CURRICULUM VITAE

Lei Yu

ADDRESSES Rutgers University

Department of Genetics, and

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EDUCATION

4/1987 Ph.D. **Biology**

California Institute of Technology

Pasadena, California

6/1981 M.S. Molecular Genetics

Institute of Genetics, National Academy of Sciences

Beijing, China

8/1979 B.S. Industrial Fermentation

Jiangnan University

Wuxi, China

ACADEMIC APPOINTMENTS

2005 - present **Distinguished Professor**

Department of Genetics, and

Center of Alcohol & Substance Use Studies

Rutgers University

Piscataway, New Jersey

1997 - 2005 **Professor**

Department of Cell Biology, Neurobiology and Anatomy

University of Cincinnati College of Medicine

Cincinnati. Ohio

1997 - 2005 **Professor** (Adjunct) Department of Psychiatry University of Cincinnati College of Medicine Cincinnati, Ohio 1995 - 1997 **Professor** Department of Medical and Molecular Genetics Indiana University School of Medicine Indianapolis, Indiana 1993 - 1995 **Associate Professor** Department of Medical and Molecular Genetics Indiana University School of Medicine Indianapolis, Indiana 1988 - 1993 **Assistant Professor** Department of Medical and Molecular Genetics Indiana University School of Medicine Indianapolis, Indiana 1987 - 1988 **Del Webb Postdoctoral Research Fellow** Division of Biology California Institute of Technology Pasadena, California

PROFESSIONAL EXPERIENCE

<u>National</u>

2006	Program Project Grant Review Committee National Institute on Drug Abuse National Institutes of Health
2006	Special Grant Review Committee for Epigenetic Studies National Institute on Drug Abuse National Institutes of Health
2005	General Clinical Research Center Site Visit Subcommittee National Center for Research Resources National Institutes of Health
2004	Biomedical Research Review Subcommittee National Institute on Alcohol Abuse and Alcoholism National Institutes of Health
2004 Section	Biophysics of Synapses, Channels, and Transporters Study
	Center for Scientific Review National Institutes of Health
2002 - 2003	Special Molecular Imaging Study Section Center for Scientific Review National Institutes of Health
2002	CEBRA grant program reviewer National Institute on Drug Abuse National Institutes of Health
1996 - 1999	National Advisory Council on Drug Abuse National Institutes of Health
1996 - 1999	Board of Scientific Counselors Representative of NIDA Council Intramural Research Program National Institute on Drug Abuse National Institutes of Health
1996 - 1997	Blue Ribbon Panel for Review of Intramural Research at NIDA National Institutes of Health
1994 - 1995	Extramural Science Advisory Board National Institute on Drug Abuse

National Institutes of Health

1994 Molecular, Cellular & Chemical Neurobiology Study Section

Center for Scientific Review National Institutes of Health

<u>University</u>

2022 - 2025 Busch Advisory Committee

Rutgers University

2022 - 2024 Appointments and Promotions Committee

School of Arts & Sciences

Rutgers University

2018 - 2024 Core Requirements Committee

School of Arts & Sciences

Rutgers University

2011 - 2024 New Brunswick Faculty Council

Rutgers University

2011 - 2024 Curriculum, Teaching, and Honors Committee

New Brunswick Faculty Council

Rutgers University

2022 Chair

Denise Hien Promotion to Distinguished Professor Committee

Department of Clinical Psychology

Graduate School of Applied & Professional Psychology

Rutgers University

2022 Tara Matise Promotion to Distinguished Professor Committee

Department of Genetics School of Arts & Sciences

Rutgers University

2022 Editor-in-Chief Search Committee

Journal of Studies on Alcohol and Drugs Center of Alcohol & Substance Use Studies

Rutgers University

2022	Matthew Lee Reappointment Committee Department of Applied Psychology Graduate School of Applied & Professional Psychology Rutgers University
2022	Jinchuan Xing Promotion Reading Committee Department of Genetics Rutgers University
2021	Gary Heiman Promotion Reading Committee Department of Genetics Rutgers University
2020 - 2021	Division of Life Sciences Priority Setting Committee School of Arts & Sciences Rutgers University
2020	Michael Sheldon NTT Evaluation Committee Department of Genetics Rutgers University
2020	Amrik Sahota NTT Evaluation Committee Department of Genetics Rutgers University
2019	Andrew Brooks NTT Reappointment Committee Department of Genetics Rutgers University
2018 – 2019	Maureen Barr Promotion to Distinguished Professor Committee School of Arts & Sciences Rutgers University
2018 – 2019	Marsha Bates Promotion to Distinguished Professor Committee Department of Kinesiology and Health Rutgers University
2018	Amrik Sahota Reappointment Committee Department of Genetics Rutgers University
2017 - 2018	Michael Sheldon Mentoring & Evaluation Committee Department of Genetics

