

CURRICULUM VITAE

John McCorvy PhD

Associate Professor
Department of Cell Biology Neurobiology and Anatomy

OFFICE ADDRESS:

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EDUCATION:

2000 - 2005 B.A. Biochemistry and Psychology, magna cum laude, Texas Tech University, Lubbock, TX

2006 - 2012 Ph.D., Medicinal Chemistry and Molecular Pharmacology, Purdue University, West Lafayette, IN

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

2012 - 2018 Post Doctoral Researcher/Research Associate, Department of Pharmacology, Division of Chemical Biology and Medicinal Chemistry, University of North Carolina Chapel Hill Medical School, Chapel Hill, NC

FACULTY APPOINTMENTS:

2018 - 2024 Assistant Professor, Cell Biology, Neurobiology, and Anatomy, Medical College of Wisconsin, Milwaukee, WI

2023 - Present NIDA study section, Avenir Award Program for Chemistry and Pharmacology of Substance Use Disorders

2023 - Present NIH study section, Drug Discovery and Molecular Pharmacology B, ad hoc member

2025 - Present Associate Professor, Pharmacology and Toxicology, Medical College of Wisconsin, Milwaukee, WI

2025 - Present Associate Professor, Cell Biology, Neurobiology, and Anatomy, Medical College of Wisconsin, Milwaukee, WI

CENTER/INSTITUTE AFFILIATIONS:

2018 - Present Member, Neuroscience Research Center

2020 - Present Member, Cancer Center

AWARDS AND HONORS:

2000 - 2002 McFaddens-Leaders Scholarship, Texas Tech University

2006 - 2007 Lynn Fellowship, Purdue University

2008 Best Presentation, Purdue University Neuroscience

2010 Kienly Award for Excellence in Teaching, Purdue University

2012 Bilsland Fellowship, Purdue University

2012 1st Place Poster Prize, Sigma Xi Poster Presentation

2015 Best Poster Prize, Great Lakes GPCR Retreat

2016 Postdoctoral Scholar Award, UNC Pharmacology Department

2018 Trainee Travel Award, International Society for Serotonin Research

2019 Neuroscience Research Center Excellence Award, Medical College of Wisconsin

2020 - 2022 Outstanding Graduate School Educator, Medical College of Wisconsin

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

2013 - Present International Society for Serotonin Research (Member)
2016 - Present Society for Neuroscience (Member)
2019 - Present American Chemical Society (Member)
2019 - Present International Society for Research Psychedelics (Member)
2023 - Present American Society for Pharmacology and Experimental Therapeutics (Member)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Journal Review

2024 Trends in Neurosciences

Ad-Hoc Reviewer

2016 Journal of Receptor Signal Transduction
2016 - 2022 Nature Communications
2016 - 2024 British Journal of Pharmacology
2017 PLoS Computational Biology
2017 Molecular Psychiatry
2018 - 2022 Nature
2018 - 2023 ACS Chemical Biology
2018 - 2024 Nature Structural and Molecular Biology
2018 - 2023 ACS Chemical Neuroscience
2019 - 2022 Neuropharmacology
2019 Journal of Pharmacology and Experimental Therapeutics
2020 European Neuropharmacology
2020 - 2022 Scientific Reports
2021 Journal of Neurochemistry
2021 Journal of Medicinal Chemistry
2021 - 2023 ACS Pharmacology and Translational Science
2021 Journal of Molecular Structure
2021 Journal of Biological Chemistry
2021 Frontiers in Pharmacology
2022 Structure
2022 Experimental Neurology
2022 - 2023 Nature Chemical Biology
2023 Psychedelic Medicine
2023 - 2025 Nature Communications
2023 - 2025 ACS Biochemistry
2024 - Present ACS Omega
2024 - 2025 Progress in Neurobiology
2024 JACS Au
2025 - Present Pharmacological Reviews

