

Curriculum Vitae

Eric Landon Barker

**Jeannie and Jim Chaney Dean of Pharmacy
Associate Provost for Graduate Programs (acting)
Purdue University
College of Pharmacy**



EDUCATION: Saint Louis College of Pharmacy, Saint Louis, MO.
Bachelor of Science in Pharmacy, 1988.

Vanderbilt University, Nashville, TN.
Department of Pharmacology, (E. Sanders-Bush, Mentor)
Doctor of Philosophy, 1993.

PROFESSIONAL EXPERIENCES: Purdue University College of Pharmacy, West Lafayette, IN
Department of Medicinal Chemistry and Molecular Pharmacology
Assistant Professor, 1998-2004
Associate Professor, 2004-2011
Assistant Dean for Graduate Programs, 2007-2010
Associate Dean for Research, 2010-2017
Professor, 2011-present
Dean, 2017-present
Jeannie and Jim Chaney Dean of Pharmacy, 2022-present
Associate Provost for Graduate Programs (acting), 2023-present

Indiana University School of Medicine-West Lafayette, IN
Adjunct Professor of Pharmacology and Toxicology, 2015-present

Vanderbilt University School of Medicine, Nashville, TN
Department of Pharmacology, (R. Blakely, Mentor)
Post-Doctoral Research Associate, 1995-1997.
Instructor, 1997-1998.

Emory University School of Medicine, Atlanta, GA.
Department of Anatomy and Cell Biology, (R. Blakely, Mentor)
Post-Doctoral Research Associate, 1993-1995.

PHARMACY

LICENSURE: State of Tennessee, #C-7354 (status: retired)

PHARMACY-RELATED EXPERIENCES:

- 1983-1985 **Reese Drug Stores, Inc., Granite City, IL**
Pharmacy Apprentice
- 1985-1988 **Jewish Hospital of Saint Louis, Saint Louis, MO**
Senior Pharmacy Student
- 1988 **Washington University Medical Center, Saint Louis, MO**
Clinical Pharmacy Intern in Psychiatry
- 1988-1991 **Hooks-SupeRx, Inc., Nashville, TN**
Long-term Care Consultant Pharmacist

TEACHING EXPERIENCES:

- 1984-1987 **Saint Louis College of Pharmacy, Saint Louis, MO**
General Chemistry Lab Assistant
- 1992-1993 **Vanderbilt University, Nashville, TN**
Undergraduate research project mentor: Student, Anthony Tharp
- 1993-1995 **Emory University, Atlanta, GA**
Undergraduate Honors thesis project mentor: Student, Melody Gray
- 1995 **Emory University, Atlanta, GA**
Biology Department
Instructor, Advanced Undergraduate Neurobiology Laboratory
- 1996-1997 **Trevecca Nazarene University, Nashville, TN**
Physician Assistant Department
Adjunct Assistant Professor, Pharmacology
- 1997 **Vanderbilt University, Nashville, TN**
Department of Pharmacology
Drug evaluation group leader, Pharmacology 501
- 1998-present **Purdue University, West Lafayette, IN**
Department of Medicinal Chemistry and Molecular Pharmacology
MCMP 407, 408, 440, 441, 442, 544, 611, 617; PHRM 825, 844, 845

GRADUATE TRAINING PROGRAMS:

- 1998-2004 Purdue University, Biochemistry and Molecular Biology Program
- 1998-2004 Purdue University Neuroscience Program

2004-present Purdue University Life Sciences (PULSe), Integrative
Neuroscience

Past Trainees: Theresa Day (M.S. 2001), Gustavo Rodriguez (Ph.D. 2004), David Roman (Ph.D. 2004), Kellie White (Ph.D. 2005), Matthew McFarland (Ph.D. 2006), Tamera Bardell (M.S. 2007), Crystal Walline (Ph.D. 2007), Ekaterina Terabova-Placzek (Ph.D. 2008), Melissa Torres-Altora (Ph.D. 2008), Marla Yates (Ph.D. 2008), Natalie Sealover (Ph.D. 2009), Rachel Wright (M.S. 2012), Todd Bauer (M.S. 2014), Timothy Beenen (M.S. 2015), Charles Kuntz (Ph.D. 2015), Shari Radford (M.S. 2016)

Past Post-Doctoral Trainees: Abbas Jarrahan, Ph.D.

