

Christian Lawrence Egly, PharmD., Ph.D.**NAME:**

Office Address: Ste. 1225B, 2215 Garland Ave, Nashville, TN 37232

Date and Place of Birth: June 17, 1991. Lafayette, IN.

Email: christian.l.egly@vumc.org

Personal email: cegly2010@gmail.com

Home Address: 5312B Indiana Ave., Nashville, TN.

Cell: (765) 418-5846

[ORCID](#); [LinkedIN](#)

EDUCATION:

2022 **Doctor of Philosophy in Pharmacology (Ph.D.)** Vanderbilt University: Nashville, TN

Thesis advisor: Bjorn Knollmann, MD, Ph.D.

2018 **Doctor of Pharmacy (PharmD)** Purdue University College of Pharmacy: West Lafayette, IN

2014 **Undergraduate (no degree)** Indiana University Purdue University of Indianapolis

Pre-pharmacy requirements (chemistry/exercise science): Indianapolis, IN

RESEARCH:**Academic Employment**

Jul 2024-Present

Vanderbilt University School of Medicine, Nashville, TN

Research Instructor – Division of Genetic Medicine and Clinical Pharmacology

Supervisors: Bjorn Knollmann, MD, PhD and Lars Plate, Ph.D.

- Determined the dual mechanism of evacetrapib for repurposing in Long QT Syndrome – (Egly, et al. *JCI Insights*. 2025)
- Conceptualized affinity-purification and mass spectrometry experiments to investigate polygenic scores and QT interval variability using human induced pluripotent stem cells derived from patients – (Egly, et al. in preparation)

Aug 2018-Jun 2024

Vanderbilt University School of Medicine, Nashville, TN

Postdoctoral Fellowship in Clinical Pharmacology

Supervisor: Bjorn Knollmann, MD, PhD

- Developed high-throughput screening methods to identify drugs that improve potassium ion channel (K_v11.1) trafficking to treat Long QT Syndrome – (Egly, et al. *Molecular Pharmacology*. 2022)
- Conceptualized affinity-purification and mass spectrometry experiments to investigate the K_v11.1 protein interactome – (Egly, et al. *JBC*. 2024)

Current Research

GR022535 07/01/2026 – 06/30/2027 75% Effort
Improving Mutant KV11.1 Trafficking to Treat Long QT Syndrome

GR019292 07/01/2026 – 06/30/2027 13% Effort
Testing Evacetrapib as Mutation-Specific Drug Treatment

GR023170 07/01/2026 – 06/30/2027 10% Effort
New Strategies for Treating Cardiac Ion Channel Trafficking

CC02854 07/01/2026 – 06/30/2027 2% Effort
Clinical Pharmacology Research

Grant awards

Pending:

- 1) National Institutes of Health
R35 Maximizing Investigators' Research Award – NIGMS
Title: Integrating Proteomics and High-Throughput Screening to Treat Ion Channelopathies (Impact Score 45)
Role: Principal Investigator (Early-Stage Investigator Status)

Awarded

Sep 2025-Present

National Institutes of Health (1K08HL177342)
K08 Mentored Clinical Scientist Research Career Development – NHLBI
Title: Improving Mutant Kv11.1 Trafficking to Treat Long QT Syndrome (Impact Score: 30)
Role: Principal Investigator

Jul 2025-Present

National Institutes of Health
Loan Repayment Program (2L30HL154348-03)
Title: Improving mutant potassium channel function to treat Long QT Syndrome
Role: Principal Investigator
Amount: \$17,958.16

Jul 2024-Sep 2025

Vanderbilt Faculty Research Scholars Award
Division of Clinical Pharmacology – Vanderbilt University Medical Center
Title: Improving mutant Kv11.1 trafficking to treat Long QT Syndrome
Role: Principal Investigator
Amount: 75% of salary and \$50,000 per year for tuition, research and professional travel

Aug 2024-Aug 2025

Vanderbilt Institute for Clinical and Translational Research (VR72865)
Title: Improving Mutant Kv11.1 Trafficking to Treat Long QT Syndrome
Role: Principal Investigator
Amount: \$9,748 for research supplies

Jul 2023-Jun 2025

National Institutes of Health
Loan Repayment Program (2L30HL154348-02A1)
Title: Improving mutant potassium channel function to treat Long QT Syndrome
Role: Principal Investigator
Amount: \$70,682.79

Aug 2022-Jun 2024

National Institutes of Health
T32GM007569-48
Clinical Pharmacology Training Program
Title: Improving mutant potassium channel function to treat Long QT Syndrome
Role: Research Fellow

