win 2016	MMBIO 121 – General Biology; Health and Disease	Taught 2 lectures
Fall 2015	MMBIO 425 – Diagnostic Techniques	Guest lecture
Fall 2015	MMBIO 661 – Molecular Genetics	Guest lecture
Fall 2015	MMBIO 390R – Cell Cycle	Guest lecture
Fall 2014	MMBIO 624 – Microbial Pathogenesis	Taught 3 lectures
Fall 2014	LFSCI 101 – Freshmen Life Sciences Seminar	Guest lecture
Win 2014	MMBIO 463 – Immunology	Taught 2 lectures
Fall 2013	MMBIO 463 – Immunology	Graded poster presentations
Fall 2013	MMBIO 441 – Advanced Molecular Biology	Guest lecture
Sum 2013	MMBIO New Student Orientation	Taught new student lectures
Win 2013	MMBIO 463 – Immunology	Taught 3 lectures
Fall 2012	MMBIO 463 – Immunology	Graded poster presentations
Fall 2012	MMBIO 624 – Microbial Pathogenesis	Taught 3 lectures
Fall 2012	LFSCI 101 – Freshmen Life Sciences Seminar	Guest lecture

UNDERGRADUATE STUDENTS MENTORED

1. Bryce Anderson*	- Generating high affinity T cell receptors
2. Brian Ballard	- Generating high affinity T cell receptors
3. John Hancock* [‡]	- Generating high affinity T cell receptors
4. Joon Kim	- Generating high affinity T cell receptors
5. Taylor Orton	- Generating high affinity T cell receptors
6. Kemais Ehlers*	- Role of apoptosis in memory cell formation
7. Brian Pando	- Developing PCR test for MERS
8. Raul Herrera	- Generating high affinity T cell receptors
9. Evan Campbell	- qPCR analysis of dust mite role in asthma
10. Julene Johnson	- ELISA analysis of dust mite role in asthma
11. Kurt Williams*	- Role of apoptosis in memory cell formation
12. Morgan Christiansen	- ELISA analysis of dust mite role in asthma
13. Taylor Hobjerg*	- ELISA analysis of dust mite role in asthma
14. Sheldon Meyer [§]	- Generating high affinity T cell receptors
15. Garrett Hamblin* [‡]	- Calcium analysis of T cells and macrophages
16. Ryan Cook	- Generating high affinity T cell receptors
17. Niels Steadman	- Calcium analysis of T cells and macrophages
18. Lance Christian	- In vitro production of TK1
19. Justin Crandall*	- Generating chimeric antigen receptors
20. Mitch Cook	- PAS kinase role in metabolism and immunity
21. Spencer Dykman	- Generating high affinity T cell receptors

22. Carlee Larsen	- Calcium analysis of T cells and macrophages
23. Steven Ogden	- Calcium analysis of T cells and macrophages
24. Blaine Penrod	- Generating chimeric antigen receptors
25. Tia Thomas ^Σ	- Generating high affinity T cell receptors
26. Josephine Tuller* ^Σ	- Characterizing metabolic function of CARs
27. Becca Nimrod	- Generating high affinity T cell receptors
28. Nolan Beatty	- Transfecting chimeric antigen receptors
29. Daniel Thompson	- Generating chimeric antigen receptors
30. Tyler Cox* ^Σ	- Calcium analysis of T cells and macrophages
31. Charles Teames* ^Σ	- Generating chimeric antigen receptors
32. Allen Weinert* ^{φφφ}	- Chemokine receptors and Alzheimer's disease
33. Wyatt Magoffin ^Ψ	- Characterizing high affinity T cell receptors
34. David Bellini	- Chemokine receptors and Alzheimer's disease
35. Anne Dunn	- Calcium analysis of T cells and macrophages
36. Rachel Johnson	- Generating chimeric antigen receptors
37. Topher Haynie ^φ	- Characterizing metabolic function of CARs
38. Lucie Dearden ^φ	- Chemokine receptors and Alzheimer's disease
39. Jessica Elmer ^φ	- Role of CD5 in periodontal disease
40. Yuko Ketch	- Role of CD5 in periodontal disease
41. Joshua Teasdale	- Chemokine receptors and Alzheimer's disease
42. Alexa Tall	- Role of CD5 in periodontal disease
43. Brigham Perry	- Quantitation of signaling in tumor samples
44. Kyle Reaveley ^φ	- CD5 and role in behavior
45. Kimble Mahler	- Role of CD5 in periodontal disease
46. Brady Zeller	- Calcium analysis of T cells and macrophages
47. Sterling Fuller	- Microbiome and asthma analysis of home dust
48. Isabella Wallwitz	- Calcium analysis of T cells and macrophages
49. Andrew Nelson	- Chemokine receptors and Alzheimer's disease
50. Alexa Bailey	- Calcium analysis of T cells and macrophages
51. Abby Johnson ^φ	- Cancer and the immune system
52. Ellie Bybee	- Periodontal disease and inflammation
53. Ben Marwedel	- Cancer and the immune system
54. Joshua Bennett [†]	- Immunometabolism
55. Austin Hansen	- Cancer and the immune system
56. Hunter Lindsay	- Chemokine receptors and Alzheimer's disease
57. Kevin Schreiber	- Cancer and the immune system

* Awarded a BYU ORCA grant.

† Awarded a Ferron Anderson Diabetes grant.

‡ Winner of an American Association of Immunologists Undergraduate Award

§ Awarded the BYU College of Life Sciences Vanice-Reid Student Research Endowment Award

Σ Awarded a BYU Simmons Cancer Research Center Summer Fellowship.

φ Awarded a BYU CURA grant.

Ψ Awarded a College of Life Science's Vanice, Glen W., and Keith G. Reid Endowment Award.

HIGH SCHOOL STUDENT SUMMER INTERNSHIP MENTOR

Stella Meier (2021) – Using Yeast Display to Engineer HPRT-Specific Immunotherapies.

HONORS THESIS MENTOR

Laura Westhoff (2019) - Functional Implications of NLRP1 Variants for Autoimmune Disease

Reika Takita (2017) - The Effect of the Overexpression of IRF5 in B-Cells on Inflammatory and Co-Stimulatory Activity

GRADUATE STUDENTS MENTORED

1. Claudia Tellez Freitas^{*†} (2013-2019 Ph.D. degree) - Calcium signaling in T cells and macrophages
2. Deborah Johnson^{****Σ} (2014-2020 Ph.D. degree) - TCR Affinity and CD5 in T cell activation
3. Kiara Vaden^{****§} (2015-2022 Ph.D. degree) - Affinity in T cell activation & immunotherapies
4. Josue Gonzalez^{†Ω} (2016-2020 Ph.D. degree) - Cytokine receptors and Alzheimer's (co-mentor)
5. Ashlin Cowger (2017-2019 M.S. degree) - Dust mite and endotoxin role in asthma
6. Josie Tueller^{*} (2017-2019 M.S. degree) - Metabolism changes in T cell immunotherapies
7. Justina Tavana (2019-2023 Ph.D.) - Cytokine receptors and Alzheimer's (co-mentor)
8. Carlos Moreno^{*} (2020-2022 M.S. degree) - Cancer and immunotherapy
9. Christopher Haynie^{*} (2021-2022 M.S. degree) - CD5 and T follicular cells

[†] Awarded a BYU Gerontology Fellowship

^Ω Awarded a James Bobbitt Alzheimer's Grant

^{*} Awarded a BYU Simmons Center for Cancer Research Summer Fellowship

[§] Awarded a BYU Simmons Center for Cancer Research Full Year Fellowship

[‡] Awarded a BYU Graduate Student Mentoring Fellowship

^Σ Awarded a BYU Graduate Student Fellowship

GRADUATE STUDENT COMMITTEES

1. Ashley Wright (MS – Microbiology and Molecular Biology – Johnson lab) – 2012-14
2. Evita Weigel (Ph.D. – Microbiology and Molecular Biology – O'Neill lab) – 2012-17
3. Whitney Hayes (M.S. – Biology – Kauwe/Gross lab) – 2013-2016
4. Claudia Tellez Freitas (Ph.D. – Microbiology and Molecular Biology – co-committee chair) 2013-19
5. Ryan Steck (M.S. – Microbiology and Molecular Biology – O'Neill lab) – 2012-14
6. Justin Livingstone (MS – Microbiology and Molecular Biology – O'Neill lab) – 2013-15
7. Matt Schinn (Ph.D. – Chemical Engineering – Bundy lab) – 2014-2018
8. Deborah Johnson (Ph.D. – Microbiology and Molecular Biology – committee chair) 2014-19
9. Melissa Calkins (M.S. – Physiology and Developmental Biology – Hansen lab) 2014-16
10. Ruchira Sharma (Ph.D. – Microbiology and Molecular Biology – Grose lab) – 2014-19

