

Curriculum Vitae

John M. Streicher, Ph.D.

Work: University of Arizona College of Medicine
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Experience

- **Assistant Professor (TT)**; University of Arizona (UA); Tucson, AZ, 2015-Present
- **Assistant Professor (TT)**; University of New England (UNE); Biddeford, ME, 2013-2015
- **Research Assistant Professor (non-TT)**; University of New England; Biddeford, ME, 2012-2013.
- **Postdoctoral Fellowship**; The Scripps Research Institute – FL in the lab of Laura M. Bohn, Ph.D. 2009-2012.

Further Academic Affiliations

- **Faculty**; UA Neuroscience Graduate Interdisciplinary Program; Tucson, AZ, 2017-Present.
- **Graduate Faculty**; University of Maine Graduate School of Biomedical Sciences and Engineering (GSBSE); Orono, ME, 2012-2015.

Commercial Affiliations

- **Equity Partner and Co-Founder**; Teleport Pharmaceuticals, LLC. 2017-Present. This pharmaceutical startup is focused on developing glycosylated peptide drugs for pain and neurodegeneration.

Education

- **Doctor of Philosophy**; Molecular, Cellular and Integrative Physiology; University of California – Los Angeles (UCLA); Los Angeles, CA, 2009.
- **Master of Science**; Physiology and Pharmacology; Oregon Health and Science University (OHSU); Portland, OR, 2002.
- **Bachelor of Science**; Biology; George Fox University; Newberg, OR, 1999.

Academic Teaching & Service

Teaching

- Facilitator for the UA College of Medicine “Clinical Reasoning Course”, 2016-Present.

- Guest lecture on GPCR signal transduction and molecular pharmacology, UA College of Medicine PHCL553 “Neuropharmacology”, 2016.
- Lecture sets (4) on different systems pharmacology, UA College of Medicine PHCL601C “Pharmacology of Cardiovascular, Pulmonary, GI & CNS Drugs”, 2015-Present.
- Teaching duties and member of the Planning Committee, UNE College of Medicine Medical School Curriculum “Osteopathic Medical Knowledge”, 2012-2015.
 - Includes ~4 weeks of instruction as well as small student group clinical case facilitation per year.
- Recurring guest lecture on opioid pharmacology, UNE College of Pharmacy PHS204 “Pharmacology”, 2012-2014.
- Recurring guest lecture on opioid drug discovery, UNE Early College Program, 2012-2014.
- Recurring guest lecture on opioid research, UNE College of Arts and Sciences NEU210 “The Brain: Examination of the Nervous System”, 2012-2013.
- Lecture sets (3) on molecular pharmacology, signal transduction, and drug discovery, UNE Summer Intern Program, 2012-2013.
- Teaching Assistant, UCLA “Foundations in Physiological Science”, 2004-2005.

Service

- Member of the American Pain Society Website Committee, 2017-present.
- Member of the UA Undergraduate Biomedical Research Program Selection Committee, 2016-present.
- Member of the UA College of Medicine Nominating Committee, 2016-present.
- Member of the UA Arizona Biological and Biomedical Sciences graduate program Admissions Committee, 2015-present.
- Coordinator of the UNE College of Osteopathic Medicine Seminar Series, 2015.
- Secretary and Treasurer of the Maine Chapter of the Society for Neuroscience, 2014-2015.
- Member of the UNE College of Medicine Strategic Planning Research and Research Track Committees, 2014-2015.
- Member of the GSBSE Curriculum Committee, 2014-2015.
- Member of the Steering Committee for the UNE College of Medicine Curriculum, 2013-2014.
- Member of a Search Committee for a faculty position in the UNE College of Pharmacy, 2013.
- Student Representative to the OHSU Departmental Curriculum Committee, 2000.
- Member of the OHSU Cell Biology Course Committee, 2000.

