

Chyna Gray, BA

Pre-Doctoral Student--Department of Molecular Biology,
Cellular Biology & Biochemistry (MCB) Graduate Program/
Division of Surgical Research/Dept. Surgery

Rhode Island Hospital
Brown Medical School
Aldrich 239, 593 Eddy Street
Providence, RI 02903
Phone # 401-444-6346
Fax# 401-444-3278
Email: chyna_gray@brown.edu



Primary Research Field

Immunology, Immuno-modulators, lymphocytes: immune/organ injury in severe septic animal/patient

Education

2017-present Ph.D. Pending. MCB Program, Brown University, Providence, RI

2013-17 B.A. in Biology & Chemistry, University of San Diego (USD), San Diego, CA

Professional Experience

- Research Assistant Dept. Biology USD 2013-17
 - *Dr. Hugh Ellis*
- Laboratory Technician Dept. Biology USD 2013-17
- Research Assistant Dept. Biology USD 2015
 - *Dr. Lisa Baird*
- Research Assistant Dept. Biochemistry USD 2016-17
 - *Dr. Joseph Provost*
- Research Assistant Dept. Surgery Brown Univ. 2016
 - *Dr. Alfred Ayala*
- Research Rotation Student Dept. MCB Brown Univ. 2017-18
 - *Dr. Phyllis Dennerly, Dr. Alfred Ayala, Dr. Michelle Dawson*

Awards, Honors, Fellowships, Grants:

- Pre-undergraduate Research Experience Fellowship USD 2013
- Summer Undergraduate Research Fellowship USD 2014
- Ronald E. McNair Scholar Research Award USD 2015
- Dean's List: first honors USD 2015, 2016
- Dean's List: second honors USD 2016
- Leadership Alliance Research Fellowship Brown Univ. 2016
- ABRCMS Poster Presentation Travel Grant Awardee ABRCMS 2016
- Manes Research Award USD 2017
- Initiative to Maximize Student Diversity (IMSD) Grant Brown Univ. 2017
- Initiative to Maximize Student Diversity (IMSD) Grant Brown Univ. 2018

- SLB's Mentoring Diversity Travel Award SLB 2018
- SLB Conference Travel Award SLB 2019
- 'Top 3' Poster presentation at 31st MCB-GP Retreat Brown Univ. 2019

Publications:

1. Fallon, E.A., Chun, T.T., Young, W.A., **Gray, C.**, Ayala, A.#, Heffernan, D.S.# 2017. Program cell death receptor-1-mediated invariant Natural Killer T-cell control of peritoneal macrophage modulates survival in neonatal sepsis. *Frontiers in Immunology*, 8:article 1469 (PMCID: PMC5701916) (#A.A. and D.S.H. contributed equally as senior authors to this work)
2. Wakeley, M.E., Shubin, N., Monaghan, S.F., **Gray, C.C.**, Ayala, A., Heffernan, D.S. 2019. Herpes Virus Entry Mediator (HVEM): A novel potential mediator of trauma induced immunosuppression. *J. Surg. Res.* 245:610-618.
3. Wakeley, M.E., **Gray, C.C.**, Monaghan, S.F., Heffernan, D.S., Ayala, A. 2019. Check point inhibitors and their role in immunosuppression in sepsis. *Crit. Care Clin.* 34: (in press) (Review).

Abstracts (published):

1. **Gray, C.**, Biron, B., Chen, Y., Chung, C-S., Ayala, A. 2018. CD4⁺ T cells upregulate immune checkpoint VISTA surface expression in response to septic challenge. *J. Leuko. Biol.* (On-line Abst. Book: Abst.#22: pg 16-17).
2. **Gray, C.**, Wakeley, M., Biron, B., Chung, C-S., Chen, Y., Ayala, A. VISTA as an Enigma: Deciphering its Context Dependent Role in Sepsis. *Shock* 51:125 (Suppl. 1)
3. **Gray, C.**, Chen, Y., Quiles-Ramirez, Y., Ayala, A. Immune Checkpoint Regulator, VISTA, Improves Survival in Murine Sepsis By Enhancing T-cell Crosstalk and Minimizing Inflammatory Tissue Injury. *J. Leuko. Biol.* (On-line Abst. Book: Abst.#24: in press).