11. Clarice Harrison (M.S. – Microbiology and Molecular Biology – Griffiths lab) – 2013-15
12. Kai Li Ong (Ph.D. – Microbiology and Molecular Biology – Grose lab) – 2014-19
13. Rhonda Chronis (M.S. – Microbiology and Molecular Biology – Wilson lab) – 2014-17
14. Calab Cornaby (Ph.D. – Microbiology and Molecular Biology – Poole lab) – 2014-18
15. Justen Despain (M.S. – Microbiology and Molecular Biology – Robison lab) – 2014-16
16. Michael Deyhle (Ph.D. – Exercise Science – Hildawl lab) – 2014-2018
17. Antonio Solis Leal (Ph.D. – Microbiology and Molecular Biology – Berges lab) – 2015-20
18. Edwin Velazquez Espinoza (Ph.D. – Microbiology and Molecular Biology – O'Neill lab) – 2015-20
19. Michelle Townsend (Ph.D. – Microbiology and Molecular Biology – O'Neill lab) – 2015-18
20. Kiara Vaden (Ph.D. – Microbiology and Molecular Biology – committee chair) 2015-21
21. Israel Guerrero (Ph.D. – Microbiology and Molecular Biology – Robison lab) 2015-2020
22. Josue Gonzalez Murcia (Ph.D. – Biology - co-committee chair) 2016-20
23. Jenny Pattison (Ph.D. – Microbiology and Molecular Biology – Grose lab) 2016-2019
24. Daniel Arens (Ph.D. – Microbiology and Molecular Biology – Grose lab) 2016-2021
25. JongSu “Johnny” Choi (M.S. – Chemistry and Biochemistry – Christensen lab) 2017-2019
26. Jacob Herring (Ph.D. – Microbiology and Molecular Biology – Tessem lab) 2017-2022
27. Eliza Laurence (M.S. – Microbiology and Molecular Biology – O'Neill lab lab) 2017-2019
28. Ashlin Cowger (M.S. – Microbiology and Molecular Biology – committee chair) 2017-2019
29. Josie Tueller (M.S. – Microbiology and Molecular Biology – committee chair) 2018-2019
30. Hyrum Shumway (M.S. – Microbiology and Molecular Biology – Robison lab) 2015-2018
31. Jaqueline Monroe (Ph.D. – Mechanical Engineering – Bowden lab) 2015-2020
32. Elise Melhado (M.S. – Microbiology and Molecular Biology – Grose lab) 2018-2019
33. Daniel Poole (Ph.D. – Biochemistry – Anderson lab) 2018-2022
34. Daniel Call (Ph.D. – Biochemistry – Christensen lab) 2018-2022
35. Colleen Newey (M.S. – Microbiology and Molecular Biology – Grose lab) 2019-2020
36. Matt Rathgeber (Ph.D. – Biochemistry – Van Ry Lab) 2019-2024
37. Ya Zhang (M.S. – Microbiology and Molecular Biology – Erickson lab) 2019-2020
38. Jacob Fairholm (M.S. – Microbiology and Molecular Biology – Berges lab) 2020-2021
39. John Krapohl (M.S. – Microbiology and Molecular Biology – Pickett lab) 2020-2021
40. Tania Lopez Palacios (Ph.D. – Biochemistry – Anderson Lab) 2020-2025
41. Christina Small (Ph.D. – Neuroscience – Steffensen Lab) 2021-2026
42. Spencer Ellsworth (M.S. – Microbiology and Molecular Biology – Grose lab) 2021-2022

VISITING PROFESSOR SABBATICAL IN MY LAB

MAY 2017 - JUNE 2018

Dr. Chung-Da Yang, Associate Professor, National Pingtung University of Science, Taiwan
 Project: Characterization of immune response to *T. gondii* nanoparticle vaccine.

August 2019 – September 2019

Dr. Chung-Da Yang, Associate Professor, National Pingtung University of Science, Taiwan and 3 graduate students (Chih-Chi, Chin-Tsun and Li-Chi) visited to work worked in my lab on nanoparticle vaccine projects.

PRESENTATIONS AT LOCAL, REGIONAL, AND NATIONAL MEETINGS

* = BYU Undergraduate † = BYU Graduate Student ^Ω Oral presentation ^Σ Poster presentation

1. Johnson A^{*Ω}, Lindsay H^{*Ω}, Haynie C[†], and Weber KS. Selection and characterization of high-affinity HPRT antibodies using yeast display for use in cancer immunotherapy. Utah Conference on Undergraduate Research. February 25th, 2022. *St. George UT*
2. Fuller S^{*ΣΩ}, Tadge J^{*}, **Weber KS**, and Johnston J. Dust microbiome analysis in homes with swamp coolers. Utah Conference on Undergraduate Research. February 25th, 2022. *St. George UT*
3. Bybee E^{*ΣΩ}, Moreno C[†], **Weber KS** and Freitas CT. The role of CD5 in periodontal disease. Utah Conference on Undergraduate Research. February 25th, 2022. *St. George UT*
4. Hansen A^{*Σ}, Johnson A^{*}, Lindsay H^{*}, Haynie C[†], and Weber KS. Fantastic yeasts: A search for high-affinity antibodies against the cancer target HPRT. Utah Conference on Undergraduate Research. February 25th, 2022. *St. George UT*
5. Whitley K^{†Ω}, Velazquez E, Teasdale J^{*}, Hancock J, O'Neill KL, and **Weber KS**. CD5 deficiency alters helper T cell immunometabolism on a transcriptomic level and shifts the systemic metabolome. American Society for Microbiology Intermountain Mountain Branch Meeting. Dec 4th 2021. *Ogden UT (online)*
6. Haynie C^{†Ω}, Townsend M, Meyer S^{*}, Johnson A^{*}, O'Neill KL, and **Weber KS**. Isolation and characterization of high-affinity antibodies against HPRT for immunotherapy development. American Society for Microbiology Intermountain Mountain Branch Meeting. Dec 4th 2021. *Ogden UT (online)*
7. Whitley K^{†ΣΩ}, Velazquez E[†], Teasdale J^{*}, Hancock J, O'Neill KL, and **Weber KS**. Characterization of Single Chain Antibodies against Thymidine Kinase 1 (TK1) for Cancer Immunotherapeutic Applications. Autumn Immunology Conference 49th Annual Meeting. November 19-22nd 2021. *Chicago Illinois*
8. Moreno C^{†ΣΩ}, Whitley K[†], Freitas CT, Pickett B, and **Weber KS**. CD5 signaling inhibits the transcription of metabolic enzymes and metabolite transporters at the transcriptomic level. Autumn Immunology Conference 49th Annual Meeting. November 19-22nd 2021. *Chicago Illinois*
9. Whitley K^{†ΣΩ}, Freitas C, Haynie C[†], Reaveley K^{*}, Magoffin W^{*}, **Weber KS**. CD5-deficient mice have enhanced helper T cell metabolic function, a systemic metabolic shift in amino acids, and altered behavior. Autumn Immunology Conference 49th Annual Meeting. November 19-22nd 2021. *Chicago Illinois*
10. Haynie C^{†ΣΩ}, Townsend M, Meier S^{*}, Johnson A^{*}, O'Neill KL, and **Weber KS**. Isolation and characterization of high-affinity antibodies against HPRT for immunotherapy development. Autumn Immunology Conference 49th Annual Meeting. November 19-22nd 2021. *Chicago Illinois*