Awards and Honors

- Lei *et al.* (2017) (Journal of Biological Chemistry) featured in the July 21, 2017 issue of the trade journal Chemicals & Chemistry (pg. 1974-1975)
- Travel Award, International Narcotics Research Conference (INRC), July 2017.
- Travel Award, International Narcotics Research Conference (INRC), July 2016.
- Travel Award, International Narcotics Research Conference (INRC), June 2015.
- Travel Award, International Narcotics Research Conference (INRC), July 2014.

- Abstract (Moses-Fynn *et al.* 2014) selected for special publicity at the 30th Annual Meeting of the American Academy of Pain Medicine (<http://www.newswise.com/articles/chronic-pain-researchers-first-to-link-regulatory-protein-to-mu-opioid-receptor-signaling>)
- ASPET Young Scientist Travel Award, Experimental Biology Conference, April 2011.
- Streicher *et al.* (2010) (*Circulation Research*) featured on MDLinx.com, a research indexing site for physicians. <http://www.mdlinx.com/heartlinx/news-article.cfm/3096007>
- Department of Molecular Medicine (DMM) Excellence in Science Award for Best Poster Presentation, DMM Annual Retreat, March 2009.
- Best Poster Presentation Award, 4th Annual Molecular, Cellular and Integrative Physiology Retreat, March 2008.
- Graduate With Science Honors, *magna cum laude*, George Fox University, 1999.

Invited Seminars

- “The Kappa Opioid Receptor as a Therapeutic Target”, invited by the Integrated Pain Management Conference at Mercy Hospital (Portland, ME), August 2015.
- “Novel Strategies for Drug Discovery and Development”, invited by Frank Porreca at the University of Arizona, January 2013.
- “Novel Strategies for Drug Discovery and Development”, invited by the Genetics Interest Group at The Jackson Laboratory, October 2012.

Conference Presentations

- Session Co-Chair and Oral Presentation, Spring Pain Meeting, May 2017.
- Poster Presentation, American Pain Society Annual Meeting 2017, May 2017.
- Poster Presentation, International Narcotics Research Conference, July 2016.
- Poster Presentation, American Pain Society Annual Meeting 2016, May 2016.
- Hot Topics Oral Presentation and Poster Presentation, International Narcotics Research Conference, June 2015.
- Oral Presentation, 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience, November 2014.
- Poster Presentation, International Narcotics Research Conference, July 2014.
- Poster Presentation, 30th Annual Meeting of the American Academy of Pain Medicine, March 2014.
- Oral Presentation, 3rd Annual Meeting of the Maine Chapter of the Society for Neuroscience, November 2013.
- Poster Presentation, Annual Meeting of the Academic Drug Discovery Consortium, October 2013
- Poster Presentation, 3rd Annual Meeting of the Academic Screening Workshop, September 2013.
- Oral Presentation, Annual Meeting of the Quebec Pain Research Network, January 2013.
- Oral Presentation, 2nd Annual Meeting of the Maine Chapter of the Society for Neuroscience, April 2012.
- Poster Presentation, ASPET Experimental Biology, April 2011.
- Poster Presentation, 11th Annual Meeting of the Heart Failure Society of America, September 2007.

- Poster Presentation, 3rd Annual Meeting of the Basic Cardiovascular Sciences Council of the American Heart Association, July 2006.
- Poster Presentation, Annual Meeting of the Endocrine Society, 2001.

Research Support

Active

- UA Arizona Area Health Education Centers (AzaAHEC) research grant to determine molecular interactions between cannabinoid and death receptors in cannabinoid-induced glioblastoma cell death. Principal Investigator. Total budget: \$10,000. Project period: 3/15/2017 – 9/15/2017.
- UA RDI Accelerate grant, to develop improved derivatives of the glycosylated opioid peptide MMP-2200 for the treatment of chronic pain. Co-Investigator, Robin Polt PI. Total budget: \$99,745. Project period 1/1/2017 – 12/31/2017.
- UA Faculty Seed Grant to determine the anti-cancer molecular target of cannabinoid drugs. Principal Investigator. Total budget: \$10,000. Project period 8/1/2016 – 7/31/2017.
- NIH R01, DA038635, to develop novel bifunctional ligands for the treatment of chronic pain. Co-Investigator, Sam Ananthan PI. Streicher total budget: \$556,154. Project period 8/1/2015 – 6/30/2020.
- NIH R01, NS091238, to develop novel glycosylated PACAP agonists for the treatment of Parkinson's disease. Co-Investigator, Robin Polt PI. Streicher total budget: \$457,190. Project period 9/30/2015 – 6/30/2020.
- UA Contract work with industry partners. \$114,812 total. 2015-Present.
- UA Startup Funds for research support. \$750,000. 2015-2019.