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2019 - 2023 Member, Former Chair, IDP Website Design Committee, Medical College of Wisconsin
2020 Member, Research Culture Workgroup Committee, Medical College of Wisconsin
2020 Member, Department of Pharmacology Chair Search, Medical College of Wisconsin
2021 - Present Member, Cancer Center Structural Biology Faculty Search Committee, Medical College of Wisconsin
2021 - 2022 Member, Program in Chemical Biology Faculty Search Committee, Medical College of Wisconsin

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title:

Structure-based design of selective serotonin biased agonists as chemical probes for psychedelic potential, R01

Source:

NIH/NIMH

Role & Effort: PI
PI: John McCorvy
Dates: 2023 - 2027
Direct Funds: \$2,081,888 (83% to McCorvy lab)

Title: Angiotensin receptor G protein signal switching in AgRP neurons in cardiometabolic control, R01

Source: NIH/NHLBI
Role & Effort: Co-I
PI: Justin Grobe
Dates: 2023 - 2027
Direct Funds: \$2,553,740 (\$60,253 to McCorvy Lab)

Title: Molecular Mechanisms of GPCR Biased Signaling

Source: NIH/NIGMS
Role & Effort: PI
PI: John McCorvy
Dates: 2024 - 2029
Direct Funds: \$1,250,000 (100% to McCorvy Lab)

Title: Investigations into 5-HT_{2A} signaling mechanisms of psychedelic drugs for the treatment of stimulant use disorder

Source: NIH/NIDA
Role & Effort: PI
PI: John McCorvy
Dates: 2024 - 2029
Direct Funds: \$2,400,000 (33% to McCorvy Lab)

Prior

Peer Review

Title: Investigations into Novel Functions of the Serotonin 5-HT_{2C} receptor toward Treatments for Neuropsychiatric Disorders

Source: Research Affairs Counsel Pilot Grant
Role & Effort: PI
Dates: 2019
Direct Funds: \$50,000

Title: Molecular Mechanisms of GPCR Biased Signaling , Maximizing Investigator's Research Award (MIRA) R35

Source: NIH/NIGMS
Role & Effort: PI
Dates: 2019 - 2024
Direct Funds: \$1,888,406 (Equipment Supplement in 2020: \$144000)

Title: Novel Approaches to the Modulation of Protease-Activated Receptor (PAR) Signaling R15

Role & Effort: Co-I
Dates: 2020 - 2022

Direct Funds: \$29,221

Title: Identification of targets of the antiparasitic drug praziquantel

Source: NIH/NIAID

Role & Effort: Co-I

Dates: 2020 - 2024

Direct Funds: \$2,078,178 (\$103,7930 to McCorvy Lab)

Title: Structure-based inhibition of chemokine signaling in the flamed pancreas, R01

Source: NIH/NIMH

Role & Effort: Co-I

Dates: 2023 - 2024

Direct Funds: \$3,711,232 (\$56,461 to McCorvy Lab)

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

International

Molecular recognition of serotonin receptors, International Society for Serotonin Research, Arabella, South Africa, 2014

Atomic-level resolution of serotonin receptor signaling, International Society for Serotonin Research, Seattle, WA, 2016

Time-dependent biased signaling of the 5-HT_{2A} receptor, International Society for Serotonin Research, Cork, Ireland, 2018

Structural determinants of serotonin receptor recognition and activation, International Society for Serotonin Research, Cork, Ireland, 2018

Psychedelic Superagonism and Functional Selectivity Profiling at the Serotonin Receptors, International Society for Research into Psychedelics, New Orleans, LA, 2019

Development of Assay Platforms for Polypharmacological Drug Discovery, Otsuka Pharmaceuticals, Tokyo, Japan, 2023

Surveying the 5-HT_{2C}-selective agonist landscape: What's selective and what's not? Part of symposia on 5-HT_{2C} Mechanisms and Drug Discovery-organizer, International Society for Serotonin Research, Cancun, Mexico, 2023

Profiling Psychedelics Across the Serotonin GPCRome Reveals Strategies for Receptor Selectivity and Biased Agonism, International Society for Research into Psychedelics, 2024

National

Structure-guided discovery of biased dopamine and serotonin ligands: Lessons from the LSD crystal structure, University of Minnesota Twin Cities Department of Pharmacology, Minneapolis, MN, 2016