11. Bybee E^{*ΣΩ}, Moreno C[†], **Weber KS** and Freitas CT. The role of CD5 in periodontal disease. Autumn Immunology Conference 49th Annual Meeting. November 19-22nd 2021. *Chicago IL*
12. Reaveley K^{*Σ}, Whitley KV[†], Freitas CMT[†], Cox T^{*}, Magoffin W, Wallwitz I^Σ, Mahler K^{*}, Haynie C, Tall A, Teasdale J, and **Weber KS**. The T cell co-receptor CD5 alters mouse behavior and gut microbiome composition. BYU CURA Research Conference, Nov 11th, 2021. *Provo UT*
13. Payne AJ^{†Σ}, Obray JD[†], Williams BM^{*}, Bauserman S^{*}, Yorgason JT, Edwards JG, **Weber KS**, Steffensen SC. CD5 knockout mice exhibit alterations in measures of ethanol sedation and consumption. Society for Neuroscience. November 8-11, 2021. (*online*)
14. Small C^{†Σ}, Clarke T^{*}, Brundage J^{*}, Obray JD[†], Moreno C[†], **Weber KS**, Yorgason JT, Steffensen SC. Neuroimmune-mediated alcohol effects on ventral tegmental area microglia and infiltrating leukocytes. Society for Neuroscience. November 8-11, 2021. (*online*)
15. Johnson A^{*Ω}, Lindsay H^{*Ω}, Haynie C[†], and **Weber KS**. Engineering HPRT specific antibodies for immunotherapies using yeast display. American Society for Microbiology Rocky Mountain Branch Meeting. October 21st 2021. *Fort Collins CO (online)*
 - *Winner of Best Oral Presentation Award*
16. Moreno C^{†Ω}, Whitley K[†], **Weber KS**. RNA-Seq analysis of the role of CD5 on T cell metabolic function. American Society for Microbiology Rocky Mountain Branch Meeting. October 21st 2021. *Fort Collins CO (online)*
17. Bybee E^{*Σ}, Moreno C[†], Freitas C, and **Weber KS**. The role of CD5 in periodontal disease. American Society for Microbiology Rocky Mountain Branch Meeting. October 21st 2021. *Fort Collins CO (online)*
 - *#1 ranked Poster Presentation Award*
18. Bennett J^{*Σ}, Whitley K[†], Freitas C, Johnson D, **Weber KS**. The role of CD5 in T cell activation. American Society for Microbiology Rocky Mountain Branch Meeting. October 21st 2021. *Fort Collins CO (online)*
 - *#3 ranked Poster Presentation Award*
19. Dearden L^{Σ*}, Gonzalez Murcia JD, Nelson A^{*}, Weinert A^{*}, Freitas CMT, Ferrel MN^{*}, Grose JH, Ridge PG, Wilson E, Kauwe JSK, **Weber KS**. The CCRL2 atypical chemokine receptor variant V180M has a higher binding affinity for chemerin and alters CCL4 secretion in leukocytes. American Society for Microbiology Rocky Mountain Branch Meeting. October 21st 2021. *Fort Collins CO (online)*
20. Cardon D^Σ, Mahler K^{*}, Ketch Y^{*}, Townsend JE^{*}, Weber KS, Freitas CMT. Role of CD5 in oral inflammation and Periodontal Disease. 2021 IADR/AADR/CADR International Association of Dental Research General Session. July 24th, 2021. Virtual Meeting, 99th General Session
21. **Weber KS**^Ω. Engineering the immune system to target cancer. Simmons Center for Cancer Research Symposium. June 29, 2021. *Provo UT*

22. Williams BM^Σ, Payne AJ[†], Obray JD[†], Chapman CJ, Small CA, Yorgason JT, Weber KS, Steffensen SC. CD5 knockout mice exhibit reduced sensitivity to the sedative effects of alcohol and alcohol consumption. Society for Neuroscience. Chicago IL. June 6-12, 2021
23. Sperry YK^{Ω*}, Mahler K*, Townsend J*, Cardon D, Freitas CT[†], **Weber KS**. The CD5 coreceptors effect on T cell proliferation in Periodontal Disease. Roseman University Research Symposium. April 14th 2021. *South Jordan UT*
 - Winner of “Best Research in Progress” award
24. Mahler K*, Sperry YK^{Ω*}, Townsend J*, Cardon D, Freitas CT[†], **Weber KS**. Role of CD5 in T cell activation in Periodontal Disease. Roseman University Research Symposium. April 14th 2021. *South Jordan UT*
25. Reaveley K, Whitley KV[†], Freitas CMT[†], Cox T, Magoffin W, Wallwitz I^Σ, Mahler K, Haynie C, Tall A, Teasdale J, and **Weber KS**. The T cell co-receptor CD5 alters mouse behavior and gut microbiome composition. Roseman University Research Symposium. April 14th 2021. *South Jordan UT*
26. Reaveley K, Whitley KV[†], Freitas CMT[†], Cox T, Magoffin W, Wallwitz I^Σ, Mahler K, Haynie C, Tall A, Teasdale J, and **Weber KS**. The T cell co-receptor CD5 alters mouse behavior and gut microbiome composition. BYU College of Life Sciences and Library Undergraduate Research Poster Competition. March 25th 2021. *Provo UT*
27. Dearden L^{Σ*}, Gonzalez Murcia JD[†], Nelson A*, Weinert A*, Freitas CMT, Ferrel MN*, Grose JH, Ridge PG, Wilson E, Kauwe JSK, **Weber KS**. The CCRL2 atypical chemokine receptor variant V180M has a higher binding affinity for chemerin. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
28. Teasdale J^{Σ*}, Perry B*, Ghosh S, Perry A, **Weber KS**. Determining the role of PKMζ in pancreatic adenocarcinoma. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
29. Nelson A^{Σ*}, Gonzalez Murcia JD[†], Dearden L*, Weinert A*, Freitas CMT[†], Ferrel MN*, Grose JH, Ridge PG, Wilson E, Kauwe JSK, **Weber KS**. The CCRL2 atypical chemokine receptor variant V180M alters CCL4 secretion in leukocytes. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
30. Wallwitz I^Σ, Whitley KV[†], Freitas CMT[†], Cox T, Magoffin W, Reaveley K, Mahler K, Haynie C, Tall A, Teasdale J, and **Weber KS**. Understanding the effects of T cell co-receptor CD5 on metabolic function and the metabolome. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
31. Haynie C^{Σ*}, Whitley KV[†], Freitas CMT[†], and **Weber KS**. The Role of CD5 in regulating levels of T Follicular Helper cells. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
32. Moreno C^{Σ†}, Frandsen P, and **Weber KS**. Measuring the dragonfly (*Tanypteryx hagen*) genome size using flow cytometry. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*