Pending

- NIH R21, DA045787, to determine the molecular and behavioral mechanisms by which phosphatidylethanolamine-binding protein regulates opioid receptor signaling and anti-nociception. Principal Investigator. Reviewed October 2017.
- NIH R21, DA044509, to develop novel peptide bivalent selective antagonists for the mu-delta opioid receptor heterodimer. Principal Investigator. Reviewed October 2017.

Mentored Student Fellowships

- UNE Peter Morgane Research Fellowship sponsoring a medical student to work on a research project during the summer. Mentor. \$4,000. Summer 2015.
- UNE SURE Fellowship sponsoring an undergraduate student to work on a research project during the summer. Mentor. \$4,040. Summer 2015.
- UNE Peter Morgane Research Fellowship sponsoring a medical student to work on a research project during the summer. Mentor. \$4,000. Summer 2014.
- UNE Peter Morgane Research Fellowship sponsoring a medical student to work on a research project during the summer. Mentor. \$4,000. Summer 2013.

Completed

- NIH R43 (SBIR), DA042634, to develop long-acting peripherally-restricted kappa opioid agonists for the treatment of chronic pain. Co-Investigator, Peptide Logic (Pierre Riviere) PI. Streicher total budget: \$22,532. Project period 8/1/2016 – 1/31/2017.
- UA Arizona Area Health Education Centers (AzaAHEC) research grant to determine the molecular mechanism of functionally selective signaling by endomorphin peptides at the

mu opioid receptor. Principal Investigator. Total budget: \$10,000. Project period 2/22/2016 – 8/21/2016.

- UNE Mini-Grant (competitive) to investigate the molecular mechanism of functional selectivity of the endomorphin peptides at the mu opioid receptor. Principal Investigator. \$10,000. 2015-2016 (declined).
- UNE Mini-Grant (competitive) to investigate the mechanism of a novel signaling regulator of the Mu Opioid Receptor. Principal Investigator. \$8,000. 2014-2015.
- Maine Technology Institute Seed Grant to discover and develop novel TRPM8 agonists for the treatment of dry eye syndrome. Principal Investigator. \$25,000. 2014-2015.
- COBRE Pilot Project Grant (competitive) to investigate the activated signaling complex of the Mu Opioid Receptor. Principal Investigator. \$70,000. 2013-2015.
- Maine Cancer Foundation Pilot Grant to investigate the role of the Kappa Opioid Receptor in regulating cancer cell proliferation *in vitro* and *in vivo*. Principal Investigator. \$50,000. 2013-2014.
- UNE Mini-Grant (competitive) to establish an initial drug discovery program for pain based on the natural product kaurenoic acid. Co-PI. \$8,000. Summer 2013.
- UNE Contract and Core work from academic and industry partners. \$33,849 total. 2012-2015.
- UNE Startup Funds for research support and for the creation of the In Vitro Drug Screening Core. \$150,000. 2012-2015.