	Rutgers University
2016 - 2017	Faculty Search Committee Department of Genetics Rutgers University
2016	Departmental Review Committee Center of Alcohol Studies Rutgers University
2016	Amrik Sahota Reappointment Committee Department of Genetics Rutgers University
2016	Bryce Nickels Promotion Reading Committee Department of Genetics Rutgers University
2015	Chair, Marsha Bates Promotion to Distinguished Professor Committee Rutgers University
2014	Linda Brzustowicz Promotion to Distinguished Professor Committee Rutgers University
2011 - 2018	Undergraduate Study and Advising Committee Department of Genetics Rutgers University
2011 - 2016	Faculty Advisory Board Office of Technology Commercialization Rutgers University
2011 - 2012	Bryce Nickels Mentoring Committee Department of Genetics Rutgers University
2010 - 2019	Academic Affairs Committee Center of Alcohol Studies Rutgers University
2010	Helene White Promotion to Distinguished Professor Committee Rutgers University

2010	Derek Gordon Tenure Committee Department of Genetics Rutgers University
2010	Eun Young Mun Promotion and Tenure Committee Center of Alcohol Studies Rutgers University
2009 - 2012	Teaching Effectiveness Committee Department of Genetics Rutgers University
2009 - 2016	Chair, Biomedical Research Advisory Committee Busch Biomedical Grant Program Rutgers University
2009 - 2017	Committee for Appointments and Promotions to Distinguished Professor SAS Rutgers University
2009 - 2016	Faculty Compensation Peer Evaluation Committee (FCP) Center of Alcohol Studies Rutgers University
2009	Elizabeth Epstein Promotion Committee Center of Alcohol Studies Rutgers University
2008 - 2009	Derek Gordon Mentoring Committee Department of Genetics Rutgers University
2007 - 2014	Molecular Biosciences Graduate Recruitment Committee Rutgers University and UMDNJ
2007 - 2012	Institutional Animal Care and Use Committee (IACUC) Rutgers University
2007 - 2011	Curriculum and Assessment Committee Department of Genetics Rutgers University

2007 Chair Terry McGuire Promotion Reading Committee Department of Genetics **Rutgers University** 2006 - 2008 Advisory Committee for Appointments and Promotions to Professor II School of Arts and Sciences **Rutgers University** 2006 **Fundraising Committee** Department of Genetics Rutgers University 2005 - 2007 Faculty Search Committee **Department of Genetics Rutgers University** 2002 - 2005 Chair Finance Committee Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine 2002 - 2005 **Institutional Biosafety Committee** University of Cincinnati 2001 - 2005 Chair Faculty-Staff Relations Committee Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine 2001 - 2003 Chair **Space Allocation Committee** Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine 2001 - 2002 Student Stipend Committee Neuroscience Graduate Program University of Cincinnati Centers of Excellence Task Force on Neurobehavior Science 2000 - 2001 University of Cincinnati

2000 - 2001	Search Committee for X-ray crystolography faculty member Department of Pharmacology and Cell Biophysics University of Cincinnati College of Medicine
1999 - 2004	Graduate Recruiting Activity Planning Committee Neuroscience Graduate Program University of Cincinnati
1998 - 2005	Executive Committee Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine
1998 - 2005	Reappointment, Promotion and Tenure Committee Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine
1998 - 2002	Scottish Rite Fellowship Committee University of Cincinnati College of Medicine
1998 - 1999	University Research Council University of Cincinnati
1998	Subcommittee on Cell III course evaluation for neuroscience curriculum Neuroscience Graduate Program University of Cincinnati
1997 - 1998	Neuroscience Faculty Search Committee Department of Cell Biology, Neurobiology and Anatomy University of Cincinnati College of Medicine
1996 - 1997	Biomedical Research Committee Indiana University School of Medicine
1995 - 1997	Committee for Student Research Program in Academic Medicine Indiana University School of Medicine
1995 - 1996	Search Committee for the Chairperson of the Department of Medical and Molecular Genetics Indiana University School of Medicine
1995 - 1996	Faculty Search Committee Department of Physiology and Biophysics