Presentations (Oral & Poster):

1. **Gray, C.**, Fallon, E.A., Ayala, A. The Role of invariant Natural Killer (iNK) T- cells in Neonatal Sepsis. Presented as a poster at the Brown University-Summer Research Symposium, Providence, RI, August 4, 2016.
2. **Gray, C.**, Fallon, E.A., Ayala, A. The Role of invariant Natural Killer (iNK) T- cells in Neonatal Sepsis. Presented as a poster at the Annual Biomedical Research Conference for Minority Students, Tampa, FL, November 4-7, 2016.
3. **Gray, C.**, Wakeley, M., Chung, C-S., Chen, Y., Ayala, A. Dynamic Immune Regulation in Sepsis: Differential expression of checkpoint protein, VISTA, on CD4⁺ T cell subsets. Presented as a poster at the 30th annual Brown University- Dept. Mol., Cell. & Biochem. Grad. Prog. held in W. Greenwich, RI, August 28, 2018.
4. **Gray, C.**, Ayala, A. Is there a role of the "checkpoint" protein, V-domain Ig Suppressor of T Cell Activation (VISTA), in sepsis? Presented as an oral

presentation at the 16th Annual “Advances in Inflammation Research” Symposium at RI Hospital/Brown Univ., Providence, RI, September 20, 2018.

5. **Gray, C.**, Biron, B., Chen, Y., Chung, C-S., Ayala, A. CD4⁺ T cells upregulate immune checkpoint VISTA surface expression in response to septic challenge. Presented as a poster at the 2018 joint 50th Society of Leukocyte Biology (SLB)/ 14th Biennial Meeting of the International Endotoxin & Innate Immunity Society (IEIS) meeting, to be held in Phoenix, AZ, October 13-16, 2018.
6. **Gray, C.**, Ayala, A. The Role of Checkpoint Regulator, VISTA, in sepsis. Presented as an oral at the 2019 Rhode Island Hospital Division of Surgical Research Seminar. Providence, RI, February 19, 2019.
7. **Gray, C.**, Wakeley, M., Biron, B., Chung, C-S., Chen, Y., Ayala, A. VISTA as an Enigma: Deciphering its Context Dependent Role in Sepsis. Presented as a poster at the 2019 annual SHOCK Society Meeting held in San Diego, CA, June 5-8, 2019.
8. **Gray, C.**, Wakeley, M., Chung, C-S., Chen, Y., Ayala, A. VISTA as an Enigma: Deciphering its Context Dependent Role in Sepsis. Presented as a poster at the 31st annual Brown University-Dept. Mol., Cell. & Biochem. Grad. Prog. held in W. Greenwich, RI, August 30, 2019.
9. **Gray, C.**, Chen, Y., Quiles-Ramirez, Y., Ayala, A. Immune Checkpoint Regulator, VISTA, Improves Survival in Murine Sepsis By Enhancing T-cell Crosstalk and Minimizing Inflammatory Tissue Injury. Presented as a selected talk and a poster at the 2019 Society for Leukocyte Biology, to be held in Boston, MA, November 15-18, 2019.

Teaching Experience

Fall 2018: Teaching Assistant for Drs. Mark Johnson & Jody Hall. Genetics, Brown University, Providence RI

Spring 2019-present: Brown Junior Researchers Afterschool Program (Program Coordinator).

Associations:

2018-present Society of Leukocyte Biology

Support/Funding

2019-2020

Role: Pre-doctoral Fellow

NIH-NIGMS Administrative Supplement to Promote Diversity in Health-Related Research: "Mechanisms of Immune Dysfunction and Morbid Outcome in Response to Shock/Sepsis."

Grant No.: 3 R35 GM118097-03S1

Principal Investigator: Alfred Ayala

Total Support = \$144,655 in direct cost (for 2019-2020).

Last updated: 10/23/2019