Refereed Publications

Journal Articles – *h* index of 16 (Google Scholar, 5/11/2017)

- Starnowska J, Costante R, Guillemyn K, Popiolek-Barczyk K, Chung NN, Lemieux C, Keresztes A, Van Duppen J, Mollica A, **Streicher JM**, Vanden Broeck J, Schiller PW, Tourwe D, Mika J, Ballet S, and Przewlocka B. 2017. Analgesic properties of opioid/NK1 multitarget ligands with distinct *in vitro* profiles in naïve and chronic constriction injury (CCI)-mice. ACS Chemical Neuroscience. Epub.
- Lei W, Mullen N, McCarthy S, Brann C, Richard P, Cormier J, Edwards K, Bilsky EJ, and **Streicher JM**. 2017. Heat Shock Protein 90 (Hsp90) Promotes Opioid-Induced Anti-Nociception by an ERK Mitogen Activated Protein Kinase (MAPK) Mechanism in Mouse Brain. Journal of Biological Chemistry. 292(25):10414-10428.
- Stefanucci A, Lei W, Hrubby VJ, Macedonio G, Luisi G, Carradori S, **Streicher JM**, and Mollica A. 2017. Fluorescent labeled bioconjugates of the opioid peptides Biphalin and DPDPE incorporating fluorescein-maleimide linkers. Future Medicinal Chemistry. 9(9):859-869.
- Xie JY, De Felice M, Kopruszinski CM, Eyde N, LaVigne J, Remeniuk B, Hernandez P, Yue X, Goshima N, Ossipov M, King T, **Streicher JM**, Navratilova E, Dodick D, Rosen H, Roberts E, and Porreca F. 2017. Kappa opioid receptor antagonists: a possible new class of therapeutics for migraine prevention. Cephalalgia. 37(8):780-794.
- Olson KM, Lei W, Keresztes A, LaVigne J, and **Streicher JM**. 2017. Novel Molecular Strategies and Targets for Opioid Drug Discovery for the Treatment of Chronic Pain. Yale Journal of Biology and Medicine. 90(1):97-110.
- Ramos-Colon CN, Lee YS, Remesic MV, Hall SM, LaVigne J, Davis P, Sandweiss AJ, McIntosh MI, Hanson J, Largent-Milnes TM, Vanderah TW, **Streicher JM**, Porreca F,

and Hruby VJ. 2016. Structure Activity Relationships of [des-Arg7]-Dynorphin A Analogues at the Kappa Opioid Receptor. Journal of Medicinal Chemistry. 59(22):10291-10298.