	Indiana University School of Medicine
1994 - 1995	Review Committee for the Department of Medical and Molecula Genetics Indiana University School of Medicine
1994 - 1995	Chair Evaluation Committee for Student Seminars Department of Medical and Molecular Genetics Indiana University School of Medicine
1994 - 1995	Seminar Coordinator Medical and Molecular Genetics Seminar Series Department of Medical and Molecular Genetics Indiana University School of Medicine
1994 - 1997	Chair Graduate Admissions Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1993 - 1996	Steering Committee Department of Physiology and Biophysics Indiana University School of Medicine
1994 - 1995	Selkurt Lectureship Committee Department of Physiology and Biophysics Indiana University School of Medicine
1993 - 1994	Faculty Search Committee Department of Physiology and Biophysics Indiana University School of Medicine
1993 - 1994	Graduate Qualifying Examinations Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1992 - 1993	Seminar Coordinator Molecular and Cellular Biophysics Seminar Series Department of Physiology and Biophysics Indiana University School of Medicine

1992 - 1993	Faculty Council Department of Physiology and Biophysics Indiana University School of Medicine
1992	Faculty Search Committee Department of Physiology and Biophysics Indiana University School of Medicine
1992	Faculty Search Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1991 - 1993	University Faculty Council Indiana University - Purdue University Indianapolis
1991 - 1993	Faculty Search Committee Institute of Psychiatric Research Indiana University School of Medicine
1991	Faculty Search Committee Department of Biochemistry and Molecular Biology Indiana University School of Medicine
1990 - 1997	Chair Student-Faculty Relations Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1990	Judging Panel Sigma Xi Graduate Student Research Competition Indiana University School of Medicine
1989 - 1991	Graduate Qualifying Examinations Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1989 - 1994	Graduate Admissions Committee Department of Medical and Molecular Genetics Indiana University School of Medicine
1989	Student Benefits Committee

Department of Medical and Molecular Genetics Indiana University School of Medicine

REVIEWER OF SCIENTIFIC WORK FOR JOURNALS

Acta Pharmaceutica Sinica

Acta Physiologica Sinica

Addiction Biology

Alcoholism: Clinical and Experimental Research

American Journal of Human Genetics

Biomedicine & Pharmacotherapy

BioTechniques

Brain Research

Brain Research Bulletin

Experimental Neurology

European Journal of Pain

European Psychiatry

FEBS Letters

Frontiers in Psychiatry

Gene

Genomics

Human Heredity

Human Molecular Genetics

iScience

Journal of Neurochemistry

Journal of Neuroimmunology

Journal of Neurophysiology

Journal of Neuroscience

Journal of Pharmacology and Experimental Therapeutics

Journal of Pharmacy and Pharmacology

Journal of Receptor and Signal Transduction Research

Journal of Receptor Research

Life Sciences

Molecular Pain

Molecular Pharmacology

Molecular Brain Research

Mutation Research

Neuropharmacology

Neuropsychopharmacology

Neuroscience Bulletin

Neuroscience Letters

Pain

Pharmacogenetics

PLOS One

Proceedings of the National Academy of Sciences

Psychopharmacology

REVIEWER OF GRANT APPLICATIONS FOR FUNDING AGENCIES

Alzheimer's Association (USA)

American Heart Association (USA)

Cancer Research Council (United Kingdom)

French National Research Agency (ANR)

Foundation for Polish Science (Poland)

Medical Research Council (United Kingdom)

Ministry of University and of Scientific and Technological Research (Italy)

National Institutes of Health (USA)

National Medical Research Council (Singapore)

National Science Foundation (USA)

National Science Foundation of China (China)

Veteran Administration (USA)

US Army Medical Research and Materiel Command (USA)

GRANTS

NIH 1R43NS120617-01A1, Yu (subcontract PI), 09/20/2021 – 08/31/2023, \$231,000 Chemokine-receptor profiling for painful diabetic neuropathy in biological samples from human clinical trials

The major goals of this project are to measure CCR2 receptor expression profiles in biological samples from the human clinical trial, to stratify subject population based on CCR2 A-B ratio, and to correlate the profiles with drug treatment outcome.