Panel Discussion: Biased Signaling: From Pharmacology to Physiology, Discovery on Target Drug Symposia, Virtual, 2022

Panel Discussion: Psychedelics: Has Nature Given Us All We Need?, SXSW, Austin, Texas, 2022

Beyond Psychedelics: Venturing into a New Era of Serotonergic Drug Discovery, 2nd Annual Psychedelic Therapeutics & Drug Conference, Washington, DC, 2022

Structure-based and Rational Design of Biased GPCR Ligands with Improved Therapeutic Profiles, Discovery on Target Drug Symposia, Virtual, 2022

Structure-based Design of GPCR Biased Agonists with Therapeutic Potential, UT Health Sciences Center-San Antonio, TX, 2024

Structure-based Design of GPCR Biased Agonists with Therapeutic Potential, T32 Graduate Student's Lecturer Choice, University of Rochester, Rochester, NY, 2024

Uncovering Enhanced Therapeutic Potential via Structure-based Design of GPCR Biased Agonists: A Focus on Psychedelics, Virginia Commonwealth University, Richmond, VA, 2024

Mechanisms of Psychedelic Drug Action at the Serotonin Receptors, ASCPT Annual Meeting, Colorado Springs, CO, 2024

Uncovering Psychedelic's Therapeutic Potential: Structure-based Design of Serotonin GPCR Biased

Agonists, American Physiological Society, Long Beach, California

Regional

Profiling Psychedelics for Antidepressant Effects, Usona Institute, Madison, WI, 2018

Toward a molecular understanding of GPCR drug action, Promega Corporation, Madison, WI, 2018

Profiling Psychedelics at the Serotonin Receptors, BTCi Consciousness Forum, Madison, WI, 2019

Psychedelic Therapeutics and Transforming the Future of Mental Health Care, BioForward Wisconsin Health Summit, Virtual, 2021

Next-generation Psychedelics: A Focus on Molecular Mechanisms of Serotonin GPCRs, Promega Corporation, Madison, WI, 2023

Unlocking Psychedelic's Therapeutic Potential: Structure-based Design of Selective Serotonin GPCR Biased Agonists, University of Wisconsin-Madison, 2024

Major Issues in the Psychedelic Drug Discovery Space, AbbVie

Local

Doxanthrine, a novel D1 agonist, attenuates DOI-induced ear scratch in mice, Purdue Neuroscience Retreat, West Lafayette, IN, 2007

Dopamine D1 selective drugs: Evaluation using locomotor activity and the 6-hydroxydopamine lesion model, Purdue Neuroscience Retreat, West Lafayette, IN, 2008

Fine-tuning GPCRs toward biased signaling: Implications for novel therapeutic strategies, Medical College of Wisconsin, Milwaukee, WI, 2017

Uncovering Biased Signaling at GPCRs for Novel Drug Design Approaches, Medical College of Wisconsin Biochemistry Department, Milwaukee, WI, 2019

Uncovering Biased Signaling at GPCRs for Novel Drug Design Approaches, Medical College of Wisconsin Department of Physiology, Milwaukee, WI, 2019

Structure-based Approaches Toward Pathway-Selective GPCR Drug Discovery, Medical College of Wisconsin Cancer Center, Milwaukee, WI, 2020

Search for New Rapid-Acting Mental Health Treatments, Froedert Hospital Administration, Milwaukee, WI, 2023

Psychedelic Drug Discovery in a New Era, Medical College of Wisconsin Pharmacology Department, Milwaukee, WI, 2023

Serotonin and Psychedelic Drug Discovery: Initiatives for Next-Generation Rapid-Acting Mental Health Treatments, Medical College of Wisconsin, NRC Board Meeting, MCW, 2023

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

International

Retention of drug stimulus control in pigeons trained to a three-key morphine discrimination, College of Problems of Drug Dependence, Quebec, Canada, 2007

LSD bound crystal structure reveals atomic basis of serotonin receptor signaling, International Society for Serotonin Research, Seattle, WA, 2016