Aug 2020-Jul 2022

PhRMA Foundation

Postdoctoral Fellowship in Pharmacology/Toxicology

Title: Discovering FDA-approved drugs that rescue trafficking-deficient channel mutants in Long QT Syndrome Type 2

Role: Research Fellow

Jul 2020-Jun 2022

National Institutes of Health

Loan Repayment Program (1L30HL154348-01)

Title: Discovering FDA-approved drugs that rescue trafficking-deficient K_v11.1 channel variants in Long QT Syndrome type 2

Role: Principal Investigator

Amount: \$94,064.66

Aug 2018-Jul 2020

National Institutes of Health

T32GM007569-46

Clinical Pharmacology Training Program

Title: Discovering FDA-approved drugs that rescue trafficking-deficient channel mutants in Long QT Syndrome Type 2

Role: Research Fellow

Jun 2015

American Foundation for Pharmaceutical Education

Gateway Research Scholarship

Title: MicroRNA Regulation of QT Interval Prolongation in Patients with Heart Failure

Role: Co-investigator, Principal Investigator: Brian Overholser, PharmD

Amount: \$5000

Publications

1. Chen X, **Egly C**, Riley AM, Li W, Tewson P, Hughes TE, Quinn AM, and Obukhov AG. PKC-dependent phosphorylation of the H1 histamine receptor modulates TRPC6 activity. *Cells*. 2014; 3:247-57. doi: 10.3390/cells3020247.
2. **Egly C**, Kaakeh Y. Student pharmacists' guide to pharmaceutical Industry. *Purdue Journal of Service-Learning and International Engagement*. 5:72-78, 2018.
3. **Egly C**, Shugg T, Stamatkin CW, Patil AS, Tisdale JE, Overholser BR. Progesterone metabolites alter activation gating of the human Ether-a-go-go-Related Gene (hERG)-related current. *Journal of Clinical Pharmacology*. 60:648-659, 2020. doi: 10.1002/jcph.1563.
4. Kozek KA, Glazer AM, Ng CA, Blackwell D, **Egly CL**, Vanags LR, Blair M, Mitchell D, Matreyek KA, Fowler DM, et al. High-throughput discovery of trafficking-deficient variants in the cardiac potassium channel K. *Heart Rhythm*. 2020; 17(12):2180-2189. doi: 10.1016/j.hrthm.2020.05.041.
5. Kozek K, Wada Y, Sala L, Urbain ID, **Egly CL**, et al. Estimating the post-test probability of disease for rare genetic variants. *Circulation. Genomic and Precision Medicine*. 2021; 14(4):e003289. doi: 10.1161/CIRCGEN.120.003289.
6. Kryshal DO, Blackwell DJ, **Egly CL**, et al. RYR2 channel inhibition is the principal mechanism of flecainide action in CPVT. *Circulation Research*. 128:321-331, 2021. doi: 10.1161/CIRCRESAHA.120.316819.
7. **Egly CL**, Blackwell DJ, Schmeckpeper J, et al. A high-throughput assay to identify clinically approved drugs that can treat Long QT Syndrome caused by trafficking-deficient K_v11.1 (hERG) variants. *Molecular Pharmacology*. 2022;101:236-245. doi: 10.1124/molpharm.121.000421.

8. Etuglu LA, Pitzer AM, Jamison A, Laffer CL, Eliyovich F, Saleem M, Blackwell DJ, Kryshal DO, **Egly CL**, et al. Eicosanoid-regulated myeloid ENaC and Isolevuglandin formation in human salt-sensitive hypertension. *Hypertension*. 2023; 81(3):516-529. doi: 10.1161/HYPERTENSIONAHA.123.21285.
9. **Egly CL**, Do T, McDonald E, Barny L, Plate L, Knollmann B. The proteostasis interactomes of trafficking-deficient Kv11.1 variants associated with Long QT Syndrome and pharmacological chaperone rescue. *JBC*. 2024; 300(7):107465. doi: 10.1016/j.jbc.2024.107465.
10. **Egly CL**, Shen A, Do TQ, Tellet Cabiya C, Ritschel PA, Woo S, Ku M, Delisle BP, Kroncke BM, Knollmann BC. High-throughput screens identify genotype-specific therapeutics for channelopathies. *JCI Insight*. 2025 Sep 30;10(22):e191697. doi: 10.1172/jci.insight.191697. PMID: 41026531; PMCID: PMC12643509.
11. **Egly, CL***, Barny, L, Woo, S, Mitchell, D, Ku, M, Knollmann, BC, Plate, L, & Kroncke, B* (2026). Kv11.1 (hERG) protein interaction networks connect endocytic trafficking to polygenic influences on cardiac repolarization. *Molecular and Cellular Proteomics* (accepted).
*Co-corresponding author