Current position: Lecturer/Lab Manager, The Ohio State
University - Lima

Soma Mukhopadhyay, Ph.D.

Research Scientist, Dept. of Biology, Purdue University

BingNan Han, Ph.D.

Associate Professor,

Department of Ocean Science and Engineering

Zhejiang University

Zhejiang Province, P.R. China

HONORS AND AWARDS:

Presidential Scholarship

Magna Cum Laude

Dean's List

Rho Chi Pharmaceutical Honor Society

McKesson Leadership Award

American Pharmaceutical Association Award

Saint Louis Society of Hospital Pharmacists, 1988 Student of the Year

William S. Bucke Leadership Award

Trevecca University Physician Assistant Didactic Professor of the Year, 1996

American College of Neuropsychopharmacology/Mead Johnson Travel Award, 1997.

St. Louis College of Pharmacy Young Alumni Award, 1998.

Dr. Aziz Outstanding Teaching Award, 2007 Purdue University School of Pharmacy

Purdue University, Faculty Scholar 2011-2017

Fellow, Committee on Institutional Cooperation (CIC)-Academic Leadership Program,
2011-2012

Charles B. Murphy Outstanding Undergraduate Teaching Award, 2013 Purdue University (This
award is the University's highest undergraduate teaching honor).

Purdue University, The Book of Great Teachers, 2013

Purdue University, Teaching Academy, 2013

St. Louis College of Pharmacy, Distinguished Alumni - Outstanding Achievement Award, 2018

STUDY SECTION SERVICE:

Austrian Science Foundation, 2000

Member, CEBRA Special Emphasis Study Section, NIDA 2002

Ad hoc member, Neurotransporter, Receptor, Channels, and Calcium Signaling Study Section, NIH, June 2005

Member, CEBRA Special Emphasis Study Section, NIDA 2005

Member, CEBRA Special Emphasis Study Section, NIDA 2006

Member, NIDA Drug Discovery Special Emphasis Study Section, 2007

Ad hoc member, Neurotransporter, Receptor, Channels, and Calcium Signaling Study Section, NIH, June 2009

Ad hoc member, NIH Challenge Grant Reviewer, June 2009

Member, NIH Drug Discovery for the Nervous System Special Emphasis Study Section, June 2009

Member, NIH Special Emphasis Panel MDCN-P(03), AED review, August 2009

Israel Ministry of Science Proposal Review, September 2009

Member, NIH Special Emphasis Panel/Scientific Review Group MDCN-B Drug Discovery AED review, November 2009

Member, NIH Special Emphasis Panel MDCN-F (02) Transporters and Receptors, Teleconference Review, February 2010

Member, NIH Special Emphasis Panel MDCN-B, AED review, June 2010

Member, NIH Special Emphasis Panel ZDA1-JXR-D(09) Medications Development Program Projects for Substance-Related Disorders, October 2011

Member, NIH Special Emphasis Panel February 2012; NIH Special Emphasis Panel BPNS November 2012; NIH CEBRA Review November 2012.

Member, NIH P01 Special Emphasis Panel July 2014

Member, NIH Biophysics of Neural Systems (BPNS) Study Section, October 2014

Member, NIH Special Emphasis Panel, December 2014 Member, NIDA Centers of Excellence (P50/P30), March 2015

GRANT SUPPORT:

Defense Advanced Research Projects Agency (DARPA):

Analytic-Directed Multi-scale Synthesis System \$8,263,198

2016-2019 (R.G. Cooks, PI; E. Barker, Z. Nagy, D. Thompson, A. Grama- Co-I's)

National Institutes of Health:

R21AA019529 Anxiety in a Genetic Animal Model of Alcoholism: Role of Endocannabinoids 2010-2012 (J. Chester and E. Barker, PI's)

R01 DA018682-05 (formerly R01 MH60221) Psychostimulant Recognition by Serotonin Transporters 2000- 2012 (E. Barker, PI)