- Zhang Y, Williams DA, Zaidi SA, Yuan Y, Braithwaite A, Bilsky EJ, Dewey WL, Akbarali HI, **Streicher JM**, Selley DE. 2016. 17-Cyclopropylmethyl-3,14 β -dihydroxy-4,5 α -epoxy-6 β -(4'-pyridylcarboxamido)morphinan (NAP) modulating the mu opioid receptor in a biased fashion. ACS Chemical Neuroscience. 7(3):297-304.
- Stevenson GW, Luginbuhl A, Dunbar C, LaVigne J, Dutra J, Atherton P, Bell B, Cone K, Giuvelis D, Polt R, **Streicher JM**, Bilsky EJ. 2015. The mixed-action delta/mu opioid agonist MMP-2200 does not produce conditioned place preference, but does maintain drug self-administration in rats, and induces in vitro markers of tolerance and dependence. Pharmacology, Biochemistry and Behavior. 132:49-55.
- Frankowski KJ, Slauson SR, Lovell KM, Phillips AM, **Streicher JM**, Zhou L, Whipple D, Schoenen FJ, Prisinzano TE, Bohn LM, Aube J. 2015. Potency enhancement of the κ -opioid receptor antagonist probe ML140 through sulfonamide constraint utilizing a tetrahydroisoquinoline motif. Bioorganic and Medicinal Chemistry. 23(14):3948-56.
- Zhang Y, Braithwaite A, Yuan Y, **Streicher JM**, Bilsky EJ. 2014. Behavioral and Cellular Pharmacology Characterization of 17-cyclopropylmethyl-3,14 β -dihydroxy-4,5 α -epoxy-6 α -(isoquinoline-3'-carboxamido)morphinan (NAQ) as a Mu Opioid Receptor Selective Ligand. European Journal of Pharmacology. 736:124-30.
- Schmid CL, **Streicher JM**, Meltzer HY, Bohn LM. 2014. Clozapine acts as an agonist at serotonin 2A receptors to counter MK-801-induced behaviors through a β arrestin2-independent activation of Akt. Neuropsychopharmacology. 39(8):1902-13..
- Zhou L, Lovell KM, Frankowski KJ, Slauson SR, Phillips AM, **Streicher JM**, Stahl E, Schmid CL, Hodder P, Madoux F, Cameron MD, Prisinzano TE, Aube J, Bohn LM. 2013. Development of functionally selective, small molecule agonists at kappa opioid receptors. Journal of Biological Chemistry. 288(51):36703-16.
- Schmid CL, **Streicher JM (Co-First Author)**, Groer CE, Munro TA, Zhou L and Bohn LM. 2013. Functional Selectivity of 6'-guanidinonaltrindole (6'-GNTI) at Kappa Opioid Receptors in Striatal Neurons. Journal of Biological Chemistry. 288(31):22387-98.
- Frankowski KJ, Hedrick MP, Gosalia P, Li K, Shi S, Whipple D, Ghosh P, Prisinzano TE, Schoenen F, Su Y, Vasile S, Sergienko E, Gray W, Hariharan S, Milan L, Heynen-Genel S, Mangravita-Novoc A, Vicchiarelli M, Smith L, **Streicher JM**, Caron MG, Barak LS, Bohn LM, Chung T, Aube J. 2012. Discovery of Small Molecule Kappa Opioid Receptor Agonist and Antagonist Chemotypes through a HTS and Hit Refinement Strategy. ACS Chemical Neuroscience. 3(3):221-236.
- Beguin C, Potuzak J, Xu W, Liu-Chen L, **Streicher JM**, Groer CE, Bohn LM, Carlezon WA, Cohen BM. 2012. Differential signaling properties at the kappa opioid receptor of 12-epi-salvinorin A and its analogues. Bioorganic & Medicinal Chemistry Letters. 22(2):1023-6.
- Tarselli MA, Raehal KM, Brasher AK, **Streicher JM**, Groer CE, Bohn LM and Micalizio GC. 2011. Synthesis of conolidine and discovery of a potent non-opioid analgesic for tonic and persistent pain. Nature Chemistry. 3(6):449-53.
- Drews O, Tsukamoto O, Liem D, **Streicher J**, Wang Y, Ping P. 2010. Differential Regulation of Proteasome Function in Isoproterenol-Induced Cardiac Hypertrophy. Circulation Research. 107(9):1094-1101.

- Papanicolaou KN, **Streicher JM**, Ishikawa TO, Herschman H, Wang Y, Walsh K. 2010. Preserved heart function and maintained response to cardiac stresses in a genetic model of cardiomyocyte-targeted deficiency of cyclooxygenase-2. Journal of Molecular and Cellular Cardiology. 49(2):196-209.
- **Streicher JM**, Ren S, Herschman H, Wang Y. 2010. MAPK-Activated Protein Kinase-2 in Cardiac Hypertrophy and Cyclooxygenase-2 Regulation in Heart. Circulation Research. 106(8):1434-43.
- **Streicher JM**, Kamei K, Ishikawa TO, Herschman H, Wang Y. 2010. Compensatory hypertrophy induced by ventricular cardiomyocyte-specific COX-2 expression in mice. Journal of Molecular and Cellular Cardiology. 49(1):88-94.
- **Streicher JM** and Wang Y. 2008. The Role of COX-2 in Heart Pathology. Cardiovascular and Hematological Agents in Medicinal Chemistry. 6:69-79.
- Bethea CL, **Streicher JM**, Mirkes SJ, Sanchez RL, Reddy AP and Cameron JL. 2005. Serotonin-Related Gene Expression in Female Monkeys with Individual Sensitivity to Stress. Neuroscience. 132(1):151-66.
- Huan JY, **Streicher JM**, Bleyle LA and Koop DR. 2004. Proteasome-dependent degradation of cytochromes P450 2E1 and 2B1 expressed in tetracycline-regulated HeLa cells. Toxicology and Applied Pharmacology. 199(3):332-43.
- Bethea CL, **Streicher JM**, Coleman K, Pau FK, Moessner R, and Cameron JL. 2003. Anxious behavior and fenfluramine-induced prolactin secretion in young rhesus macaques with different alleles of the serotonin reuptake transporter polymorphism (5HTTLPR). Behavior Genetics. 34(3):295-307.
- Bethea CL, Lu NZ, Reddy A, Shlaes T, **Streicher JM** and Whittemore SR. 2003. Characterization of reproductive steroid receptors and response to estrogen in a rat serotonergic cell line. Journal of Neuroscience Methods. 127:31-41.
- Bethea CL, Lu NZ, Gundlach C, **Streicher JM**. 2002. Diverse actions of ovarian steroids in the serotonin neural system. Frontiers in Neuroendocrinology. 23:41-100.