Research Awards

Vanderbilt University/Vanderbilt University Medical Center

April 2025	Heart Rhythm Society Conference (San Diego, CA) HRS Young Investigator Award Finalist
April 2025	Association for Clinical and Translational Sciences Conference (Washington DC) Top 50 abstract
Feb 2025	US Human Proteome Organization (Philadelphia, PA) Lightning Talks Winner
May 2024	Heart Rhythm Society Conference (Boston, MA) Cardiac Electrophysiology Society: Young Investigator Poster Award Finalist
April 2024	AHA Strategically Focused Research Network Meeting (Cleveland, OH) Travel Award Poster Award
2024	Pediatric and Adult Congenital Electrophysiology Society (PACES) Young Investigator Award (Boston, MA)
May 2022	Heart Rhythm Society Conference (San Francisco, CA) Cardiac Electrophysiology Society: Young Investigator Poster Award Finalist
Apr 2022	Molecular Pharmacology – Highlighted Trainee
May 2020	Heart Rhythm Society Travel Scholarship

Purdue College of Pharmacy

Apr 2018	Research Recognition Award Class of 2018
----------	--

TEACHING/MENTORING:

Teaching Experience

Mar 2021	Vanderbilt Clinical Research Center Workshop (Virtual) Presentation: “High Throughput Screening – Developing an Assay to Discover Drugs that Rescue Trafficking-Deficient Kv11.1 Variants.”
Apr 2020-Sep 2020	Clinical Pharmacology Online Course Vanderbilt University Nashville, TN Department of Pharmacology Course Coordinator: Kendra Oliver, PhD
Jan 2016-May 2018	Pharmacy School Tutoring Purdue College of Pharmacy
Jan 2011-May 2011	Peer-Led Team Learning (PLTL) Mentor Chemistry C105 Indiana University Purdue University of Indianapolis

Teaching Awards

Mentoring Experience

Name	Position during mentorship	Dates	Current Position
Mikaela Spivak	Undergraduate	Aug 2025 – May 2026	Vanderbilt University – undergraduate student
Hanna Bui	Graduate student	July 2025 – Aug 2025	Masters student – Lipscomb
Tri Do	Pharmacy school	October 2022 – May 2023	Postdoctoral fellow – Vanderbilt University Medical Center
Akiré Harris	Undergraduate	May 2019 – Aug 2019	Medical Residency – Morehouse School of Medicine

SERVICE:**Intramural**

Oct 2021-Jun 2024 Integrative Science Courses Curriculum Committee
Vanderbilt University School of Medicine
Coordinators: Joey Barnett, PhD, and Saralyn Williams, MD

Oct 2019-Jun 2021 Chief Fellow Clinical Pharmacology
Vanderbilt University Medical Center

Aug 2014-May 2017 International Society for Pharmaceutical Engineering (ISPE)
Purdue University
▪ Vice President (May 2016-May 2017)
▪ President (Apr 2015-May 2016)
▪ Industrial Liaison (Sep 2014-Apr 2015)

Extramural

Mar 2025 Manuscript review – “Characterization of a novel KCNH2 mutation for type 2 long QT syndrome.”

Mar 2024 Manuscript Review – “ER stress modulates Kv1.5 channels via PERK branch in HL-1 atrial myocytes: relevance to atrial arrhythmogenesis and the effect of tetramethylpyrazine.”

Sep 2023 Manuscript review – “Hydroxysafflor Yellow A targets WWP1 to disrupt the balance between ubiquitination/acetylation of hERG channel and induce LQTS cardiotoxicity.”

Books, book chapters, invited review articles

Oct 2019-Jun 2021 Goodman and Gilman: The Pharmacological Basis of Therapeutics
Vanderbilt University Medical Center
▪ Consultant editor of 14th edition

PRESENTATIONS**Invited Lectures**

Nov 2024 Mississippi State University, Department of Chemistry. “A high-throughput framework for drug repurposing and personalized medicine.” Starkville, MS.