R21DA024193-01 Lipidomic profile of endocannabinoids from neuronal cells 2009-2011 (E. Barker and V. Jo Davison, PI's)

R21 DA018844 Identification of Anandamide Transport Proteins 2004-2007 (E. Barker, PI)

R21 DA018112 VR1 Receptor-Induced Synthesis of Anandamide in Caveolae 2004-2007 (E. Barker, PI)

R21 DA13268 Molecular Analysis of Endocannabinoid Transport 2000-2003 (E. Barker, PI)

R01 DA02189 Stereochemical Aspects of Hallucinogenesis 1999-2003 (D. Nichols, PI)

Foundation or Industrial Support:

Emory University Center for Neurological Sciences Fellowship, 1994

National Research Service Award,

Project: Molecular pharmacology of serotonin transporters, 1995-1998

Bristol-Myers Squibb,

Project: Identification and characterization of a transporter for the endogenous cannabinoid, anandamide, 1997-1999

National Alliance for Research on Schizophrenia and Depression:

2000 Young Investigator Award

Project: Modulation of Endocannabinoid Transport by Dopamine Receptors, 2000-2002

2004 Young Investigator Award

Project: Synthesis and Evaluation of Selective Anandamide Reuptake Inhibitors, 2004-2007

Lilly Research Laboratories,

Project: Molecular Identification and characterization of the anandamide transporter, 2000-2005

Purdue Research Foundation Xr Grant

Project: A Role for ERp57 in Anandamide Uptake and Metabolism, 2007-2008

Seed grant Ara Parseghian Medical Research Foundation/BReaK-thru Fund

Project: Drug Screening Assay Development for Niemann-Pick Disease Type C, 2009-2010

Purdue EVPRP New R01 Grant

Project: Structural dynamics of psychostimulants at dopamine transporters, 2015-2016

Educational Grants:

Multimedia Instructional Development Center grant, "Implementation of Internet-based Streaming Multimedia in Undergraduate Curriculum." (1999) \$14,400. This grant enabled the purchase of a web server to provide "streamed" multimedia to students in the professional curriculum.

Instructional Computing Grant, "Establishing an in-house facility for the instruction in and production of professional quality scientific posters for Pharm.D. and graduate student project presentations." Co-PI's with Dr. Matthew Murawski, PHPR. (2000) \$9,272. Provided support for the purchase of HP DesignJet 755CM color poster printer.

Purdue Instructional Innovation Program, "Enhancing Student Learning using HoloLens-based Mixed Reality Instructional Simulations" (2016-2019) \$98,528. Co-I's with K. Weatherman, M. Sharp, G. Takahashi.

Other Scholarly Projects:

Convoy App Development 2013-present. Development of new course content aggregator.
http://www.itap.purdue.edu/newsroom/news/140314_studio_convoy.html

INVITED PRESENTATIONS:

National Symposia/Conferences:

July 2000 Gordon Research Conference, Membrane Transport Proteins

- June 2005 AAPS Biotechnology Conference, Lipidomics Symposium, San Francisco, CA
- October 2005 National Alliance for Research on Schizophrenia and Depression (NARSAD) Symposium, Mt. Sinai Med Center, New York, NY (*Chaired by Nobel Laureate Eric Kandel*)
- November 2005 Transporter Biology Conference, Arlington, VA (Satellite meeting to Society for Neuroscience)
- June 2006 AAPS National Biotechnology Conference, Lipidomics Symposium, Boston, MA
- April 2009 “The end of cannabinoids as we know it: Molecular control of anandamide inactivation.” ASPET Julius Axelrod Symposium, Experimental Biology ‘09, New Orleans, LA

University/Institutional Invitations:

- March 1994 Predoctoral Training Program in Biochemistry, Cell and Molecular Biology Seminar, Emory University.
- October 1994 Neuroscience Seminar, Emory University.
- October 1996 Division of Clinical Pharmacology Seminar, Vanderbilt University
- May 1997 Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University
- October 1999 Purdue University Neuroscience Retreat
- December 1999 Eli Lilly Research Laboratories, Neuroscience Seminar
- March 2000 Department of Basic Medical Sciences, Purdue University
- May 2000 Department of Medicinal Chemistry and Pharmacognosy, University of Illinois-Chicago, Center for Botanical Dietary Supplements Research
- September 2001 Department of Pharmaceutical Sciences, University of Southern California
- April 2004 Department of Biology, Hope College, Holland MI
- December 2004 Department of Biochemistry, SUNY-Stonybrook
- December 2004 Stark Neuroscience Institute, IUPUI, Indianapolis, IN
- November 2006, "Ins and Outs" of Endocannabinoid Transport, Department of Physiology, University of Texas Health Science Center at San Antonio, TX
- November 2007 “Exploration of Drug Binding Sites on the Antidepressant- and Cocaine-Sensitive Serotonin Transporter.” Southern Illinois University – Edwardsville School of Pharmacy, Edwardsville, IL
- November 2008 “Exploration of Drug Binding Sites on the Antidepressant- and Cocaine-Sensitive Serotonin Transporter.” Butler University College of Pharmacy and Health Sciences, Indianapolis, IN
- August 2009 “Exploration of Drug Binding Sites on the Antidepressant- and Cocaine-Sensitive Serotonin Transporter.” West Virginia University School of Pharmacy, Morgantown, WV
- March 2012 “Molecular and system effects of psychostimulants on serotonin transporters.” University of Iowa College of Pharmacy, Iowa City, IA

Professional Meetings or other Presentations:

- July 2001 Attracting the Best and Brightest: Strategies for Graduate Student Recruitment. AACP Annual Meeting, Toronto, Canada

September 2001	Attracting the Best and Brightest: Strategies for Graduate Student Recruitment. USC School of Pharmacy
December 2001	Attracting the Best and Brightest: Strategies for Graduate Student Recruitment. Purdue University Graduate School Forum
May 2003	Street Drugs/Methamphetamine: Psychological & Physiological Effects National Council of Juvenile and Family Court Judges, 22 nd Annual Triple Header Conference, Indianapolis, IN
November 2003	Street Drugs/Methamphetamine: Psychological & Physiological Effects Rhode Island Family Court Truancy Summit Salve Regine University, Newport, RI
November 2003	Street Drugs/Methamphetamine: Psychological & Physiological Effects Pi Beta Phi, Purdue University
May 2005	Street Drugs/Methamphetamine: Psychological & Physiological Effects National Council of Juvenile and Family Court Judges, Annual Conference, Lake Tahoe
August 2011	White Coat Ceremony Keynote Speaker, School of Pharmacy Southern Illinois University at Edwardsville, Edwardsville, IL
January 2014	Preeminence in Pharmacy Education & Research: Looking to the Future University of Michigan College of Pharmacy
March 2016	Preeminence in Pharmacy Education & Research: Looking to the Future University of Kentucky College of Pharmacy
September 2016	Purdue College of Pharmacy Update, Indiana Pharmacists Alliance Annual meeting, Indianapolis, IN
April 2017	“How to write a review article” Here It From The Editors symposium, Experimental Biology ‘17, Chicago, IL
March 2019	Faculty Development Seminar, University of Nebraska School of Pharmacy
April 2019	BoilerWoRx presentation at the Opioid Data to Action: Combating Addiction Through Innovation conference (sponsored by the IU School of Social Work), Indianapolis
September 2019	White Coat Ceremony Speaker at the St. Louis College of Pharmacy, St. Louis, MO
May 2021	Commencement speaker, Texas A&M Irma Lerma Rangel College of Pharmacy, College Station, TX
April 2022	Guest lecturer – Alumni Leadership Course, University of Health Sciences and Pharmacy in St. Louis.

Editorial Service

Editor, *Pharmacological Reviews*, 2016-2021; Associate Editor, 2010-2015, 2022-present(5-year ISI Impact factor 25.47)

Ad Hoc Reviewer for:

Journal of Biological Chemistry
Journal of Pharmacology and Therapeutics
Neuropsychopharmacology
Molecular Pharmacology

Journal of Neurochemistry
Protein Science
British Journal of Pharmacology
European Journal of Pharmacology
Neuropharmacology
PNAS
Neurochemistry International
Lippincott Williams & Wilkins Textbook Review

PROFESSIONAL ASSOCIATIONS:

American Pharmacists Association:

- Academy of Pharmaceutical Research and Sciences, 1988-present.
- Academy of Students of Pharmacy, 1985-1988 (Chapter president, 1987).
 - 1987 APhA Policy committee on professional affairs.
 - 1988 APhA Policy committee on educational affairs.
 - 1993 APhA Policy committee on scientific affairs (declined)
- Purdue University ASP Chapter Advisor, 2000-2004

American Association for the Advancement of Science, 1990-present.