33. Tavana J^{Ω†}, **Weber KS**, and Kauwe JSK. Autosomal Dominant Early Onset Alzheimer's Disease in Pacific Island Populations. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
34. Sperry YK^{Ω*}, Mahler K*, Townsend J*, Cardon D, Freitas CT[†], **Weber KS**. Role of CD5 in Oral Inflammation and Periodontal Disease. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
35. Whitley KV^{Ω†}, Freitas CMT[†], Cox T*, Magoffin W*, Reaveley K*, Wallwitz I*, Mahler K*, Haynie C*, Tall A*, Teasdale J*, and **Weber KS**. The role of T cell co-receptor CD5 in T cell metabolism, the gut microbiome, and behavior. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
 - Winner of "Best Oral Presentation" award
36. Reaveley K^{Σ*}, Whitley KV[†], Freitas CMT[†], Cox T*, Magoffin W*, Wallwitz I*, Mahler K*, Haynie C, * Tall A*, Teasdale J*, and **Weber KS**. The T cell co-receptor CD5 alters mouse behavior and gut microbiome composition. American Society of Microbiology Intermountain Branch Meeting December 5th 2020. *Ogden UT*
 - Winner of "Best Poster Presentation" award
37. Dearden L^{*ΩΣ}, Weinert A*, Gonzalez Murcia JD[†], Wilson E, Kauwe JSK, **Weber KS**. Genetic Association and Characterization of Chemokine Receptor CCRL2-V180M with Alzheimer's disease, cognitive decline, and serum cytokine levels. BYU Library and College of Life Sciences Library Undergraduate Research Poster Competition. March 26th 2020. *Provo UT*
38. Weinert A^{*ΩΣ}, Gonzalez Murcia JD[†], Wilson E, Kauwe K, and **Weber KS**. Characterization of Mutant Chemokine Receptor CCRL2 and its Role in Inflammation and Alzheimer's disease. BYU Library and College of Life Sciences Library Undergraduate Research Poster Competition. March 26th 2020. *Provo UT*
39. Townsend JE^{*Σ}, Ketch Y, Freitas CMT[†], **Weber KS**. Role of CD5 in oral inflammation and periodontal disease. 6th Annual Roseman University Research Symposium. March 11th 2020. *South Jordan Utah*
40. Magoffin W^{*Σ}, Johnson D[†], Myer S*, Finnell J*, Christensen K, and **Weber KS**. The conundrum of CD4, an inhibitory activating co-receptor: CAR and fITCR formats affect activation of high affinity helper T cell receptors in CD4+ and CD4- T cell hybridomas. Utah Conference on Undergraduate Research. February 7th 2020. *Logan Utah*
41. Haynie C^{*Σ}, Cox T*, Freitas CMT[†], Whitley KV[†], and **Weber KS**. Role of CD5 T cell co-receptor in T cell metabolism. Utah Conference on Undergraduate Research. February 7th 2020. *Logan Utah*
42. Townsend JE^{*Σ}, Freitas CMT[†], **Weber KS**. Role of CD5 in oral inflammation and periodontal disease. Utah Conference on Undergraduate Research. February 7th 2020. *Logan Utah*

43. Dearden L^{*ΩΣ}, Weinert A*, Gonzalez Murcia JD[†], Wilson E, Kauwe K, **Weber KS**. Genetic Association and Characterization of Chemokine Receptor CCRL2-V180M with Alzheimer's disease, cognitive decline, and serum cytokine levels. Autumn Immunology Conference 48th Annual Meeting. November 22-25th 2019. *Chicago Illinois*
 - Winner of National Multiple Sclerosis Society (NMSS) Award
44. Whitley KV^{†ΩΣ}, Freitas CMT[†], **Weber KS**. The Influence of T cell signaling strength in helper T cells. Autumn Immunology Conference 48th Annual Meeting. November 22-25th 2019. *Chicago Illinois*
45. Magoffin W^{*ΩΣ}, Johnson D[†], Myer S*, Finnell J*, Christensen K, and **Weber KS**. The conundrum of CD4, an inhibitory activating co-receptor: CAR and fITCR formats affect activation of high affinity helper T cell receptors in CD4+ and CD4- T cell hybridomas. Autumn Immunology Conference 48th Annual Meeting. November 22-25th 2019. *Chicago IL*
 - Winner of "AAI Undergraduate Award"
46. Haynie C^{*ΩΣ}, Cox T*, Freitas CMT[†], Whitley KV[†], and **Weber KS**. Role of CD5 T cell co-receptor in T cell metabolism. Autumn Immunology Conference 48th Annual Meeting. November 22-25th 2019. *Chicago Illinois*
 - Winner of "AAI Undergraduate Award"
47. O Bray JD[†], Payne AJ[†], Williams B*, Baldrige JT*, Yorganson JT, Weber KS, Stephenson SC. Cluster of differentiation 5 knockout mice display reduced ethanol consumption and resistance to ethanol induced sedation. Society for Neuroscience Abstracts. October 19-23, 2019. *Chicago Illinois*
48. Gonzalez Murcia JD^{†ΣΩ}, Avei T, Cassinat J, Weinert A*, Wilson E, **Weber KS** and Kauwe JSK. Genetic Association and Characterization of Chemokine Receptor CCRL2-V180M with Alzheimer's disease, cognitive decline, and serum cytokine levels. Alzheimer's Association International Conference. July 12-18th, 2019. *Los Angeles CA*
49. Gonzalez Murcia JD^{†ΣΩ}, Weinert A*, Wilson E, Kauwe K, and **Weber KS**. Characterization of Mutant Chemokine Receptor CCBP2-V41A and its Role in Inflammation and Alzheimer's disease. Keystone Symposia - Neural Environment in Disease: Glial Responses and Neuroinflammation. June 16-20th, 2019. *Keystone CO*
50. Cowger AE^{†ΣΩ}, Beard J, Tueller JA, **Weber KS**, and Johnston JD. What house dust can tell us about indoor air quality: Bioaerosols in low-income homes with evaporative coolers. American Industrial Hygiene Association (AIHA) Conference. May 20-22nd, 2019. *Minneapolis MN*
 - Winner of "1st Place Gold Award for Best in Show" poster
51. Johnson DK^{†Σ}, Magoffin W*, Finnell J*, Myers SJ*, Nemrow B, Christensen K and **Weber KS**. Effects of high affinity engineered class II-restricted full length and single chain CAR-format T cell receptors specific for a naturally occurring *Listeria monocytogenes* epitope on T

cell activation and specificity. The American Association of Immunologists Annual Meeting. May 9-13th 2019. *San Diego CA*

52. Johnson R^{*Σ}, Hancock J^{*}, Vaden K[†], and **Weber KS**. Anti-TK1 Antibodies as Potential Immunotherapy for Targeting Cancer Cells. American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo Utah*
53. Weinert A^{*ΩΣ}, Gonzalez Murcia JD[†], Wilson E, Kauwe K, and **Weber KS**. Characterization of Mutant Chemokine Receptor CCBP2-V41A and its Role in Inflammation and Alzheimer's disease. American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo UT*
 - Winner of "Distinguished Poster" award
54. Freitas C^{†ΩΣ} and **Weber KS**. CD5 co-receptor influences T cell metabolism, gut microbiota and cognitive behavior. American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo Utah*
55. Cowger AE^{†Σ}, Johnston JD, Graul RJ, Nash R, Tueller JA, Hendrickson NR, Beard J, and **Weber KS**. Bioaerosols associated with evaporative cooler use in low-income homes in the semi-arid climate of Utah County, Utah, USA American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo Utah*
 - Winner of "Distinguished Poster" award
56. Tueller JA^{†Σ}, Whitley K, and **Weber KS**. Flow Cytometry Education: A semester long course. American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo UT*
57. Whitley K^{†Σ}, Freitas C[†], and **Weber KS**. Helper T cells and T cell signaling. American Society of Microbiology Rocky Mountain Branch Meeting April 13th 2019. *Provo Utah*
58. Johnson R^{*Σ}, Hancock J^{*}, Vaden K[†], and **Weber KS**. Development of anti-thymidine kinase 1 antibody (WHEELZ) as a potential cancer immunotherapy. BYU College of Life Science Poster Competition. March 28th, 2019. *Provo Utah*
59. Weinert A^{*ΩΣ}, Gonzalez Murcia JD[†], Wilson E, Kauwe K, **Weber KS**. Characterization of Mutant Chemokine Receptor CCBP2-V41A and its Role in Inflammation and Alzheimer's disease. BYU College of Life Science Poster Competition. March 28th, 2019. *Provo Utah*
60. **Weber KS**^Ω. Engineering the immune system to target cancer. American Association of Cancer Research and BYU Cancer Symposium. March 8, 2019 *Provo Utah*
61. Gonzalez Murcia JD^{†ΩΣ}, Weinert A^{*}, Wilson E, Kauwe K, **Weber KS**. Genetic Association and Characterization of CCRL2-V180M with Alzheimer's disease, cognitive decline, and serum cytokine levels. BYU's 29th annual Gerontology Conference. March 13-14th 2019. *Provo Utah*
62. Weinert A^{*ΩΣ}, Gonzalez Murcia JD[†], Wilson E, Kauwe K, **Weber KS**. Characterization of Mutant Chemokine Receptor CCBP2-V41A and its Role in Inflammation and Alzheimer's disease. BYU's 29th annual Gerontology Conference. March 13-14th 2019. *Provo Utah*