NIH Probe Reports

- Hedrick MP, Gosalia P, Li K, Frankowski KJ, Shi S, Prisinzano TE, Schoenen F, Aubé J, Su Y, Stonich D, Vasile S, Sergienko E, Gray W, Hariharan S, Milan L, Heynen-Genel S, Vicchiarelli M, Mangravita-Novo A, **Streicher JM**, Smith LH, Chung TDY, Caron M, Bohn LM, Barak LS. 2011. Antagonist for the Kappa Opioid Receptor. NIH Molecular Libraries Program.

Abstracts

- Lei W, LaVigne J, Duron D, Edwards K, and **Streicher JM**. 2017. Hsp90 and PEBP Promote Opioid Anti-Nociception Through the Regulation of Mu Receptor Signal Transduction Cascades. International Narcotics Research Conference 2017. Abstract 107.
- Olson KM, Hruby VJ, and **Streicher JM**. 2017. Development of a Selective Antagonist for the Mu-Delta Heterodimer. International Narcotics Research Conference 2017. Abstract 82.
- Lei W, Mullen N, Brann C, Cormier J, Bilsky EJ, and **Streicher JM**. 2017. Inhibition of Heat Shock Protein 90 Reduces Opioid-Induced Anti-Nociception by Blocking ERK Mitogen Activated Protein Kinase Signaling in Mouse Brain. ASPET Experimental Biology 2017. Abstract 7506.