Oral Presentations (total 7)

- Apr 2024 Leducq International Consortium Meeting – Research presentation: “High-throughput screening identifies evacetrapib as potential therapy for LQTS.” Kyoto, Japan.
- Mar 2023 Leducq International Consortium Meeting – Research presentation: “High-throughput screening identifies evacetrapib as potential therapy for LQTS.” Cape Town, South Africa.
- May 2022 Leducq International Consortium Meeting – Research presentation: “High-throughput screening identifies drugs that rescue trafficking-deficient KV11.1 variants.” San Francisco, CA.
- Nov 2021 Leducq International Consortium Meeting – Research presentation: “High-throughput screening identifies drugs that rescue trafficking-deficient KV11.1 variants.” Virtual.
- Apr 2021 Leducq International Consortium Meeting – Research presentation: “High-throughput screening identifies drugs that rescue trafficking-deficient KV11.1 variants.” Virtual.
- Sep 2019 Leducq International Consortium Meeting – Research presentation: “Discovering FDA-approved drugs that rescue trafficking-deficient channel mutants in long QT syndrome type.” Paris, France.
- Nov 2016 AHA Scientific Sessions – Rapid-fire oral presentation: Egly C, Shugg T, Stamatkin CW, Patil AS, Tisdale JE, Overholser BR. “Progesterone metabolites alter activation gating of the human ether-a-go-go related gene (hERG)-related current.” *Circulation*. 2016; 134:A20786. New Orleans, LA.

Poster Presentations (total 11)

- April 2025 Association for Clinical and Translational Sciences Annual Conference – Top 50 Poster presentation: “High throughput screens identify genotype-specific therapeutics for channelopathies.”
- Feb 2025 US Human Proteome Organization – Poster presentation: Egly C, Woo S, Barny L, Mitchell D, Knollmann BC, Plate L, Kroncke B. “Unraveling polygenic influences on cardiac arrhythmia through proteomics: A focus on long QT syndrome.” Philadelphia, PA.
- Nov 2024 AHA – Poster presentation: Egly C, Barny L, Do T, McDonald E, Knollmann BC, Plate L. “The proteostasis interactomes of trafficking-deficient KV11.1 variants associated with long QT syndrome and pharmacological chaperone rescue.” Chicago, IL.
- May 2024 Heart Rhythm Society – Poster presentation: Egly C, Do T, Grinstein H, Wexler Y, Delisle BP, Gepstein L, Knollmann BC. “High-throughput screen identifies evacetrapib as a candidate drug to treat long QT syndrome type 2.” Boston, MA.
- Apr 2024 AHA Strategically Focused Research Network Meeting – Poster presentation (1): Egly C, Barny L, Do T, McDonald E, Knollmann BC, Plate L. “The proteostasis interactomes of trafficking-deficient KV11.1 variants associated with long QT syndrome and pharmacological chaperone rescue.” Poster presentation (2): Egly C, Do T, Grinstein H, Wexler Y, Delisle BP, Gepstein L, Knollmann BC. “High-throughput screen identifies evacetrapib as a candidate drug to treat long QT syndrome type 2.” Cleveland, OH.
- Mar 2024 US Human Proteome Organization Annual Meeting – Poster presentation: Egly C, Barny L, Do T, McDonald E, Knollmann BC, Plate L. “The proteostasis interactomes of trafficking-deficient KV11.1 variants associated with long QT syndrome and pharmacological chaperone rescue.” Portland, OR.
- Mar 2023 Strategically Focused Research Network Symposium, Vanderbilt University Medical Center – Poster presentation: Egly C, Weaver CD, Delisle BP, Knollmann BK. “High-throughput screen identifies evacetrapib as a candidate drug to treat long QT syndrome type 2.” Nashville, TN.
- May 2022 Heart Rhythm Society – Poster presentation: Egly C, Weaver CD, Delisle BP, Knollmann BK. “A high-throughput fluorescent screen for discovering drugs that rescue trafficking-deficient Kv11.1 variants.” Boston, MA.
- May 2020 Heart Rhythm Society – Poster presentation: Egly C, Blackwell DJ, Kim K, Wang L, Kannankeril PJ, Knollmann BC. “Patient-independent human induced pluripotent stem cell model to establish the cause of sudden death in the young.” Virtual.

- Mar 2019 Biophysical Society Annual Meetings – Poster presentation: Egly C, Blackwell DJ, Wang L, Kim K, Kryshal D, Wlekinski M, Knollmann BC. “Generation and characterization of calsequestrin null human iPSC-derived cardiomyocytes and isogenic controls.” Baltimore, MD.
- May 2013 Indiana University School of Medicine – Poster presentation: Egly C, Chen X, Li W, Tewson P, Hughes TE, Quinn AM, and Obukhov AG. “Trpc6 inactivation kinetic is independent from the rate of DAG decay.” Indianapolis, IN.