Time-dependent biased signaling at the 5-HT_{2A} receptor, International Society for Serotonin Research, Cork, Ireland, 2018

National

Efficacy of functionally selective dopamine D₂ Receptor ligands on schizophrenia-like behaviors, American College of Neuropsychopharmacology, Phoenix, AZ, 2014

Regional

Uncovering the molecular basis of B-arrestin bias at the dopamine D₂ receptor, Great Lake GPCR Retreat, Quebec, Canada, 2014

Discovery of novel dopamine D₂ G protein-biased ligands, Great Lakes GPCR Retreat, Toronto, Canada, 2015

Orthosteric and allosteric activation mechanisms of the 5-HT_{2B} receptor, Great Lakes GPCR Retreat, Chicago, IL, 2016

Local

Molecular interactions of psychedelics with the serotonin 5-HT_{2A} receptor, Sigma Xi Poster Competition,
West Lafayette, IN, 2012

COMMITTEE SERVICE:

Medical College of Wisconsin

2019 - 2023 Chair, IDP Website Committee
2020 Member, Research Culture Workgroup Member
2020 Member, Department of Pharmacology Chair Search
2021 - 2022 Member, Program in Chemical Biology Faculty Search
2021 - 2023 Member, Cancer Center Structural Biology Faculty Search

MCW TEACHING ACTIVITIES:

Medical Student Education

2024 - Present Lecturer, Neuroscience, Anitmigraine and Serotonin Drugs

Graduate Student Education

2019 - Present Lecturer, Understanding Cell Signaling Through Therapeutic Drugs
2019 - Present Lecturer, Fundamentals of Neuroscience

EXTRAMURAL TEACHING:

Medical Student Education

2003 - 2005 Texas Tech University, Teaching Assistant, General Chemistry
2004 - 2005 Texas Tech University, Teaching Assistant, Organic Chemistry

Pharmacy Student Education

2007 - 2011 Purdue University, Head Teaching Assistant, Neuropharmacology
2008 - 2010 Purdue University, Teaching Assistant, Renal and Cardiovascular Pharmacology

Graduate Student Education

2016 - 2017 University of North Carolina, Chapel Hill, Head Instructor, Cellular and Molecular
Neuroscience: Biased GPCR Signaling

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Graduate Students

Students Advised

2019 Jacob Adelman, Rotation Student, Neuroscience Doctoral Program, Medical College of Wisconsin
2019 Zachary Plautz, Rotation Student, Medical Scientist Training Program (MSTP), Medical College
of Wisconsin
2019 Kyle McLaughlin, Rotation Student, Neuroscience Doctoral Program (NDP), Medical College of
Wisconsin
2019 - 2020 Gage Stuttgen, Rotation Student, Interdisciplinary Doctoral Program (IDP), Medical
College of Wisconsin
2023 Kaitlyn Partridge, Rotation Student, Neuroscience Doctoral Program (NDP), Medical College of
Wisconsin
2023 Mallika Khurana, Rotation Student, Interdisciplinary Doctoral Program (IDP), Medical College of
Wisconsin

PhD

2020 - Present Nicholas Malcolm, Medical Scientist Training (MSTP) student, Medical College of
Wisconsin, National presentations, peer-review publications, mentoring plan
2021 - Present Janelle Lanham, Interdisciplinary Doctoral (IDP) Graduate Student, Medical College of
Wisconsin, National presentations, peer-review publications, mentoring plan
2021 - Present Emma Bonniwell, Neuroscience Doctoral (NDP) Student, Medical College of Wisconsin,
National presentations, peer-review publications, mentoring plan