Society for Neuroscience, 1994-present.

American Association of Colleges of Pharmacy, 1998-present

- Purdue School of Pharmacy Delegate, 2000
- ACCP Assessment Institute attendee, 2002

American Society for Pharmacology and Experimental Therapeutics, 1998-present.

International Cannabinoid Research Society, 1998-2012.

American College of Neuropsychopharmacology, Associate Member, 2003-2009.

SERVICE:

National:

- Pharmacy Technician Certification Board, External Advisory Board, 2021-present
- Board of Directors, National Institute for Pharmaceutical Technology & Education, 2017-present (Board Chair, 2020-2021).
 - -Strategic Planning Task Force, 2018-present
- AACP Mentoring Task Force 2022-present
- ASPET Board of Publications Trustees, 2016-2021
- Academic program reviewer for the University of Toronto School of Pharmacy, Nov. 2019.
- ASPET Neuropharmacology Division, Secretary-Treasurer, 2010-2012
- ASPET Graduate Recruitment and Education Committee, 2012-2016
- ASPET Committee on Diversity, 2008-2012
- AACP Paul Dawson Biotechnology Award Committee, 2009
- AACP Paul Dawson Biotechnology Award Committee, 2006

University:

- Action Council on Student Well-being, 2023-present
- Provost Cabinet, 2023-present

- Search committee, Director, Purdue Center for Cancer Research, 2021-2023; Chair, 2023
- Protect Purdue Committee (COVID-19 Response) – Health Monitoring and Surveillance Team Lead, 2020-2023
- Purdue for Life Steering Committee, 2019
- Search committee, Leading Faculty in Drug Discovery (multi-college search), 2014-2016
- Search committee, Director, Purdue University Discovery Park, 2014-2015
- Strategic Research Initiatives Committee, 2010-2017
- Global Academic Affairs Committee, 2013-2017
- Chair, Metabolomic/Proteomic Profiling Facility, Bindley Bioscience Center, 2013-2015
- Graduate Education Advancement Committee, 2007-2010
 - Student Learning Outcomes and Assessment Workgroup, 2007-2010
 - Subcommittee on Developing self-assessment rubric
- Purdue University Graduate Council, 2007-2010
 - Chair, Area Committee C, 2008-2009 (responsible for reviewing and approving all new graduate degree programs and courses in engineering, chemistry, and physical sciences.)
- Search Committee, Dean, Graduate School, 2007-2008
- Search Committee for Dean of the College of Pharmacy, Nursing, and Health Sciences, 2006
- Review committee for IU-PU Collaborative Grant Applications, 2006
- Purdue University Neuroscience Executive Committee, 2003-2006
- Task Innovation Award Committee, 2001 - 2007
- Search Committee for Dean of the College of Pharmacy, Nursing, and Health Sciences, 2002
- Multimedia Instructional Development Center Advisory Committee, 2000

College of Pharmacy:

- College of Pharmacy, Executive Committee, 2007-present
- College of Pharmacy, Murphy Award Committee, Chair, 2014-2017
- College Task Force on P3 Case Studies Course, 2016-2017
- Global Strategic Initiatives (Chair), 2015
- Dean's Advisory Council, Industry Partnerships session (Chair), 2014
- Search Committee for Head, Department of Pharmacy Practice (Chair), 2012-2014
- Task Force on Research Funding (Chair), 2013-2014
- Task Force on Website, Branding, and Key Messaging (Chair), 2013-2014
- Dean's Advisory Council, Innovations in Pharmacy Session (Moderator), 2013
- Information Technology Committee (Chair), 2010-2017
- ACPE Self Study Committee (Chair, Organization & Administration), 2010-2011
- Facilities Planning and Conceptual Design Committee, 2010-2011
- B.S. in Pharmaceutical Sciences Revision Task Force (Chair), 2009
- School of Pharmacy Pharm.D. Curriculum Committee, 2001 - 2009
- School of Pharmacy Graduate Programs and Policies Committee, 2004-2010 (Chair, 2007-2010)
- School of Pharmacy and Pharmaceutical Sciences Strategic Plan Committee, 2007-2008