Busch Biomedical Grant, Rutgers University, Yu (PI), 09/01/2019 – 02/28/2023, \$40,000 Targeting SIP30 for Neuropathic Pain Relief with U1 Adaptor Gene Silencing Technology

The major goals of this project are to use SIP30-specific U1 Adaptor, and test for its in vivo stability and efficacy in rodent models of neuropathic pain.

Hongguan Biological Pharmaceutical Co., Yu (PI), 8/26/2015 – 8/25/2020, \$150,000 Measuring SIP30 Oligonucleotide In Vivo Distribution Following Intrathecal Administration in Rodents

The major goals of this project are to perform intrathecal administration of SIP30 oligonucleotide in rodents and to measure in vivo distribution.

NIH 1R43NS108887-01, Yu (subcontract PI), 09/01/2018 – 02/28/2019, \$74,250 Chemokine-receptor expression profiling in biological samples from human clinical trials The major goals of this project are to develop methods for evaluating CCR2 receptor isoform 2A vs. 2B mRNA ratio in human serum, and to correlate measured CCR2 receptor isoform profile of patients with their drug treatment response in neuropathic pain.

PUBLICATIONS

Journal Articles

- Eishingdrelo H, Qin X, Yuan L, Kongsamut S, <u>Yu L</u> (2022) Ligands can differentially and temporally modulate GPCR interaction with 14-3-3 isoforms. *Current Research in Pharmacology and Drug Discovery* 3:100123. doi: 10.1016/j.crphar.2022.100123
- Nyman J, Guo N, Sandström A, Hallberg M, Nyberg F, Yu L (2021) The amino-terminal heptapeptide of the algesic substance P provides analgesic effect in relieving chronic neuropathic pain. *European Journal of Pharmacology* 892:173820.
- Sachdeo BLY, <u>Yu L</u>, Giunta GM, Bello NT (2019) Binge-like eating is not influenced by the murine model of OPRM1 A118G polymorphism. *Frontiers in Psychology* 10:246. doi: 10.3389/fpsyg.2019.00246
- Zeng L, Tao Y, Hou W, Zong L, <u>Yu L</u> (2018) Electro-acupuncture improves psychiatric symptoms, anxiety and depression in methamphetamine addicts during abstinence: A randomized controlled trial. *Medicine* 97(34):e11905.
- Lax NC, Chen R, Leep SR, Uhrich KE, <u>Yu L</u>, Kolber BJ (2017) PolyMorphine provides extended analgesic-like effects in mice with spared nerve injury. *Molecular Pain* 13:1-12.
- Zou H, Liu M, Luan Y, Xie Q, Cheng Z, Zhao G, Jin M, Guo N, Jin GJ, <u>Yu L</u> (2017) Pattern of novel object exploration in cynomolgus monkey *Macaca fascicularis*. *Journal of Medical Primatology 46*:19-24.

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Tomie A, Samuel AG, Merchant A, <u>Yu L</u> (2016) The effects of proximal and distal social stimulation on ethanol intake in male and female CD-1 mice. *Journal of Drug and Alcohol Research 5*, doi:10.4303/jdar/235949.