63. Townsend MH^{†Σ}, Ewell ZD*, Freitas CMT[†], Larsen DJ*, Lawrence EL[†], Bennion KB*, **Weber KS**, Robison RA, and O'Neill KL. HPRT Overexpression May Contribute to the Immunosuppressive Tumor Microenvironment. American Association for Cancer Research Annual Meeting. March 29-April 3 2019 *Atlanta, GA*
64. Townsend MH^{†Σ}, Ewell ZD*, Freitas CMT[†], Larsen DJ*, Lawrence EL[†], Bennion KB*, Piccolo SR, **Weber KS**, Robison RA, and O'Neill KL. The immunosuppressive tumor microenvironment may be affected by HPRT overexpression. March 8, 2019. BYU Cancer Symposium. *Provo Utah*
65. Weinert A*^Σ, Gonzalez Murcia JD[†], and **Weber KS**. Characterization of Mutant Chemokine receptor CCBP2-V41A and its role in inflammation and Alzheimer's disease. Utah Conference on Undergraduate Research. February 22nd, 2019. *Ogden Utah*
66. Johnson R*^Σ, Hancock J*, Vaden K[†], and **Weber KS**. Development of anti-thymidine kinase 1 antibody (WHEELZ) as a potential cancer immunotherapy. Utah Conference on Undergraduate Research. February 22nd, 2019. *Ogden Utah*
67. Teames C*^Σ and **Weber KS**. Role of CD5 on T regulatory function. Utah Conference on Undergraduate Research. February 22nd, 2019. *Ogden Utah*
68. Magoffin W*^Σ, Johnson D[†], and **Weber KS**. Characterizing the effectiveness of a novel helper T cell chimeric antigen receptor immunotherapy. Utah Conference on Undergraduate Research. February 22nd, 2019. *Ogden Utah*
69. Freitas C^{†Σ}, Cox T*, Dunne A*, and **Weber KS**. CD5 co-receptor plays a role in T cell metabolism. Midwinter Immunology Conference. Jan 26-29, 2019. *Asilomar CA*
70. Townsend MH^{†Σ}, Bitter EK*, Larsen D*, Freitas CMT[†], Piccolo SR, **Weber KS**, Robison RA, O'Neill KL. HPRT impact on immune regulation influences the tumor microenvironment. Midwinter Immunology Conference. Jan 26-29, 2019. *Asilomar CA*
71. Gonzalez Murcia JD^{†ΩΣ}, Weinert A*, Wilson E, Kauwe K, **Weber KS**. Genetic Association and Characterization of CCRL2-V180M with Alzheimer's disease, cognitive decline, and serum cytokine levels. Autumn Immunology Conference 47th Annual Meeting. November 16-19th 2018. *Chicago Illinois*
72. Weinert A*^{ΩΣ}, Gonzalez Murcia JD[†], Wilson E, Kauwe K, **Weber KS**. Characterization of Mutant Chemokine Receptor CCBP2-V41A and its Role in Inflammation and Alzheimer's disease. Autumn Immunology Conference 47th Annual Meeting. November 16-19th 2018. *Chicago Illinois*
73. Gonzalez Murcia JD, Ferrel M, Avei T, Reid K, **Weber KS**, Wilson E, Grose J, Kauwe J. Association of CCRL2-V180M (RS6441977) and CCBP2-V41A (RS2228467) with AD, cognitive decline, and serum cytokine levels. Alzheimer's Association International Conference. July 22-26th 2018. *Chicago Illinois*
74. Graul RJ*^Σ, Cowger A^Ω, Nash R*, Tueller JA^Ω, Beard J, **Weber KS**, and Johnston JD. Prevalence of Dust Mite Allergens in Low-Income Homes in Utah County, Utah. American Industrial Hygiene Association (AIHA) Conference. June 1-3, 2018. Philadelphia PA

75. Townsend MH^{†Σ}, Bennion KB*, Weagel EG[†], Velazquez EJ[†], Whitley KV^{†Σ}, **Weber KS**, and O'Neill KL. Mechanistically Minded: A study of the surface co-localization of salvage pathway enzymes. National Symposium for Undergraduate Research at St. Jude Children's Research Hospital June 2018. Memphis, Tennessee.
76. Townsend MH^{†Σ}, Clay TB*, Felsted AM*, Burrup WS*, Weagel EG[†], Velazquez EJ[†], **Weber KS**, Robison RA, and O'Neill KL. Evaluating HPRT as a potential Immunotherapeutic target in colon cancer cells. BYU Biomedical Symposium. May 2018 *Provo Utah*.
77. Freitas CM^{†ΩΣ}, Cox TD*, Johnson DK[†], and **Weber KS**. CD5 expression influences T cell metabolism and mice behavior. The American Association of Immunologists Annual Meeting. May 4-8th 2018. *Austin TX*
78. Townsend MH^{†Σ}, Olson E*, Weagel EG[†], Velazquez EJ[†], Felsted AM*, Burrup WS*, **Weber KS**, Robison RA, and O'Neill KL. HPRT: A biomarker and potential target for detection and treatment of colorectal cancers. American Association for Cancer Research Annual Meeting. April 14-18th 2018 *Chicago IL*
79. Velazquez EJ^{†Σ}, Lattin JE*, Brindley TD*, Reinstein ZZ*, Chu R*, Liu L*, Weagel EG[†], Townsend MH[†], Whitley KV[†], Lawrence EL[†], Garcia BT*, **Weber KS**, Robison RA, and O'Neill KL. Macrophage toll-like receptor-chimeric antigen receptors (MOTO-CARs) as a novel adoptive cell therapy for the treatment of solid malignancies. American Association for Cancer Research Annual Meeting. April 14-18th 2018. *Chicago IL*
80. Townsend MH^{†Σ}, Clay TB*, Felsted AM*, Burrup WS*, Weagel EG[†], Velazquez EJ[†], **Weber KS**, Robison RA, and O'Neill KL. Evaluating HPRT as a potential Immunotherapeutic target in colon cancer cells. American Association for Cancer Research Annual Meeting. April 14-18th 2018. *Chicago IL*
81. Bennion K^{*Σ}, Kingery B*, Townsend MH^{†Σ}, Whitley KV[†], Velazquez EJ[†], **Weber KS**, and O'Neill KL. Harnessing the immune system: a human engineered antibody specific to TK1.. American Association for Cancer Research Annual Meeting. April 14-18th 2018. *Chicago IL*
82. Cox TD^{*Ω}, Freitas CM[†], Yorgason JT[†], Franson JJ[†], Bridgewater LC, Steffensen SC, and **Weber KS**. CD5 deficient mice exhibit altered cognitive function in behavioral studies. Tri-Branch American Society of Microbiology Meeting. April 7th, 2018. *Durango CO*
 - Winner of best undergraduate oral presentation award
83. Tueller JA^{*Ω}, Jensen JL, Breakwell D, Johnson SM, and **Weber KS**. Personal microbiome analysis enhances student engagement in life sciences courses. Tri-Branch American Society of Microbiology Meeting. April 7th, 2018. *Durango CO*
84. Johnson DK^{†Ω}, Freitas CM[†], Hancock JC*, Tueller JA*, Myers SJ*, Hamblin GJ* and **Weber KS**. CD5 expression influences helper T cell metabolic state. Tri-Branch American Society of Microbiology Meeting. April 7th, 2018. *Durango CO*