- Search Committee, Assistant Dean for Assessment and Accreditation, 2007
- Integrated Laboratory Review Committee (Chair), 2004
- School of Pharmacy Readmissions and Academic Standards Committee, 2002 - 2007
- School of Pharmacy Assessment Committee, 2000 - 2005

Department of Medicinal Chemistry and Molecular Pharmacology (MCMP):

- MCMP Heads Advisory committee, 2005-2007
- MCMP Graduate Advisory committee, 2003-2007
- Director of Graduate Studies, 2004-2007
- MCMP Teaching Assistant Assignments and Scheduling, 2002-2007
- MCMP Systems Biology Faculty Search Committee, 2004 (Chair)
- MCMP Graduate Admissions committee, 2000 - 2004
- MCMP Task Force on Graduate Courses, Summer 2002
- MCMP Strategic Planning Task Force, 2001
- MCMP Graduate Recruiting and Marketing committee, 2000-2003
- MCMP Task Force on Graduate Courses, Summer 2002
- MCMP Curriculum Committee, 2000-2002
- MCMP Teaching Evaluation Committee, Summer 1999

Other Service, Engagement, or Community Activities:

- Coordinator for the Annual Purdue University Neuroscience Program Retreat, 2000 - 2003
- Co-advisor (with Alan Farkas, R.Ph.) to the Purdue American Pharmacists Association-Academy of Students of Pharmacy chapter, 1999 - 2004
- Faculty Mentor, MARC/AIM Summer Research Program, 2003
- Faculty Mentor, HORIZONS program, 2001
- School of Pharmacy Delegate to the Annual and Interim Meetings of the American Association of Colleges of Pharmacy, 2001
- Freshman Scholars Mentor, 1998-1999, 2000-2001
- St. Louis Philharmonic Orchestra, 1983-1988
- Trevecca Nashville Community Orchestra, 1988-1993; 1995-1998
- Emory Atlanta Orchestra, 1993-1995
- First United Methodist Church Foundation, Board member, 2003-2009 (President 2005-2007)
- Lafayette Elks Lodge #143, Board and Exalted Ruler, 2002-2006
- Faculty Sire (mentor), Purdue Musical Organization, Purdue Varsity Glee Club, 2014-present
- United Way of Greater Lafayette, Community Investment Committee, 2021-present
- President's Advisory Council, University of Health Sciences and Pharmacy in St. Louis, 2022-present

SCIENTIFIC/EXPERT CONSULTANT:

University of Illinois-Chicago, Center for Botanical Dietary Supplements Research, 2001-2003
 Michael Best & Friedrich LLP, Chicago, IL, Expert Witness 2004-2008

Stephenson Morow & Semler , Indianapolis, IN, Expert Witness, 2008
Fillenwarth Dennerline Groth & Towe, LLP , Indianapolis, IN, Expert Witness, 2008-2009
Tate Latham & Durant, Providence, RI, Expert Witness, 2012-2014
Pepper Hamilton LLP, Philadelphia, PA, Expert Witness, 2015-2017
Academic Advancement Partners, Presenter and Consultant, 2022-present

BIBLIOGRAPHY (Google Scholar *h* index=29):

Research Papers

Barker, E., and Martinez, T.T. Comparison of the effect of common decongestant agents and amphetamine on fighting behavior and weight change. Proc. Western Pharm. Soc., 31 (1988) 281-283.

Barker, E.L., Burris, K.D., and Sanders-Bush, E. Phosphoinositide hydrolysis linked 5HT₂ receptors in rabbit choroid plexus fibroblasts. Brain Res., 552 (1991) 330-332.

Barker, E.L., Regulation of 5HT_{1C} receptor density, mRNA, and function by receptor agonists and antagonists. Dissertation. Vanderbilt University, Nashville, TN. (1993).

