

Austin S. Draycott

Contact Information	Austin Draycott 38 Mechanic St, New Haven, CT 06511	Phone: 1-347-596-9754 Email: austin@cloverleafbio.com
Education	Yale University, New Haven, CT Ph.D. Molecular Biophysics and Biochemistry, Advisor: Dr. Wendy V. Gilbert Brown University, Providence, RI B.S Biology, Honors, Advisor: Dr. Mark A. Johnson	May 2023 May 2015
Positions	Co-Founder, Cloverleaf Bio Visiting Scientist, Yale University Department of Molecular Biophysics & Biochemistry Graduate Student, Yale University Wendy Gilbert Lab, Department of Molecular Biophysics & Biochemistry Life Science Research Associate, Stanford University Alice Ting Lab, Department of Genetics Technical Assistant, Massachusetts Institute of Technology Alice Ting Lab, Department of Chemistry Undergraduate Research Associate, Brown University Mark Johnson Lab, Department of Biology	May 2023 – present May 2023 – present September 2017 – May 2023 June 2016 – July 2017 May 2015 – June 2016 June 2012 – May 2015
Publications	C. J.T. Lewis, L. H. Xie, S. M. Bhandarkar, D. Jin, K. Abdallah, A. S. Draycott, Y. Chen, C. C. Thoreen, W. V. Gilbert. Quantitative profiling of human translation initiation reveals elements that potentially regulate endogenous and therapeutically modified mRNAs. <i>Molecular Cell</i>. 2025, 85(2), 445-459 A. S. Draycott, C. Schaening-Burgos, M. F. Rojas-Duran, W. V. Gilbert. D-seq: Genome wide detection of dihydrouridines in RNA. <i>Methods in Enzymology</i>. 2023 Academic Press. A. S. Draycott, C. Schaening-Burgos, M. F. Rojas-Duran, L. Wilson, L. Schärffen, K. M. Neugebauer, S. Nachtergaele, W. V. Gilbert. Transcriptome-wide mapping reveals a diverse dihydrouridine landscape including mRNA. <i>PLoS Biology</i> 2022, 20(5), e3001622. ◦ <i>Primer</i>: S. Dixit and S. R. Jaffrey. Expanding the epitranscriptome: Dihydrouridine in mRNA <i>PLoS Biology</i> 2022, 20(7), e3001720 O. Fanari, A. Makhamreh, A. S. Draycott, H Gamper, Y-H. Hou, W. V. Gilbert, M. Wanunu, S. H. Rouhanifard, Control-guided nanopore sequencing maps DUS2-dependent dihydrouridylation across the human transcriptome <i>In revision</i>. A. S. Draycott, M. C. Wang, D. M. Saucedo, L. Escobar-Hoyos, W. V. Gilbert Dihydrouridine synthase 2 sustains levels of tRNACys and prevents ferroptosis in lung cancer. <i>In revision</i>. K. H. Loh, P. S. Stawski, A. S. Draycott, N. D. Udeshi, E. K. Lehrman, D. K. Wilton, T. Svinkina, T. Deerinck, M. H. Ellisman, B. Stevens, S. A. Carr, and A. Y. Ting. Proteomic analysis of unbounded cellular compartments: synaptic clefts. <i>Cell</i> 2016, 166, 1295-1307	
Patents	A. S. Draycott, C. JT. Lewis, W. V. Gilbert. “RNA-based inhibitors of tRNA modifying enzymes” 2024 Filing # 18106 A. S. Draycott, C. JT. Lewis, W. V. Gilbert. “Programmable RNA-based inhibitors of tRNA modifying enzymes” 2023 63/691,051	

Presentations

A. S. Draycott, M. C. Wang, D. M. Saucedo, L. Escobar-Hoyos, W. V. Gilbert. Dihydrouridine synthase 2 sustains levels of tRNACys and prevents ferroptosis lung cancer. Selected talk, 2022 Cold Spring Harbor Asia RNA Biology Meeting

A. S. Draycott, W.V. Gilbert Lung cancer cells require dihydrouridine synthase 2 to sustain levels of tRNACys and production of cysteine-rich proteins. Selected talk, 2022 Cold Spring Harbor Translational Control Meeting

A. S. Draycott, C. Schaening-Burgos, M. F. Rojas-Duran, L. Wilson, L. Schärffen, K. M. Neugebauer, S. Nachtergaele, W. V. Gilbert. Dihydrouridine modification alters mRNA structure and function. Selected talk, 2022 EMBO RNA Structure Meets Function Workshop

A. S. Draycott, W.V. Gilbert. Lung cancer cells require dihydrouridine synthase 2 to sustain levels of tRNACys and production of cysteine-rich proteins. Selected talk, 2021 Cold Spring Harbor RNA Processing Meeting (Virtual)

A. S. Draycott, W.V. Gilbert. Lung cancer cells require dihydrouridine synthase 2 to sustain levels of tRNACys and production of cysteine-rich proteins. Selected talk, 2021 EMBO Translational Control Meeting (Virtual)

A. S. Draycott, C. Schaening-Burgos, M. F. Rojas-Duran, W.V. Gilbert. Uncovering dihydrouridines transcriptome-wide with single-nucleotide resolution. Selected talk, 2020 Yale RNA Center Modification Workshop (Virtual)

Professional Experience

- Co-Founder and CEO, Cloverleaf Bio, Inc. **2023-present**
- Consultant, FL63/Altrna, Inc. **2021-2022**

Fellowships

- National Cancer Institute Small Business Transition Grant Awardee **2025**
- American Cancer Society Bright Edge Entrepreneur Fellow **2024**
- Ruth L. Kirschstein Predoctoral Individual National Research Service Award (F31), **2020**
- Gruber Foundation Graduate Research Fellowship, **2017**

Teaching

Yale University

- Guest Lecture, MB&B 743, Advanced Eukaryotic Molecular Biology, Spring **2023**
- Teaching Assistant, BIOL 101, Biochemistry, Spring **2021**
- Teaching Assistant, BIOL 101, Biochemistry, Fall **2019**
- Teaching Assistant, MB&B 460L, Advanced Biochemistry Lab, Spring **2018**

Brown University

- Teaching Assistant, BIOL440, Plant Organism, Fall **2014**
- Teaching Assistant, TAPS260 Stage Lighting, Fall **2013**
- Teaching Assistant, TAPS1280R, Puppet Theater Workshop, Fall **2012**
- Teaching Assistant, TAPS250 Introduction to Technical Theater, Fall **2011**- Spring **2015**

Mentorship

Yale University

- Undergraduate Thesis Projects (**2**)
- Summer Undergraduates (**3**)
- Rotation Students (**10**)

Stanford University

- Rotation Students (**1**)

Brown University

Distinctions,
Prizes & Fellowships
Mentees

- Summer Undergraduates (**8**)
- Vanessa Cheng, Pierson College Richter Summer Fellowship **2022**
- Mayerling Colin, Yale STARS Summer Research Fellowship **2021**
- Mitchell Lee, Yale College Dean's Research Fellowship in the Sciences **2020**