- **Streicher JM**, Lei W, Mullen N, Brann C, Cormier J, and Bilsky EJ. 2017. Heat shock protein 90 promotes opioid-induced anti-nociception by an ERK Mitogen Activated Protein Kinase mechanism in mouse brain. American Pain Society Annual Meeting 2017. Abstract 205.
- Olson K, Hruby VJ, and **Streicher JM**. 2016. Development of selective peptide antagonists to the mu-delta opioid receptor heterodimer. Society for Neuroscience Annual Meeting 2016. Abstract 15559.
- Lei W, Mullen N, McCarthy S, Brann C, Richard P, Cormier J, Lindros K, Edwards K, Bilsky E, and **Streicher JM**. 2016. Heat Shock Protein 90 Regulates Mu Opioid Receptor Signaling In Vitro and in Different Regions of Mouse Brain. International Narcotics Research Conference 2016. Abstract T1.51.
- Edwards KA, Bogusz J, LaVigne J, Pangilinan K, and **Streicher JM**. 2016. Phosphatidylethanolamine-Binding Protein Regulates Mu Opioid Receptor Induced β arrestin2 Recruitment and Downstream Signaling. American Pain Society Annual Meeting 2016. Abstract #285.
- Lei W, Mullen N, McCarthy S, Brann C, Richard P, Cormier J, Lindros K, Edwards K, Bilsky E, and **Streicher JM**. 2016. Heat Shock Protein 90 Regulates μ -Opioid Receptor Signaling In Vitro and in Different Regions of Mouse Brain. ASPET Experimental Biology 2016. Abstract #7240.
- McCarthy S, Mullen N, Brann C, Cormier J, Edwards KA, Bilsky E, and **Streicher JM**. 2015. Heat Shock Protein 90 Regulates Mu Opioid Receptor Signaling In Vitro and in Mouse Periaqueductal Grey. International Narcotics Research Conference 2015. #84.
- Olson K, LaVigne J, **Streicher J**, Porreca F, and Hruby VJ. 2015. Endogenous Opioid Peptides and Functional Selectivity at the κ -Opioid Receptor. International Narcotics Research Conference 2015. #42.
- Edwards KA, LaVigne J, Pangilinan K, and **Streicher JM**. 2015. Phosphatidylethanolamine-Binding Protein Regulates Mu Opioid Receptor Induced β arrestin2 Recruitment and Downstream Signaling. 27th NEURON Conference at Quinnipiac University. #B-33.
- Jarvis J, McCarthy S, Edwards KA, and **Streicher JM**. 2015. The Role of Stress-Induced Phosphoprotein 1 (STIP1) in Regulating Mu Opioid Receptor (MOR) Signaling. 27th NEURON Conference at Quinnipiac University. #B-31.
- McCarthy S, Mullen N, Brann C, Edwards K, and **Streicher JM**. 2015. The Role of Hsp90 in Signaling Regulation of the Mu Opioid Receptor (MOR). 27th NEURON Conference at Quinnipiac University. #B-30.
- LaVigne J, Chiem D, Olson K, Porreca F, and **Streicher JM**. 2015. Biased Signaling of Endogenous Opioid Peptides at the Mu Opioid Receptor. 27th NEURON Conference at Quinnipiac University. #B-32.
- Edwards KA, LaVigne J, Pangilinan K, and **Streicher JM**. 2015. Phosphatidylethanolamine-Binding Protein Regulates Mu Opioid Receptor Induced β arrestin2 Recruitment and Downstream Signaling. ASPET Experimental Biology 2015. Abstract #4702.
- Chiem D, LaVigne J, Edwards K, and **Streicher JM**. 2014. Identification of Novel Regulators of the Mu Opioid Receptor (MOR) by shRNA Library Screening. 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.

- Edwards K, LaVigne J, Pangilinan K, and **Streicher JM**. 2014. The Role of Phosphatidylethanolamine-Binding Protein in Regulating Mu Opioid Receptor Signaling. 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- Jarvis J, McCarthy S, Edwards K, and **Streicher JM**. 2014. The Role of Stress-Induced Phosphoprotein 1 in Regulating Mu Opioid Receptor Signaling. 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- LaVigne J, Chiem D, Olson K, Porreca F, and **Streicher JM**. 2014. Functionally Selective Signaling of the Endogenous Opioid Peptides at the Mu Opioid Receptor. 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- McCarthy S, Mullen N, Brann C, Edwards K, and **Streicher JM**. 2014. The Role of Hsp90 in Signaling Regulation of the Mu Opioid Receptor (MOR). 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- **Streicher JM**, Edwards K, LaVigne J, McCarthy S, Pangilinan K, Brann C, Mullen N, Jarvis J, and Chiem D. 2014. Novel Mu Opioid Receptor Regulators as New Targets for Pain Drug Discovery. 4th Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- LaVigne J, Olson K, Porreca F, and **Streicher JM**. 2014. The Dynorphins are Functionally Selective Ligands at the Mu Opioid Receptor. Society for Neuroscience Annual Meeting 2014. Abstract #15717.
- Cone K, Giuvelis D, LaVigne J, Luginbuhl A, Dunbar C, Atherton P, **Streicher J**, Polt R, Bilsky EJ, and Stevenson GW. 2014. Characterization of the rewarding and reinforcing effects of the mixed-action delta/mu opioid agonist MMP-2200 in rats. Society for Neuroscience Annual Meeting 2014. Abstract #14168.
- LaVigne J, Edwards K, Pangilinan K, Hong K, Mullen N, and **Streicher JM**. 2014. Identification of Novel Signaling Regulators of the Mu Opioid Receptor. International Narcotics Research Conference 2014.
- LaVigne J, Edwards KA, Bilsky E, Porreca F, Ananthan S, Roberts E, Hruby V, and **Streicher JM**. 2014. The development of bifunctional ligands as novel therapeutics for chronic pain. ASPET Experimental Biology 2014. Abstract #6110.
- Edwards KA, LaVigne J, Moses-Fynn E, Mullen N, and **Streicher JM**. 2014. Identification of novel signaling regulators of the mu opioid receptor. ASPET Experimental Biology 2014. Abstract #5873.
- Mullen N, LaVigne J, and **Streicher JM**. 2014. Proteomic Identification of the Activated Signaling Complex of the Kappa Opioid Receptor. 25th NEURON Conference at Quinnipiac University. #2-32.
- Hong K, Edwards K, and **Streicher JM**. 2014. Investigation of the Role of Annexin A4 in Regulating Mu Opioid Receptor Mediated Signaling. 25th NEURON Conference at Quinnipiac University. #1-20.
- Edwards KA, Pangilinan K, Havelin J, King T, and **Streicher JM**. 2014. The Effect of Kappa Opioid Receptor Agonists in Regulating Cancer Cell Proliferation. 25th NEURON Conference at Quinnipiac University. #1-14.
- Pangilinan K, Edwards K, and **Streicher JM**. 2014. The Role of Phosphatidylethanolamine-Binding Protein in Regulating Mu Opioid Receptor Signaling. 25th NEURON Conference at Quinnipiac University. #1-34.