PhD Committees

- 2020 - 2023 Donovan Drouillard, Role of CCR6 and CCL20 signaling axis in anti-tumor T cell Responses, Medical College of Wisconsin
- 2020 - 2023 Courtney Fisher, Mechanistic Insights into Novel A3 Adenosine Receptor Allosteric Modulators, Medical College of Wisconsin
- 2021 - Present Dianise Rodriguez, Mechanisms Underlying CGRP-induced Migraine, Medical College of Wisconsin
- 2021 - Present Roman Schlimgen, Structural Basis of Nanobody-induced Chemokine Receptor Inhibition, Medical College of Wisconsin
- 2022 - Present Claudia Rohr, Functional interrogation of parasitic flatworm TRPM channels to identify novel antihelmintics, Medical College of Wisconsin
- 2023 - Present Alex Garces, Development of EPR autosampling technologies for interrogation of GPCR Conformations, Medical College of Wisconsin

Postdoctoral Researchers

- 2021 - 2022 Daniel Sprague, Postdoctoral Researcher, Medical College of Wisconsin
- 2022 - Present Tyler Fenske, Postdoctoral Researcher, Medical College of Wisconsin

Clinical Staff

- 2018 - 2019 Emilie Anderson, Research Technician, Medical College of Wisconsin
- 2018 - 2021 Lauren Laskowski, Research Technician, Medical College of Wisconsin
- 2021 - 2022 Andrew Cao, Research Technician, Medical College of Wisconsin
- 2021 - Present Hailey Hammen, Research Technician, Medical College of Wisconsin
- 2021 - 2022 Maggie Calkins, Research Technician, Medical College of Wisconsin
- 2021 - 2022 Alisha Shaikh, Research Technician, Medical College of Wisconsin
- 2022 - 2023 Joseph Hennessey, Research Technician, Medical College of Wisconsin
- 2022 - 2023 Marco Ivancich, Research Technician, Medical College of Wisconsin
- 2023 - 2024 Allison Clark, Research Technician, Medical College of Wisconsin
- 2023 - Present Natalie Cavalco, Research Technician, Medical College of Wisconsin
- 2023 - Present Josie Lammers, Research Technician, Medical College of Wisconsin
- 2024 - Present John McKee, Research Technician, Medical College of Wisconsin
- 2024 - Present Serena Schalk, Research Technician, Medical College of Wisconsin

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

- 2008 - 2010 Aubrie Harland, Undergraduate Researcher, Purdue University
- 2010 - 2012 Whitney Williams, Undergraduate Researcher, Purdue University
- 2012 Rachel Slater, Visiting Undergraduate Researcher, Trinity College Dublin
- 2013 Katie Rechsteiner, Undergraduate Researcher, University of North Carolina
- 2014 Alia Capone, Undergraduate Researcher, University of North Carolina
- 2015 Bemnat Agenehu, Undergraduate Researcher, University of North Carolina
- 2016 Ariana Gavin, Undergraduate Researcher, University of North Carolina
- 2017 - 2018 Alexandra Tribo, Undergraduate Researcher, University of North Carolina

MEDIA APPEARANCES:

- 2022 SXSW Psychedelics: Has Nature Given Us AI We Need?
<https://www.youtube.com/watch?v=ChIET4UI5N4>
- 2023 - Present Bill would allow veterans to treat PTSD with psychedelic mushrooms
<https://www.cbs58.com/news/bill-would-allow-veterans-to-treat-ptsd-with-psychedelic-mushrooms>

PATENTS:

- 2021 3-(2-(aminoethyl)-indol-4-yl) derivatives, methods of preparation thereof, and the use as 5-HT₂ receptor modulators Alan Kozikowski, Gideon Shapiro, Werner Tueckmantel, John McCorvy In partnership with BrightMinds Bio

2021 Heterocyclic Compounds and Methods of Preparation Thereof Alan Kozikowski, Uros Laban, Werner Tueckmantel, John McCorvy In partnership with BrightMinds Bio
2021 Selective, Partial, and Arrestin-Biased 5-HT_{2A} Agonists with Utility in Various Disorders Jason Wallach, John McCorvy, Adam Halberstadt In partnership with University of the Sciences and UCSD