85. Murcia JDG^{†Σ}, Weinert A*, Ferrel M, **Weber KS**, Kauwe JSK. Characterization of mutant chemokine (C-C motif) receptor-like 2 (CCRL2) and its role in inflammation and Alzheimer's disease. Tri-Branch American Society of Microbiology Meeting. April 7, 2018. *Durango CO*
- Winner of best graduate student poster award
86. Freitas CM^{†Ω}, Cox TD*, Johnson DK[†], Franson JJ[†], Bridgewater LC, and **Weber KS**. Role of CD5 expression on T cell metabolism. Tri-Branch American Society of Microbiology Meeting. April 7th, 2018. *Durango CO*
87. Wynn AG, Garland KG, Kener KB, Weber KS, Bikman BT, Hancock CR, Tessem JS. High Fat Fed Nr4a1 Knock Out Mouse has Significant Modulation of Mitochondrial Respiration Across Various Tissues. (The FASEB Journal 32:1) Experimental Biology. April 2018. *San Diego CA*
88. Bennion KB^{*Σ}, Whitley KV[†], Velazquez EJ[†], Kingery BM*, **Weber KS**, and O'Neill KL. "Wheelz": A novel engineered human antibody for possible CAR T-cell therapy. BYU College of Life Science Poster Competition. March 29th, 2018. *Provo Utah*
89. Cox TD^{*Σ}, Freitas CM[†], Yorgason JT[†], Franson JJ[†], Bridgewater LC, Steffensen SC, and **Weber KS**. CD5 deficient mice exhibit altered cognitive function in behavioral studies. BYU College of Life Science Poster Competition. March 29th, 2018. *Provo Utah*
90. Garland K^{*Σ}, Kener K*, Hancock J*, Freitas CMT[†], Bickman B, Hancock C, **Weber KS**, and Tessem J. The effects of Nr4a1 full-body knockout in mice. Utah Conference on Undergraduate Research. February 9th, 2018. *Cedar City Utah*
91. Cox TD^{*ΩΣ}, Freitas CM[†], Yorgason JT[†], Franson JJ[†], Bridgewater LC, Steffensen SC, and **Weber KS**. CD5 deficient mice exhibit altered cognitive function in behavioral studies. Autumn Immunology Conference 46th Annual Meeting. November 17-20th 2017. *Chicago Illinois*
92. Tueller JA^{*ΩΣ}, Whitley KV[†], Velazquez EJ[†], Weagel EG[†], O'Neill KL, and **Weber KS**. Generation and metabolic characterization of TK-1 specific 2nd and 3rd generation CAR vectors. Autumn Immunology Conference 46th Annual Meeting. November 17-20th 2017. *Chicago Il*
93. Johnson DK^{†ΩΣ}, Freitas CM[†], Hancock JC*, Tueller JA*, Myers SJ*, Hamblin GJ* and **Weber KS**. CD5 expression influences helper T cell metabolic state. Autumn Immunology Conference 46th Annual Meeting. November 17-20th 2017. *Chicago Illinois*
94. **Weber KS**^Ω. T cell coordination of the immune response in health and disease. BYU Microbiology and Molecular Biology Department Seminar. September 21st 2017. *Provo Utah*
95. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU speed networking seminar. August 29th 2017. *Provo Utah*
96. **Weber KS**^Ω. Engineering the Immune System to Target Cancer Cells. BYU Cancer Research Seminar. July 20th 2017. *Provo Utah*

97. Murcia JDG^{†Σ}, **Weber KS**, Kauwe JSK. Characterization of mutant chemokine receptors and their role in inflammation and Alzheimer's disease. Alzheimer's Association International Conference. July 16-20, 2017 *London England*
98. **Weber KS**^Ω. Regulation of lymphocyte activation and function. BYU Microbiology and Molecular Biology Faculty Research Lunch Seminar. May 31, 2017. *Provo Utah*
99. Johnson D^{†Ω} and **Weber KS**. T cell receptors specific for a naturally occurring *Listeria monocytogenes* epitope engineered *in vitro* for high affinity. American Society for Microbiology Intermountain Branch Meeting. April 15th 2017. *Ogden Utah*
100. Freitas CT^{†Ω}, Hamblin GJ*, Larsen CM*, **Weber KS**. Naïve Helper T Cells with high CD5 expression have increased calcium signaling. American Society for Microbiology Intermountain Branch Meeting. April 15th 2017. *Ogden Utah*
101. Vaden K^{†Ω}, Hancock III JC*, **Weber KS**. Determining the Optimal TCR:pepMHC Affinity for CD4⁺ T cell Primary and Memory Response. American Society for Microbiology Intermountain Branch Meeting. April 15th 2017. *Ogden Utah*
102. ^ΔVelazquez-Espinoza E^{†Σ}, Ewell ZD*, Lattin JE*, Vaden K[†], Townsend MH[†], Weagel EG[†], **Weber KS**, Robison RA, and O'Neill KL. A pre-clinical study of chimeric antigen receptor (CAR) T cells targeting Thymidine Kinase 1 (TK1) in lung cancer cell lines. American Society for Microbiology Intermountain Branch Meeting. April 15th 2017. *Ogden Utah*.

^Δ Poster won first place in the competition.
103. Townsend MH^{†Σ}, Burrup W*, Weagel EG[†], Felsted A*, Anderson MD*, Velazquez-Espinoza E[†], **Weber KS**, Robison RA, O'Neill KL. HPRT: Could it be used as a biomarker for future immunotherapies? Undergraduate student caucus and poster competition. American Association for Cancer Research April 1-5th 2017. *Washington DC*
104. Velazquez-Espinoza E^{†Σ}, Vaden K[†], Townsend MH[†], Weagel EG[†], **Weber KS**, Robison RA, and O'Neill KL. Development of a TK1 specific chimeric antigen receptor T cell for the treatment of non-small-cell lung cancer. American Association for Cancer Research. April 1-5th 2017. *Washington DC*
105. Weagel EG^{†Σ}, Townsend MH[†], Anderson MD*, Velazquez EJ[†], **Weber KS**, Robison RA, O'Neill KL. Unusual expression of HPRT on the surface of the colorectal cancer cell lines HT29 and SW620. American Association for Cancer Research. April 1-5th 2017. *Washington DC*
106. Tueller J*^Σ, Vaden K[†], **Weber KS**. Engineering a Cancer-Specific Third Generation CAR Immunotherapy. 11th Annual Utah Conference on Undergraduate Research. February 17, 2017. *Orem Ut*
107. Vaden K^{†Σ}, Hancock III JC*, **Weber KS**. Determining the Optimal TCR:pepMHC Affinity for CD4⁺ T cell Primary and Memory Response. Midwinter Immunology Conference. Jan 28-31, 2017. *Asilomar CA*

108. Freitas CT[‡], Hamblin GJ*, Larsen CM*, **Weber KS**. Naïve Helper T Cells with high CD5 expression have increased calcium signaling. Midwinter Immunology Conference. Jan 28-31, 2017. *Asilomar CA*.
109. Velazquez-Espinoza E[‡], Vaden K[†], Townsend MH[†], Weagel EG[†], **Weber KS**, Robison RA, and O'Neill KL. Chimeric Antigen Receptor (CARs) for Thymidine Kinase 1 (TK1): A novel immunotherapy approach to fight cancer. Biomedical Engineering West Regional Conference. January 19-20th 2017. *Provo Utah*
110. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU speed networking seminar. August 2016. *Provo Utah*
111. Johnson DJ[†] and **Weber KS**^Ω. Role of affinity for antigen and self in T cell activation and memory generation. LDS Life Science Research Symposium. July 20-22nd 2016. *Lehi Utah*
112. Graul RJ*^Σ, Tuttle SC*, Kruman BA*, Nelson MC*, Hoybjerg TG*, Meyers S*, Cook RB*, Eggett DL, **Weber KS**, and Johnston JD. (2016). Differences in indoor dust endotoxin levels based on type of air conditioning in homes in a semi-arid climate. NEHA 2016 AEC and HUD Healthy Homes Conference, San Antonio, TX.
113. Brown M*^Σ, Barney T*, Westover T*, Paulson S*, Smith M*, Crandall J*, **Weber KS**, and Johnston JD. (2016). Dust mite allergens in low-income homes with evaporative coolers in a semi-arid climate. NEHA 2016 AEC and HUD Healthy Homes Conference, San Antonio, TX.
114. **Weber KS**^Ω. Engineering the Immune System to Target Cancer Cells. BYU Cancer Research Seminar. June 16th 2016. *Provo Utah*
115. **Weber KS**^Ω. Regulation of lymphocyte activation and function. BYU Microbiology and Molecular Biology Faculty Research Lunch Seminar. April 27th 2016. *Provo Utah*
116. Crandall J*^Σ, Vaden K[†], O'Neill K, and **Weber KS**. Sequencing an antibody specific for an epitope overexpressed on cancer cells. 10th Annual Utah Conference on Undergraduate Research. February 19th 2016. *Salt Lake City. Utah*
117. Hamblin G*^Σ, Freitas C[†], Steadman N*, Williams K*, and **Weber KS**. Calcium Signaling in Primary and Secondary Responses of Listeria specific T helper cells. 10th Annual Utah Conference on Undergraduate Research. February 19th 2016. *Salt Lake City. Utah*
118. Myers S*^Σ, Johnson D[†], Anderson B*, Ehlers K*, Orton T*, Ballard B*, Persaud S, **Weber KS**. Engineering High Affinity Class II TCRs Specific for Listeria monocytogenes. 10th Annual Utah Conference on Undergraduate Research. February 19th 2016. *Salt Lake City. Utah*
119. Vaden K[‡]^Σ and **Weber KS**. Determining the optimal TCR:pMHC avidity for CD4+ T cell memory generation. Midwinter Conference of Immunologists. January 23-26 2016. *Asilomar California*.