Barker, E.L., and Sanders-Bush, E., 5HT_{1C} receptor density and mRNA levels in choroid plexus epithelial cells after treatment with mianserin and (-)-1-(4-bromo-2,5-dimethoxyphenyl)-2-aminopropane. Mol.Pharmacol., 44 (1993) 725-729.

Barker, E.L., Westphal, R.S., Schmidt, D., and Sanders-Bush, E., Constitutively active 5HT_{2C} receptors reveal novel inverse agonist activity of receptor ligands. J.Biol.Chem., 269 (1994) 11687-11690.

Demchyshyn, L.L., Pristupa, Z.B., Sugamori, K.S., **Barker, E.L.**, Blakely, R.D., Wolfgang, W.J., Forte, M.A., and Niznik, H.B. Cloning, expression, and localization of a chloride-facilitated cocaine-sensitive serotonin transporter from *Drosophila melanogaster*. Proc.Natl.Acad.Sci. U.S.A., 91 (1994) 5158-5162.

Barker, E.L., Kimmel, H.L. and Blakely, R.D. Chimeric human and rat serotonin transporters reveal domains involved in recognition of transporter ligands. Mol.Pharmacol. 46 (1994) 799-807.

Canton, H., Emeson, R.B., **Barker, E.L.**, Backstrom, J.R., Lu, J.T., Chang, M.S., and Sanders-Bush, E. Identification, molecular cloning, and distribution of a short variant of the 5-hydroxytryptamine_{2C} receptor produced by alternative splicing. Mol. Pharmacol., 50 (1996) 799-807.

Barker, E.L., and Blakely, R.D. Identification of a single amino acid, phenylalanine 586, that is responsible for high-affinity interactions of tricyclic antidepressants with the human serotonin transporter. Mol. Pharmacol. 50 (1996) 957-965.

Barker, E.L., Perlman, M.A., Adkins, E.M., Houlihan, W.J., Pristupa, Z.B., Niznik, H.D., and Blakely, R.D. High affinity recognition of serotonin transporter antagonists defined by species-

scanning mutagenesis: An aromatic residue in transmembrane domain I dictates species-selective recognition of citalopram and mazindol. J.Biol.Chem., 273 (1998) 19459-19468.

Barker, E.L., Moore, K.R., Rakhshan, F. and Blakely, R.D. Transmembrane domain I contributes to the permeation pathway for serotonin and ions in the serotonin transporter. J. Neurosci., 19 (1999) 4705-4717.

Rakhshan, F., Day, T.A., Blakely, R.D. and **Barker, E.L.** Carrier-mediated uptake of the endogenous cannabinoid anandamide in RBL-2H3 cells, J.Pharmacol.Exp.Ther. 292 (2000) 960-967.

Blair, J.B., Kurrasch-Orbaugh, D., Marona-Lewicka, D., Cumbay, M.G., Watts, V.J., **Barker, E.L.**, and Nichols, D.E., Effect of ring fluorination on the pharmacology of hallucinogenic tryptamines, J. Med. Chem., 43 (2000) 4701-4710.

Adkins, E.M., **Barker, E.L.**, and Blakely, R.D. Interactions of tryptamine derivatives with serotonin transporter species variants implicate TMD I in substrate recognition, Mol.Pharmacol., 59 (2001) 514-523.

Day, T.A., Rakhshan, F., Deutsch, D.G. and **Barker, E.L.** Role of fatty acid amide hydrolase in the transport of the endogenous cannabinoid anandamide, Mol. Pharmacol. 59 (2001) 1369-1375.

Kurrasch-Orbaugh, D.M., Watts, V.J., **Barker, E.L.**, and Nichols, D.E. Serotonin 5-HT_{2A} receptor-coupled phospholipase C and phospholipase A₂ signaling pathways have different receptor reserves. J.Pharmacol.Exp.Ther. 304 (2003) 229-237.

Rodriguez, G.J., Roman, D.L., White, K.J., Nichols, D.E., and **Barker, E.L.** Distinct recognition of substrates by the human and *Drosophila* serotonin transporters, J.Pharmacol.Exp.Ther. 306 (2003) 338-346.