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Przybyla JA, Cueva JP, Chemel BR, Hsu KJ, Riese DJ 2nd, **McCorvy JD**, Chester JA, Nichols DE, Watts VJ. Comparison of the enantiomers of (+/-)-doxanthrine, a high efficacy full dopamine D(1) receptor agonist, and a reversal of enantioselectivity at D(1) versus alpha(2C) adrenergic receptors. *Eur Neuropsychopharmacol*. 2009 Feb;19(2):138-46. PMID: PMC2636714
2. Clark LH, Cueva JP, **McCorvy JD**, Harland AA, Watts VJ, Nichols DE. C-Ring expanded analogs of doxanthrine: Conformation plays a critical role *Arkivoc*. 29 January 2011;2010(4):125-138.
3. **McCorvy JD**, Harland AA, Maglathlin R, Nichols DE. A 5-HT(2C) receptor antagonist potentiates a low dose amphetamine-induced conditioned place preference. *Neurosci Lett*. 2011 Nov 07;505(1):10-3. PMID: PMC3213641
4. Clark AH, **McCorvy JD**, Watts VJ, Nichols DE. Assessment of dopamine D₂ receptor affinity and efficacy of three tetracyclic conformationally-restricted analogs of SKF38393. *Bioorg Med Chem*. 2011 Sep 15;19(18):5420-31. PMID: PMC3171562
5. **McCorvy JD**, Watts VJ, Nichols DE. Comparison of the D₂ dopamine full agonists, dihydroxidine and doxanthrine, in the 6-OHDA rat model of Parkinson's disease. *Psychopharmacology (Berl)*. 2012 Jul;222(1):81-7.
6. Clark AH, **McCorvy JD**, Conley JM, Williams WK, Bekkam M, Watts VJ, Nichols DE. Identification of a 2-phenyl-substituted octahydrobenzo[f]quinoline as a dopamine D₂ receptor-selective full agonist ligand. *Bioorg Med Chem*. 2012 Nov 01;20(21):6366-74. PMID: PMC3505999
7. Pigott A, Frescas S, **McCorvy JD**, Huang XP, Roth BL, Nichols DE. trans-2-(2,5-Dimethoxy-4-iodophenyl)cyclopropylamine and trans-2-(2,5-dimethoxy-4-bromophenyl)cyclopropylamine as potent agonists for the 5-HT(2) receptor family. *Beilstein J Org Chem*. 2012;8:1705-9. PMID: PMC3511003
8. Juncosa JI Jr, Hansen M, Bonner LA, Cueva JP, Maglathlin R, **McCorvy JD**, Marona-Lewicka D, Lill MA, Nichols DE. Extensive rigid analogue design maps the binding conformation of potent N-benzylphenethylamine 5-HT_{2A} serotonin receptor agonist ligands. *ACS Chem Neurosci*. 2013 Jan 16;4(1):96-109. PMID: PMC3547484
9. Wacker D, Wang C, Katritch V, Han GW, Huang XP, Vardy E, **McCorvy JD**, Jiang Y, Chu M, Siu FY, Liu W, Xu HE, Cherezov V, Roth BL, Stevens RC. Structural features for functional selectivity at serotonin receptors. *Science*. 2013 May 03;340(6132):615-9. PMID: PMC3644390
10. Wang C, Jiang Y, Ma J, Wu H, Wacker D, Katritch V, Han GW, Liu W, Huang XP, Vardy E, **McCorvy JD**, Gao X, Zhou XE, Melcher K, Zhang C, Bai F, Yang H, Yang L, Jiang H, Roth BL, Cherezov V, Stevens RC, Xu HE. Structural basis for molecular recognition at serotonin receptors. *Science*. 2013 May 03;340(6132):610-4. PMID: PMC3644373
11. Hansen M, Jacobsen SE, Plunkett S, Liebscher GE, **McCorvy JD**, Bräuner-Osborne H, Kristensen JL. Synthesis and pharmacological evaluation of N-benzyl substituted 4-bromo-2,5-dimethoxyphenethylamines as 5-HT_{2A/2C} partial agonists. *Bioorg Med Chem*. 2015 Jul 15;23(14):3933-7.
12. Kroeze WK, Sassano MF, Huang XP, Lansu K, **McCorvy JD**, Giguère PM, Sciaky N, Roth BL. PRESTO-Tango as an open-source resource for interrogation of the druggable human GPCRome. *Nat Struct Mol Biol*. 2015 May;22(5):362-9. PMID: PMC4424118
13. Cheng J, Giguere PM, Schmerberg CM, Pogorelov VM, Rodriguiz RM, Huang XP, Zhu H, **McCorvy JD**, Wetsel WC, Roth BL, Kozikowski AP. Further Advances in Optimizing (2-Phenylcyclopropyl)methylamines as Novel Serotonin 2C Agonists: Effects on Hyperlocomotion, Prepulse Inhibition, and Cognition Models. *J Med Chem*. 2016 Jan 28;59(2):578-91. PMID: PMC8317212
14. Farrell MS, **McCorvy JD**, Huang XP, Urban DJ, White KL, Giguere PM, Doak AK, Bernstein AI, Stout KA, Park SM, Rodriguiz RM, Gray BW, Hyatt WS, Norwood AP, Webster KA, Gannon BM, Miller GW, Porter JH, Shoichet BK, Fantegrossi WE, Wetsel WC, Roth BL. In Vitro and In Vivo