OTHER RESEARCH AND EMPLOYMENT

- Oct 2017-Dec 2017 Business Development Intern
Kashiv Pharma, LLC
995 US Hwy 202/206, Bridgewater, NJ 08807
Supervisor: Gabriella Baez
- May 2016-Jul 2016 Dean’s Undergraduate Research Fellowship
Stark Neuroscience Research Institute
Indiana University School of Medicine, Indianapolis, IN
Supervisor: Andy Hudmon, PhD
- May 2015-Jul 2015 Dean’s Undergraduate Research Fellowship
Department of Pharmacy Practice
Purdue College of Pharmacy, Indianapolis, IN
Supervisor: Brian Overholser, PharmD
- Aug 2012-May 2013 Life Health Sciences Internship
Department of Cellular and Integrative Physiology
Indiana University School of Medicine, Indianapolis, IN
Supervisor: Alexander Obukhov, PhD

ADVANCED PHARMACY PRACTICE EXPERIENCE

- Apr 2018 Neuroscience and Spine Intensive Care Unit
Northwestern Memorial Hospital
251 E Huron Street, Chicago, IL 60611
Supervisor: Kasey Greathouse, PharmD, BCPS
- Mar 2018 Academic Emergency Medicine
Purdue College of Pharmacy
601 Stadium Mall Drive, West Lafayette, IN 47907
Supervisor: Yaman Kaakeh, PharmD, BCPS, BCNSP, CNSC, BCCCP
- Feb 2018 Academic
Purdue College of Pharmacy
601 Stadium Mall Drive, West Lafayette, IN 47907
Supervisor: Kimberly Plake, RPh, PhD
- Jan 2018 Intensive Care Unit
IU Health Arnett Hospital 5165 McCarty Lane, Lafayette, IN 47905
Supervisor: Tasbirul Islam, MD, MRCP
- Nov 2017 Hospital Pharmacy
Saint Vincent Hospital
1907 W Sycamore Street, Kokomo, IN 46901
Supervisor: James Silver, RPh

Sep 2017 Ambulatory Care
 Family Health Clinic of Monon
 420 N Market Street, Monon, IN 47959
 Supervisor: Natalie Gadbois, PharmD

Jul 2017-Aug 2017 Pharmaceutical Industry
 Kashiv Pharma, LLC
 995 US Hwy 202/206, Bridgewater, NJ 08807
 Supervisor: Gabriella Baez

Jun 2017 Retail Pharmacy
 Meijer Pharmacy
 2636 US 52, West Lafayette, IN 47906
 Supervisor: Sarah Pierce, PharmD

May 2017 Ambulatory Care
 VA Outpatient Center
 3851 N River Road, West Lafayette, IN 47906
 Supervisor: Antoinette Sheridan, PharmD

INTRODUCTORY PHARMACY PRACTICE EXPERIENCE

Aug 2016 Hospital Pharmacy
 Rush Memorial Hospital
 1300 N Main Street, Rushville, IN 46173
 Supervisor: Gregory Pratt, PharmD

Aug 2015 Retail Pharmacy
 Walgreen's Pharmacy
 1000 Sagamore Parkway, West Lafayette, IN 47906
 Supervisor: Dan Forsythe, PharmD

PROFESSIONAL ORGANIZATIONS:

May 2024-Present AHA, Council on Basic Cardiovascular Sciences, Member
 Jan 2024-Present Pediatric and Adult Congenital Electrophysiology Society (PACES), Member
 2019-Present Heart Rhythm Society, Member

OTHER AWARDS

Purdue College of Pharmacy
 Spring 2017 Rho Chi, The National Pharmacy Honor Society (Member)

Indiana University Purdue University of Indianapolis (IUPUI)

Fall 2010-Spring 2014 Dean's List
 May 2013 School of Science Outstanding Academic Achievement Award
 2011-2012 Interfraternity Council highest member GPA
 Aug 2011 Dean of Faculties Scholarship
 Mar 2011 Golden Key Honors Society
 May 2011 IUPUI Road Scholar
 Jan 2011 Alpha Lambda Delta (ALD)/ Phi Eta Sigma (PES)
 Jan 2011 National Society of Collegiate Scholars (NSCS)