- Tomie A, Samuel AG, Sprung DM, Malul Y, <u>Yu L</u> (2015) Effects of number of cagemates on home-cage ethanol drinking during proximal cagemate drinking (PCD) procedures in male and female CD-1 mice. *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 57:1-10.
- Zou H, Luan Y, Liu M, Agre LA, Buyske S, Xie Q, Cheng Z, Zhao G, Jin M, Guo N, Jin GJ, Yu L (2015) Differential behavior patterns in cynomolgus monkey *Macaca fascicularis* in home cage in response to human gaze. *Journal of Medical Primatology* 44:1-11.
- Guo N, Gu X, Xie Y, Zhao J, Xie Q, Zhao G, Jin M, Zhao Z, Zou H, Zhang Y, Jin GJ, Yu L (2014) Sciatic nerve neuropathy in cynomolgus monkey *Macaca fascicularis*: Altered leg usage and peripheral nerve firing. *Journal of Neurology and Neurophysiology* 5(6):247.
- Wang K, Song H, Jin M, Xiao H, Zhao G, Zou H, <u>Yu L</u> (2014) Chronic alcohol consumption from adolescence-to-adulthood in mice Hypothalamic gene expression changes in insulin signaling pathway. *Alcohol* 48:571-578.
- Zou H, Wang K, Gao Y, Song H, Xie Q, Jin M, Zhao G, Xiao H, <u>Yu L</u> (2014) Chronic alcohol consumption from adolescence-to-adulthood in mice Hypothalamic gene expression changes in the dilated cardiomyopathy signaling pathway. *BMC Neuroscience* 15:61.
- Tomie A, Defuria AA, Jones HA, Edwards SD, <u>Yu L</u> (2014) Effects of cagemate gender and the cagemate's access to ethanol on ethanol and water intake of the proximal male or the proximal female CD-1 mouse. *Alcohol 48*:73-82.
- Londono D, Chen KM, Musolf A, Wang R, Shen T, Brandon J, Herring JA, Wise CA, Zou H, Jin M, <u>Yu L</u>, Finch SJ, Matise TC, Gordon D (2013) A novel method for analyzing genetic association with longitudinal phenotypes. *Statistical Applications in Genetics and Molecular Biology* 12:241-261.
- Tomie A, Azogu I, <u>Yu L</u> (2013) Effects of naltrexone on post-abstinence alcohol drinking in C57BL/6NCRL and DBA/2J mice. *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 44:240-247.

Guo N, Gu X, Zhao J, Zhao G, Jin M, Zou H, Zhang Y, Zhao Z, Jin GJ, <u>Yu L</u> (2012) Maxillary nerve compression in cynomolgus monkey *Macaca fascicularis*: Altered somatic sensation and peripheral nerve firing. *BMC Neuroscience 13*:150.

- Rosario-Meléndez R, Harris CL, Delgado-Rivera R, <u>Yu L</u>, Uhrich KE (2012) PolyMorphine: An innovative biodegradable polymer drug for extended pain relief. *Journal of Controlled Release 162*:538-544.
- Tomie A, Lincks M, Nadarajah SD, Pohorecky LA, <u>Yu L</u> (2012) Pairings of lever and food induce Pavlovian conditioned approach of sign-tracking and goal-tracking in C57BL/6 mice. *Behavioural Brain Research* 226:571-578.
- Smelson DA, <u>Yu L</u>, Buyske S, Gonzalez G, Tischfield JA, Deutsch CK, Ziedonis D (2012) Genetic association of GABA-A receptor alpha-2 and mu opioid receptor with cocaine cue-reactivity: Evidence for inhibitory synaptic neurotransmission involvement in cocaine dependence. *The American Journal on Addictions* 21:411-415.
- Pitchers KK, Balfour ME, Lehman MN, Richtand NM, <u>Yu L</u>, Coolen LM (2010) Neuroplasticity in the mesolimbic system induced by natural reward and subsequent reward abstinence. *Biological Psychiatry* 67:872-879.
- Zhang M, Ji B, Zou H, Shi J, Zhang Z, Li X, Zhu H, Feng G, Jin M, <u>Yu L</u>, He L, Wan C (2010) Vitamin A depletion alters sensitivity of motor behavior to MK-801 in C57BL/6J mice. *Behavioral and Brain Functions* 6:7-16.
- Peng G, Han M, Du Y, Lin A, <u>Yu L</u>, Zhang Y, Jing N (2009) SIP30 is regulated by ERK in peripheral nerve injury-induced neuropathic pain. *Journal of Biological Chemistry* 284:30138-30147.
- Zhang YQ, Guo N, Peng G, Han M, Raincrow J, Chiu C, Coolen LM, Wenthold RJ, Zhao ZQ, Jing N, <u>Yu L</u> (2009) Role of SIP30 in the development and maintenance of peripheral nerve injury-induced neuropathic pain. *Pain 146*:130-140.
- Zou H, Xie Q, Zhang M, Zhang C, Zhao G, Jin M, <u>Yu L</u> (2009) Chronic alcohol consumption from adolescence to adulthood in mice effect on growth and social behavior. *Drug and Alcohol Dependence 104*:119-125.
- Zou H, Zhang C, Xie Q, Zhang M, Shi J, Jin M, Yu L (2008) Low dose MK-801 reduces social investigation in mice. *Pharmacology Biochemistry and Behavior* 90:753-757.

Qi C, Zou H, Zhang R, Zhao G, Jin M, <u>Yu L</u> (2008) Age-related differential sensitivity to MK-801-induced locomotion and stereotypy in C57BL/6 mice. *European Journal of Pharmacology* 580:161-168.