120. ^ΔHancock J*^{ΩΣ}, Cook M*, Grose JH, Laura Bridgewater LC, and **Weber KS**. Role of PAS kinase and metabolism on immune cells. Autumn Immunology Conference 44th Annual Meeting. November 20-23rd 2015. *Chicago Illinois*

^Δ Winner of an AAI Undergraduate Award/cash prize for one of the best of undergraduates presenting.

121. Myers S*^{ΩΣ}, Johnson D[†], Anderson B*, Ehlers K*, Orton T*, Ballard B*, Persaud S, **Weber KS**. Engineering High Affinity Class II TCRs Specific for *Listeria monocytogenes*. Autumn Immunology Conference 44th Annual Meeting. November 20-23rd 2015. *Chicago Illinois*

122. ^ΔHamblin G*^{ΩΣ}, Freitas C[†], Steadman N*, Williams K*, and **Weber KS**. Calcium Signaling in Primary and Secondary Responses of *Listeria* specific T helper cells. Autumn Immunology Conference 44th Annual Meeting. November 20-23rd 2015. *Chicago Illinois*

^Δ Winner of an AAI Undergraduate Award/cash prize for one of the best of undergraduates presenting.

123. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU speed networking seminar. August 2015. *Provo Utah*

124. **Weber KS**^Ω. Relationship of T cell receptor affinity and T cell function. BYU Microbiology and Molecular Biology Faculty Research Lunch Seminar. June 17th 2015. *Provo Utah*

125. **Weber KS**^Ω. Engineering the Immune System to Target Cancer Cells. BYU Cancer Research Seminar. May 21st 2015 *Provo Utah*

126. Johnson DK^{†Σ} and **Weber KS**. TCR:pMHC avidity and CD4⁺ T cell memory generation. American Association of Immunology 102nd Annual meeting. May 8-12th 2015 *New Orleans Louisiana*

127. Johnson DK^{†Σ}, Persaud SP, **Weber KS**. Determining optimal TCR:pMHC avidity for CD4⁺ T cell memory generation. 2015 Keystone Symposia on T cell regulation and effector function. March 29th - April 3rd 2015 *Snowbird Utah*

128. Anderson BE*^Σ, Ehlers KB*, Johnson DK[†], Persaud SP, and **Weber KS**. Engineering High Affinity T-Cell Receptors Specific for *Listeria monocytogenes*. 9th Annual Utah Conference on Undergraduate Research. February 27th 2015. *St. George Utah*

129. Hoybjerg T*^Σ, Christiansen M*, Myers S*, Kruman B*, Johnston JD, and **Weber KS**. Development of sensitive *Limulus* Amebocyte Lysate assay to quantify endotoxin levels in Utah homes with and without swamp coolers. 9th Annual Utah Conference on Undergraduate Research. Feb 27 2015. *St. George Ut*

130. Christiansen M*^Σ, Hoybjerg T*, Cook R*, Johnston JD, and **Weber KS**. Comparison of dust mite antigen levels in Utah homes with swamp coolers versus homes with air conditioning. 9th Annual Utah Conference on Undergraduate Research. February 27th 2015. *St. George Utah*

131. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU Molecular Chemistry and Biochemistry Department Seminar. February 19th 2015. *Provo Utah*

132. Freitas CT^{†Σ}, Williams KR*, and **Weber KS**. Calcium Signaling in T helper cell Primary and

Secondary Responses. Midwinter Conference of Immunologists. January 24-27 2015. *Asilomar California*.

133. Johnson D^{*Σ}, Anderson BE*, Ehlers K*, and **Weber KS**. Engineering High Affinity T-Cell Receptors Specific for *Listeria monocytogenes*. Midwinter Conference of Immunologists. January 24-27 2015. *Asilomar California*.
134. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU Microbiology and Molecular Biology Department Seminar. January 22nd 2015. *Provo Utah*
135. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU speed networking seminar. August 13th 2014. *Provo Utah*
136. **Weber KS**^Ω. Relationship of T cell receptor affinity and T cell function. BYU Microbiology and Molecular Biology Faculty Research Lunch Seminar. June 23rd 2014. *Provo Utah*
137. Hancock J^{*Σ}, Ehlers KB*, Orton T*, Persaud SP, and **Weber KS**. Engineering a Pathogen Specific Single Chain T-Cell Receptor for *Listeria monocytogenes*. American Society for Microbiology Intermountain Branch Meeting. March 8th 2014. *Provo Utah*
138. Tellez CM^{†Ω}, Williams KR*, Weagel E[†], O'Neill KL, and **Weber KS**. Macrophage polarization by necrotic and apoptotic cancer cells. American Society for Microbiology Intermountain Branch Meeting. March 8th 2014. *Provo Utah*
139. Ballard B^{*Σ}, Anderson BE*, Orton T*, Persaud SP, and **Weber KS**. Engineering a Stabilized Single Chain T-Cell Receptor called LLO118 for use in Generating High Affinity T cell Receptors. American Society for Microbiology Intermountain Branch Meeting. March 8th 2014. *Provo Utah*
140. Campbell E^{*Σ}, Johnson J*, Christiansen M*, Johnston JD, and **Weber KS**. Development of sensitive ELISA and qPCR assays to quantitate levels of dust mite antigens in homes in Utah with and without swamp coolers. American Society for Microbiology Intermountain Branch Meeting. March 8th 2014. *Provo Utah*
141. Mayo, JL^{*Σ}, Nichols BA[†], Olson DS[†], Cordner RD*, Hancock CR*, **Weber KS**, Wilson E, Edwards JG, Barrow JR, and Bridgewater LC. The nBMP2 mutant mouse shows defects in intracellular calcium transport-regulated pathways. Southwest Regional Meeting of the Society for Developmental Biology. March 7th-8th 2014 Aurora Colorado
142. Hancock J^{*Σ}, Ehlers KB*, Orton T*, Persaud SP, and **Weber KS**. Engineering a Pathogen Specific Single Chain T-Cell Receptor for *Listeria monocytogenes*. 8th Annual Utah Conference on Undergraduate Research. February 28th 2014. *Provo Utah*
143. Wahlquist B^{*Σ}, Kesler D*, **Weber KS**, and Johnston JD. The effect of evaporative coolers on indoor relative humidity and dust mite allergens in Utah homes. 8th Annual Utah Conference on Undergraduate Research. February 28th 2014. *Provo Utah*