- Characterization of the Alkaloid Nuciferine. *PLoS One*. 2016;11(3):e0150602. PMID: PMC4786259
15. Chan JD, **McCorvy JD**, Acharya S, Johns ME, Day TA, Roth BL, Marchant JS. A Miniaturized Screen of a *Schistosoma mansoni* Serotonergic G Protein-Coupled Receptor Identifies Novel Classes of Parasite-Selective Inhibitors. *PLoS Pathog*. 2016 May;12(5):e1005651. PMID: PMC4871480
 16. Manglik A, Lin H, Aryal DK, **McCorvy JD**, Dengler D, Corder G, Levit A, Kling RC, Bernat V, Hübner H, Huang XP, Sassano MF, Giguère PM, Löber S, Da Duan, Scherrer G, Kobilka BK, Gmeiner P, Roth BL, Shoichet BK. Structure-based discovery of opioid analgesics with reduced side effects. *Nature*. 2016 Sep 08;537(7619):185-190. PMID: PMC5161585
 17. Cheng J, **McCorvy JD**, Giguere PM, Zhu H, Kenakin T, Roth BL, Kozikowski AP. Design and Discovery of Functionally Selective Serotonin 2C (5-HT_{2C}) Receptor Agonists. *J Med Chem*. 2016 Nov 10;59(21):9866-9880.
 18. Chen X, **McCorvy JD**, Fischer MG, Butler KV, Shen Y, Roth BL, Jin J. Discovery of G Protein-Biased D2 Dopamine Receptor Partial Agonists. *J Med Chem*. 2016 Dec 08;59(23):10601-10618. PMID: PMC5148701
 19. Urs NM, Gee SM, Pack TF, **McCorvy JD**, Evron T, Snyder JC, Yang X, Rodriguiz RM, Borrelli E, Wetsel WC, Jin J, Roth BL, O'Donnell P, Caron MG. Distinct cortical and striatal actions of a β -arrestin-biased dopamine D2 receptor ligand reveal unique antipsychotic-like properties. *Proc Natl Acad Sci U S A*. 2016 Dec 13;113(50):E8178-E8186. PMID: PMC5167191
 20. Wacker D, Wang S, **McCorvy JD**, Betz RM, Venkatakrishnan AJ, Levit A, Lansu K, Schools ZL, Che T, Nichols DE, Shoichet BK, Dror RO, Roth BL. Crystal Structure of an LSD-Bound Human Serotonin Receptor. *Cell*. 2017 Jan 26;168(3):377-389.e12. PMID: PMC5289311
 21. Lansu K, Karpiak J, Liu J, Huang XP, **McCorvy JD**, Kroeze WK, Che T, Nagase H, Carroll FI, Jin J, Shoichet BK, Roth BL. In silico design of novel probes for the atypical opioid receptor MRGPRX2. *Nat Chem Biol*. 2017 May;13(5):529-536. PMID: PMC5391270
 22. Jensen AA, **McCorvy JD**, Leth-Petersen S, Bundgaard C, Liebscher G, Kenakin TP, Bräuner-Osborne H, Kehler J, Kristensen JL. Detailed Characterization of the In Vitro Pharmacological and Pharmacokinetic Properties of *N*-(2-Hydroxybenzyl)-2,5-Dimethoxy-4-Cyanophenylethylamine (25CN-NBOH), a Highly Selective and Brain-Penetrant 5-HT_{2A} Receptor Agonist. *J Pharmacol Exp Ther*. 2017 Jun;361(3):441-453.