Burdette, J.E., Liu, J., Chen, S., Fabricant, D.S., Piersen, C., **Barker, E.L.**, Pezzuto, J.M., Mesecar, A., van Breemen, R.B., Farnsworth, N.R., and Bolton, J.L. Black cohosh acts as a mixed competitive ligand and partial agonist of the serotonin receptor 5-HT₇, J. Agr. Food Chem. 51 (2003) 5661 - 5670.

Roman, D. L., Walline, C.C., Rodriguez, G.J., and **Barker, E.L.**, Interactions of antidepressants with the serotonin transporter: A contemporary molecular analysis, Eur. J. Pharmacol. 479 (2003) 53-63.

Saldana, S.N. and **Barker, E.L.** Temperature and 3,4-methylenedioxymethamphetamine alter serotonin transporter-mediated dopamine uptake, Neurosci. Letters 354(2004) 209-212.

Roman, D. L., Saldana, S. N., Carroll, F.I., Nichols, D.E. and **Barker, E.L.**, Distinct molecular recognition of psychostimulants by human and *Drosophila* serotonin transporters. J.Pharmacol.Exp.Ther. 308 (2004) 679-87.

Jarrahan, A., Watts, V.J. and **Barker, E.L.** D₂ Dopamine receptors modulate G α -subunit coupling of the CB₁ cannabinoid receptor. J.Pharmacol.Exp.Ther. 308 (2004) 880-886.

McFarland, M.J., Porter, A.C., Rakhshan, F.R., Rawat, D.S., Gibbs, R.A., and **Barker, E.L.** A role for caveolae/lipid rafts in the uptake and recycling of the endocannabinoid anandamide. J.Biol.Chem. 279 (2004) 41991-41997.

White, K.J., Kiser, P.D., Nichols, D.E., and **Barker, E.L.** Engineered zinc-binding sites confirm proximity and orientation of transmembrane helices I and III in the human serotonin transporter. Prot. Science. 15 (2006) 2411-2422.

Gallardo-Godoy, A., Torres-Altora, M.I., White, K.J., **Barker, E.L.**, Nichols, D.E., 1-Methylpyridinium-4-(4-phenylmethanesulfonate) iodide, MTS-MPP⁺, a novel scanning cysteine accessibility method (SCAM) reagent for monoamine transporter studies. Bioorg Med Chem. 15 (2007) 305-311.

McFarland, M.J., Bardell, T.K., Yates, M.L., Placzek, E.A., and **Barker, E.L.** RNA interference-mediated knockdown of dynamin 2 reduces endocannabinoid uptake into neuronal dCAD cells. Mol Pharm. 74 (2008) 101-108.

Walline, C.C., Nichols, D.E., Carroll, F.I., and **Barker, E.L.** Comparative molecular field analysis using selectivity fields reveals residues in the third transmembrane helix of the serotonin transporter associated with substrate and antagonist recognition. J.Pharmacol.Exp.Ther. 325 (2008) 791-800.

Torres-Altora, M.I., White, K.J., Rodríguez, G.J., Nichols, D.E., and **Barker, E.L.** Helix XI contributes to the entrance of the serotonin transporter permeation pathway. Protein Sci. 17 (2008) 1761-1770.

Placzek, E.A., Okamoto, Y., Ueda, N., and **Barker, E.L.** Mechanisms for recycling and biosynthesis of endogenous cannabinoids anandamide and 2-arachidonylglycerol. J Neurochem. 107 (2008) 987-1000.

Torres-Altora, M.I., Kuntz, C.P., Nichols, D.E., and **Barker, E.L.** Structural analysis of the extracellular entrance to the serotonin transporter permeation pathway. J Biol Chem. 285 (2010) 15369-15379. PMID: 20304925

Placzek, E.A., Cooper, B.R., Placzek, A.T., Chester, J.A., Davisson, V.J. and **Barker, E.L.** Lipidomic metabolism analysis of the endogenous cannabinoid anandamide (N-arachidonyl-ethanolamide). J. Pharm. Biomed. Anal. 53 (2010) 567-575. PMID: 20417049

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