144. Williams KR^{*Σ}, Tellez CM[†], Lee EJ^{*}, Weagel E[†], O'Neill KL, and **Weber KS**. Macrophage polarization by necrotic and apoptotic cancer cells. BYU Presidential Leadership Council Meeting. February 27th 2014. *Provo Utah*
145. **Weber KS**^Ω. Helper T cell role in immunity to infection. BYU speed networking Seminar. Dec 6th 2013 *Provo Utah*
146. Anderson BE^{*}, Ehlers KB^{*}, Persaud SP, and **Weber KS**. Engineering Pathogen Specific Single Chain T Cell Receptors. Autumn Immunology Conference 42nd Annual Meeting. November 22-25th 2013. *Chicago Illinois*
147. Ehlers KB^{*ΩΣ}, Anderson BE^{*}, Persaud SP, and **Weber KS**. Oral Presentation: Engineering Pathogen Specific Single Chain T Cell Receptors. Autumn Immunology Conference 42nd Annual Meeting. November 22-25th 2013. *Chicago Illinois*
148. **Weber KS**^Ω. Helper T Cell Role in Immunity to Infection. Microbiology and Molecular Biology Graduate Student Orientation. Brigham Young University. September 5, 2013. *Provo Utah*
149. **Weber KS**^Ω. Relationship of T cell receptor affinity and T cell function. BYU Microbiology and Molecular Biology Faculty Research Lunch Seminar. August 14th 2013. *Provo Utah*
150. **Weber KS**^Ω. The Role of Antigenic Strength in the Primary and Memory Responses of Pathogen Specific CD4⁺ T Cells. LDS Life Science Research Symposium. July 19th 2013. *Salt Lake City Utah*
151. Persaud SP^Σ, **Weber KS**, and Allen PM. TCR avidity for thymic and peripheral self peptide-MHC sets and sustains intrinsic CD4⁺ T cell sensitivity. The American Association of Immunologists 100th Annual Meeting. May 3-7 2013. *Honolulu Hawaii*
152. Anderson BE^{*Σ}, Ballard B^{*}, Persaud SP, and **Weber KS**. Engineering Pathogen Specific High Affinity T-cell Receptors. BYU Presidential Leadership Council Meeting. February 28th 2013. *Provo Utah*
153. Anderson BE^{*Σ}, Ballard B^{*}, Persaud SP, and **Weber KS**. Engineering Pathogen Specific High Affinity T-cell Receptors. 7th Annual Utah Conference on Undergraduate Research. February 22 2013. *Logan UT*
154. **Weber KS**^Ω. Helper T Cell Role in Immunity to Infection. Microbiology and Molecular Biology Graduate Student Retreat. Brigham Young University. August 23rd 2012 *Provo Utah*
155. Marshall E^Σ, **Weber KS**, Donermeyer D, Allen PM, and Kranz DM. Examining the role of T cell co-receptors CD4 and CD8 in T cell activation by using high-affinity T cell receptors. The American Association of Immunologists 99th Annual Meeting. May 4-8 2012 *Boston Mass*
156. **Weber KS**^Ω. Helper T Cell Role in Immunity to Infection. Microbiology and Molecular Biology Department Seminar. Brigham Young University. Nov 19 2011 *Provo Utah*

157. **Weber KS^Σ**, Li QJ, Persuad SP, Campbell JD, Davis MM, and Allen PM. Distinct populations of CD4⁺ helper T cells generate CD4 and CD8 memory responses to infection. The American Association of Immunologists 98th Annual Meeting. May 13-17 2011. *San Francisco California*
158. Lynch JN^Σ, Donermeyer D, **Weber KS** and Allen PM. Increased K_{on} of TCR-pMHC interaction influences activation and development of CD4⁺ T cells. The American Association of Immunologists 98th Annual Meeting. May 13-17 2011. *San Francisco California*
159. **Weber KS^Ω**, Li QJ, Persuad SP, Campbell JD, Davis MM, and Allen PM. Distinct populations of CD4⁺ helper T cells generate CD4 and CD8 memory responses to infection. 7th Annual National Regional Center of Excellence Meeting. April 3-5 2011. *Denver Colorado*
160. **Weber KS^Ω**. Distinct populations of CD4 helper T cells mediate CD4 and CD8 memory responses to infection. Washington University in St. Louis Immunology and Pathology Departmental Seminar. April 1 2011. *St. Louis Missouri*
161. **Weber KS^Ω**, Li QJ, Persuad SP, Campbell JD, Davis MM, and Allen PM. Distinct populations of CD4⁺ helper T cells generate CD4 and CD8 memory responses to infection. Immunology Program Retreat. September 16 & 17 2011. *Potosi Missouri*
162. Lynch JN^Σ, Donermeyer D, **Weber KS** and Allen PM. Increased K_{on} of TCR-pMHC interaction influences activation and development of CD4⁺ T cells. Immunology Program Retreat. September 16 & 17 2011. *Potosi Missouri*
163. Persuad SP^Σ, **Weber KS** and Allen PM. Functional Consequences of CD4⁺ T Cell Receptor Ligation in the Immune Response to *Listeria monocytogenes*. Immunology Program Retreat. September 16 & 17 2011. *Potosi Missouri*
164. **Weber KS^Ω**, Racz JL, and Allen PM. Determining Optimal Ligand Affinity for Generating Protective CD4 T Cell Responses to *Listeria Monocytogenes*. 6th Annual National Regional Center of Excellence Meeting. April 11-13 2010. *Las Vegas Nevada*
165. Lynch JN^Σ, Donermeyer D, **Weber KS** and Allen PM. Increased K_{on} of TCR-pMHC interaction influences activation and development of CD4⁺ T cells. Immunology Program Retreat. September 24 & 25 2010. *Potosi Missouri*
166. Persuad SP^Σ, **Weber KS** and Allen PM. Functional Consequences of CD4⁺ T Cell Receptor Ligation in the Immune Response to *Listeria monocytogenes*. Immunology Program Retreat. September 24 & 25 2010. *Potosi Missouri*
167. **Weber KS^Σ**, Racz JL, and Allen PM. CD4⁺ T Cell Response to Low Affinity Antigen is Sufficient for Protective Response to *Listeria Monocytogenes*. Immunology Program Retreat. September 25 & 26 2009. *Potosi Missouri*
168. **Weber KS^Ω**. Ion channel regulation of Th1 and Th2 calcium signaling and function. Washington University in St. Louis Immunology and Pathology Departmental Seminar. May 22 2009. *St. Louis Missouri*

169. **Weber KS^Σ**, Persuad SP, Kranz DM, and Allen PM. Autoreactivity of high affinity TCR dramatically influenced by APC density. Immune Response Consortium meeting July 2008 *Boston Massachusetts*.
170. **Weber KS^Σ**, Miller MJ, and Allen PM. Th17 cells exhibit a distinct calcium profile from Th1 and Th2 cells and have Th1-like motility. 2008 Keystone Symposia on Lymphocyte Activation and Signaling. *Snowbird Utah*
171. **Weber KS^Σ**, Miller MJ, and Allen PM. Th17 cells exhibit a distinct calcium profile from Th1 and Th2 cells and have Th1-like motility. Washington University in St. Louis Immunology Program Retreat. September 28 & 29 2007. *Potosi Missouri*
172. **Weber KS^Σ**. Role of Calcium in T helper cell activation, movement, and function. Washington University in St. Louis Immunology and Pathology Fall Retreat. Sept 28 2007 *Potosi Missouri*
173. **Weber KS^Ω**. Role of Calcium in T helper cell activation, movement, and function. Washington University in St. Louis Immunology and Pathology Department Seminar. May 25 2007 *Potosi Missouri*
174. Cemerski, S^Σ, **Weber KS**, Allen PM, and Shaw AS. Is ligand quality encoded in calcium oscillations? Immunology Program Retreat. September 15 & 16 2006. *Potosi Missouri*
175. Jones LL^Σ, Brophy SE, **Weber KS**, Holler PD, Bankovich AJ, Colf LA, Garcia KC, Kranz DM. Studies of antigen cross-reactivity by high-affinity T cell receptors. The 93rd American Association of Immunologists annual meeting. May 12-16 2006 *Boston Massachusetts*
176. **Weber KS^Ω**. Engineering a high affinity T cell receptor to examine structure and function. Cell and Structural Biology Departmental Seminar. University of Illinois. April 25 2005 *Champaign-Urbana Illinois*
177. Donermeyer DL^Σ, **Weber KS**, TJ Brett, DM Kranz, DH Fremont, PM Allen (2005) Functional and structural studies of a high affinity TCR reveal a signaling threshold for T cells and a mechanism for broadened peptide fine specificity. The 92nd American Association of Immunologists annual meeting. March 31-April 5 2005 *San Diego California*
178. Richman SA^Ω, Donermeyer DL, **Weber KS**, Fleischauer J, Allen PM, and Kranz DM. In Vitro Engineering of TCRs with Higher Affinity for a Tumor-Associated pepMHC. Cell and Molecular Biology and Molecular Biophysics Research Symposium. November 4th, 2004. *Champaign-Urbana Illinois*
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