 23. Hoehn RD, Nichols DE, **McCorvy JD**, Neven H, Kais S. Experimental evaluation of the generalized vibrational theory of G protein-coupled receptor activation. *Proc Natl Acad Sci U S A*. 2017 May 30;114(22):5595-5600. PMID: PMC5465905
 24. Brandt SD, Kavanagh PV, Twamley B, Westphal F, Elliott SP, Wallach J, Stratford A, Klein LM, **McCorvy JD**, Nichols DE, Halberstadt AL. Return of the lysergamides. Part IV: Analytical and pharmacological characterization of lysergic acid morpholide (LSM-775). *Drug Test Anal*. 2018 Feb;10(2):310-322. PMID: PMC6230476
 25. Zhang G, Cheng J, **McCorvy JD**, Lorello PJ, Caldarone BJ, Roth BL, Kozikowski AP. Discovery of N-Substituted (2-Phenylcyclopropyl)methylamines as Functionally Selective Serotonin 2C Receptor Agonists for Potential Use as Antipsychotic Medications. *J Med Chem*. 2017 Jul 27;60(14):6273-6288. PMID: PMC7374938
 26. Wang S, Wacker D, Levit A, Che T, Betz RM, **McCorvy JD**, Venkatakrishnan AJ, Huang XP, Dror RO, Shoichet BK, Roth BL. D₄ dopamine receptor high-resolution structures enable the discovery of selective agonists. *Science*. 2017 Oct 20;358(6361):381-386. PMID: PMC5856174
 27. Chan JD, Cupit PM, Gunaratne GS, **McCorvy JD**, Yang Y, Stoltz K, Webb TR, Dosa PI, Roth BL, Abagyan R, Cunningham C, Marchant JS. The anthelmintic praziquantel is a human serotonergic G-protein-coupled receptor ligand. *Nat Commun*. 2017 Dec 05;8(1):1910. PMID: PMC5716991
 28. **McCorvy JD**, Butler KV, Kelly B, Rechsteiner K, Karpiak J, Betz RM, Kormos BL, Shoichet BK, Dror RO, Jin J, Roth BL. Structure-inspired design of β -arrestin-biased ligands for aminergic GPCRs. *Nat Chem Biol*. 2018 Feb;14(2):126-134. PMID: PMC5771956
 29. Che T, Majumdar S, Zaidi SA, Ondachi P, **McCorvy JD**, Wang S, Mosier PD, Uprety R, Vardy E, Krumm BE, Han GW, Lee MY, Pardon E, Steyaert J, Huang XP, Strachan RT, Tribo AR, Pasternak GW, Carroll FI, Stevens RC, Cherezov V, Katritch V, Wacker D, Roth BL. Structure of the Nanobody-Stabilized Active State of the Kappa Opioid Receptor. *Cell*. 2018 Jan 11;172(1-2):55-67.e15. PMID: PMC5802374
 30. Peng Y, **McCorvy JD**, Harpsøe K, Lansu K, Yuan S, Popov P, Qu L, Pu M, Che T, Nikolajsen LF, Huang XP, Wu Y, Shen L, Bjørn-Yoshimoto WE, Ding K, Wacker D, Han GW, Cheng J, Katritch V, Jensen

- AA, Hanson MA, Zhao S, Gloriam DE, Roth BL, Stevens RC, Liu ZJ. 5-HT_{2C} Receptor Structures Reveal the Structural Basis of GPCR Polypharmacology. *Cell*. 2018 Feb 08;172(4):719-730.e14. PMID: PMC6309861
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