- Yuan Y, Gao X, Guo N, Zhang H, Xie Z, Jin M, Li B, Yu L, Jing N (2007) rSac3, a novel Sac domain phosphoinositide phosphatase, promotes neurite outgrowth in nerve growth factor stimulated PC12 cells. *Cell Research 17*:919-932.
- Yates JW, Meij TAJ, Sullivan JR, Richtand NM, <u>Yu L</u> (2007) Bimodal effect of amphetamine on motor behaviors in C57BL/6 mice. *Neuroscience Letters* 427: 66-70.
- Qi C, Zou H, Zhang CH, Xie Q, Jin M, <u>Yu L</u> (2006) Effect of GNTI, a kappa opioid receptor antagonist, on MK-801-induced hyperlocomotion and stereotypy in mice. *Acta Pharmacologica Sinica* 27:1401-1408.
- Hou QL, Gao X, Lu Q, Zhang XH, Tu YY, Jin ML, Zhao G, <u>Yu L</u>, Jing NH, Li BM (2006) SNAP-25 in hippocampal CA3 region is required for long-term memory formation. *Biochemical and Biophysical Research Communications* 347:955-962.
- Tang Y, Zou H, Strong JA, Cui Y, Xie Q, Zhao G, Jin M, Yu L (2006) Paradoxical effects of very low dose MK-801. *European Journal of Pharmacology* 537:77-84.
- Ulrich-Lai YM, Xie W, Meij JTA, Dolgas CM, <u>Yu L</u>, Herman JP (2006) Limbic and HPA axis function in an animal model of chronic neuropathic pain. *Physiology and Behavior 88*:67-76.
- Strong JA, Dalvi A, Revilla FJ, Sahay A, Samaha FJ, Welge JA, Gong J, Gartner M, Yue X, Yu L (2006) Genotype and smoking history affect risk of levodopa-induced dyskinesias in Parkinson's disease. *Movement Disorders* 21:654-659.
- Balfour ME, Brown JL, <u>Yu L</u>, Coolen LM (2006) Potential contributions of efferents from medial prefrontal cortex to neural activation following sexual behavior in the male rat. *Neuroscience* 137:1259-1276.
- Wang XM, Gao X, Zhang XH, Tu YY, Jin ML, Zhao G, Yu L, Jing NH, Li BM (2006) The negative cell cycle regulator, Tob (transducer of ErbB-2), is involved in motor skill learning. *Biochemical and Biophysical Research Communications* 340:1023-1027.
- Wang X, Zhang Y, Kong L, Xie Z, Lin Z, Guo N, Strong JA, Meij JTA, Zhao Z, Jing N, Yu L (2005) RSEP1 is a novel gene with functional involvement in neuropathic pain behavior. *European Journal of Neuroscience* 22:1090-1096.

Zhang XH, Zhang H, Tu YY, Gao X, Zhou C, Jin M, Zhao G, Jing NH, Li BM, <u>Yu L</u> (2005) Identification of a novel protein for memory regulation in the hippocampus. *Biochemical and Biophysical Research Communications* 334:418-424.