- LaVigne J, Olson K, Porreca F, and **Streicher JM**. 2014. Functional Selectivity of the Endogenous Opioids and Cannabinoids. 25th NEURON Conference at Quinnipiac University. #1-26.
- Moses-Fynn E, LaVigne J, and **Streicher JM**. 2014. Unbiased Screens for Novel Signaling Regulators of the Mu Opioid Receptor. Annual Meeting of the American Academy of Pain Medicine. Abstract #223.
- LaVigne J, Edwards K, Moses-Fynn E, Mullen N, and **Streicher JM**. 2013. Identification of Novel Signaling Regulators of the Mu Opioid Receptor. 3rd Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- Mizuno C, Houseknecht K, Bilsky E, and **Streicher JM**. 2013. Drug Discovery at the University of New England: Identifying New Drugs for the Treatment of Chronic Pain. Annual Meeting of the Academic Drug Discovery Consortium. Abstract #160.
- Mizuno C, Houseknecht K, Bilsky E, and **Streicher JM**. 2013. Drug Discovery at the University of New England: Identifying New Drugs for the Treatment of Chronic Pain. Annual Meeting of the Academic Screening Workshop.
- Braithwaite A, Giuvelis D, **Streicher JM**, Yuan Y, Zhang Y and Bilsky E. 2013. In Vitro and In Vivo Characterization of the Novel Opioid Antagonists NAP and NAQ. ASPET Experimental Biology 2013. Abstract #2466.
- **Streicher JM**, Schmid CL, Groer CE, Aube J and Bohn LM. 2012. Drug Discovery and Functional Selectivity at the Kappa Opioid Receptor. 2nd Annual Meeting of the Maine Chapter of the Society for Neuroscience.
- **Streicher JM**, Groer CE, Munro T, Béguin C, Cohen BM and Bohn LM. 2011. 6'-Guanidinonaltrindole (6'-GNTI) is a potent and functionally unique kappa opioid agonist that displays bias against beta-arrestin recruitment and receptor internalization. ASPET Experimental Biology 2011. Abstract #8208.
- Drews O, Tsukamoto O, Liem D, **Streicher J**, Wang Y and Ping P. 2010. Uncoupling of Proteasome Function and Enhanced PKA Sensitivity in Pathological Cardiac Hypertrophy. 2010 Annual Meeting of the Council of Basic Cardiovascular Sciences of the American Heart Association. Abstract #P41.
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