- Xie W, Strong JA, Meij JTA, Zhang JM, <u>Yu L</u> (2005) Neuropathic pain: Early spontaneous afferent activity is the trigger. *Pain 116*:243-256.
- Jin M, Wang X, Tu YY, Zhang X, Gao X, Guo N, Xie Z, Zhao G, Jing NH, Li BM, <u>Yu L</u> (2005) The negative cell cycle regulator, Tob (Transducer of ErbB-2), is a multifunctional protein involved in hippocampus-dependent learning and memory. *Neuroscience* 131:647-659.
- Wu J, Zou H, Strong JA, Yu J, Zhou X, Xie Q, Zhao G, Jin M, <u>Yu L</u> (2005) Bimodal effects of MK-801 on locomotion and stereotypy in C57BL/6 mice. *Psychopharmacology* 177:256-263.
- Wang XD, Kong LW, Xie ZQ, Zhang YQ, Lin ZX, Zhao ZQ, <u>Yu L</u>, Jing NH (2004) Identification and characterization of a rat novel gene RSEP4 expressed specifically in central nervous system. *Acta Biochimica et Biophysica Sinica* 36:501-507.
- Moalem G, Xu K, <u>Yu L</u> (2004) T lymphocytes play a role in neuropathic pain following peripheral nerve injury in rats. *Neuroscience* 129:767-777.
- You H, Qi X, <u>Yu L</u> (2004) Direct AFM observation of saposin C-induced membrane domains in lipid bilayers: from simple to complex lipid mixtures. *Chemistry and Physics of Lipids* 132:15-22.
- Hou Q, Gao X, Zhang X, Kong L, Wang X, Bian W, Tu YY, Jin M, Zhao G, Li BM, Jing NH, Yu L (2004) SNAP-25 in hippocampal CA1 region is involved in memory consolidation. *European Journal of Neuroscience* 20:1593-1603.
- Meij JTA, Haselton CL, Hillman KL, Muralikrishnan D, Ebadi M, <u>Yu L</u> (2004) Differential mechanisms of nitric oxide- and peroxynitrite-induced cell death. *Molecular Pharmacology* 66:1043-1053.
- Coolen LM, Fitzgerald ME, <u>Yu L</u>, Lehman MN (2004) Activation of mu opioid receptors in the medial preoptic area following copulation in male rats. *Neuroscience 124*: 11-21.
- Balfour ME, <u>Yu L</u>, Coolen LM (2004) Sexual behavior and sex-associated environmental cues activate the mesolimbic system in male rats. *Neuropsychopharmacology* 29: 718-730.

Zheng W, Xie W, Zhang J, Strong JA, Wang L, <u>Yu L</u>, Xu M, Lu L (2003) Function of gamma-aminobutyric acid receptor/channel rho 1 subunits in spinal cord. *Journal of Biological Chemistry 278*: 48321-48329.

- Hurley JH, Zhang S, Bye LS, Marshall MS, DePaoli-Roach AA, Guan K, Fox AP, <u>Yu L</u> (2003) Insulin Signaling Inhibits the 5-HT2C Receptor in Choroid Plexus via MAP kinase. *BMC Neuroscience* 4:10-14.
- You H, Qi X, Grabowski GA, <u>Yu L</u> (2003) Phospholipid membrane interactions of saposin C: *in situ* atomic force microscopic study. *Biophysical Journal* 84: 2043-2057.
- Lau JM, You HX, <u>Yu L</u> (2002) Lattice-like array particles on *Xenopus* oocyte plasma membrane. *Scanning* 24:224-231.
- You H, Yu L, Qi X (2001) Phospholipid membrane restructuring induced by saposin C: a topographic study using atomic force microscopy. *FEBS Letters* 503:97-102.
- Jin M, Mo Y, Liu L, Guo N, Xie Q, Lin Z, Wang X, Li BM, Zhao G, Jing NH, <u>Yu L</u> (2001) An exploration of animal behavior screen platform for novel gene function in central nervous system. *Acta Physiologica Sinica* 53:247-251.
- You H, Lau JM, Zhang S, <u>Yu L</u> (2000) Atomic force microscopy imaging of living cells: a preliminary study of the disruptive effect of the cantilever tip on cell morphology. *Ultramicroscopy* 82:297-305.
- Ai W, Gong J, <u>Yu L</u> (1999) MAP kinase activation by mu opioid receptor involves phosphatidylinositol 3-kinase but not the cAMP/PKA pathway. *FEBS Letters* 456:196-200.
- Hurley JH, Bloem LJ, Pavalko F, Liu J, Tian M, Simon JR, <u>Yu L</u> (1999) Structure-function studies of the eighth hydrophobic domain of a serotonin receptor. *Journal of Neurochemistry* 72:413-421.
- You H, Yu L (1998) Nano-deposition of protein molecules using tapping-mode atomic force microscopy: Facts or artifacts. *Probe Microscopy* 1:233-237.
- Gong J, Strong JA, Zhang S, Yue X, DeHaven RN, Daubert JD, Cassel JA, Yu G, Mansson E, <u>Yu L</u> (1998) Endomorphins fully activate a cloned human mu opioid receptor. *FEBS Letters* 439:152-156.

Bond C, LaForge KS, Tian M, Melia D, Zhang S, Borg L, Gong J, Schluger J, Strong JA, Leal SM, Tischfield JA, Kreek MJ, <u>Yu L</u> (1998) Single-nucleotide polymorphism in the human mu opioid receptor gene alters β-endorphin binding and activity: Possible implications for opiate addiction. *Proceedings of the National Academy of Sciences USA 95*:9608-9613.

- Zhang S, Tong Y, Tian M, DeHaven RN, CortesBurgos L, Mansson E, Simonin F, Kieffer B, Yu L (1998) Dynorphin A as a potential endogenous ligand for four members of the opioid receptor gene family. *Journal of Pharmacology and Experimental Therapeutics* 286:136-141.
- You H, <u>Yu L</u> (1997) Investigation of the image contrast of tapping-mode atomic force microscopy using protein-modified cantilever tips. *Biophysical Journal* 73:3299-3308.
- Massotte D, Baroche L, Simonin F, Yu L, Kieffer B, Pattus F (1997) Characterization of δ , κ , and μ human opioid receptors overexpressed in baculovirus-infected insect cells. *Journal of Biological Chemistry* 272:19987-19992.
- You H, Yu L (1997) Atomic force microscopy as a tool for study of human hair. *Scanning* 19:431-437.
- Gong J, Li X, Lai Z, Froehlich JC, <u>Yu L</u> (1997) Quantitative comparison of mu opioid receptor mRNA in selected CNS regions of alcohol naïve rats selectively bred for high and low alcohol drinking. *Neuroscience Letters* 227:9-12.
- Tian M, Broxmeyer HE, Fan Y, Lai Z, Zhang S, Aronica S, Cooper S, Bigsby RM, Steinmetz R, Engle SJ, Mestek A, Pollock JD, Lehman MN, Jansen HT, Ying M, Stambrook PJ, Tischfield JA, Yu L (1997) Altered hematopoiesis, behavior, and sexual function in mu opioid receptor-deficient mice. *Journal of Experimental Medicine 185*:1517-1522.
- Tong Y, Wei J, Zhang S, Strong JA, Dlouhy SR, Hodes ME, Ghetti B, <u>Yu L</u> (1996) The weaver mutation changes the ion selectivity of the affected inwardly rectifying potassium channel GIRK2. *FEBS Letters* 390:63-68.
- Tong Y, Zull JE, <u>Yu L</u> (1996) Functional expression and signaling properties of cloned human PTH receptor in *Xenopus* oocytes: Evidence for a novel signaling pathway. *Journal of Biological Chemistry 271*:8183-8191.
- Zhu J, Yin J, Law PY, Claude PA, Rice KC, Evans CJ, Chen C, <u>Yu L</u>, Liu-Chen LY (1996) Irreversible binding of cis-(+)-3-methylfentanyl isothiocyanate to the delta

- opioid receptor and determination of its binding domain. *Journal of Biological Chemistry 271*:1430-1434.
- Chen Y, Liu J, <u>Yu L</u> (1996) Functional coupling of a μ opioid receptor to G proteins and adenylyl cyclase: modulation by chronic morphine treatment. *Addiction Biology* 1:49-59.
- Lane CM, Jones CRN, Reisine T, <u>Yu L</u>, Lee NM (1995) Alteration of OBCAM conformation as a result of opioid receptor expression and opioid ligand treatment. *Brain Research* 698:15-22.
- Zhang S, <u>Yu L</u> (1995) Identification of dynorphins as endogenous ligands for an opioid receptor-like orphan receptor. *Journal of Biological Chemistry* 270:22772-22776.
- Chakrabarti S, Prather PL, $\underline{Yu\ L}$, Law PY, Loh HH (1995) Expression of the μ -opioid receptor in CHO cells: ability of μ -opioid ligands to promote α -azidoanilido[32 P]GTP labeling of multiple G protein α subunits. *Journal of Neurochemistry* 64:2534-2543.
- Liang Y, Mestek A, <u>Yu L</u>, Carr LG (1995) Cloning and characterization of the promoter region of the mouse μ opioid receptor gene. *Brain Research* 679:82-88.
- Chen C, Xue JC, Zhu J, Chen YW, Kunapuli S, <u>Yu L</u>, Liu-Chen LY (1995) Characterization of irreversible binding of β -funaltrexamine to the cloned rat μ opioid receptor. *Journal of Biological Chemistry 270*:17866-17870.
- Raynor K, Kong H, Mestek A, Bye LS, Tian M, Liu J, <u>Yu L</u>, Reisine T (1995) Characterization of the cloned human mu opioid receptor. *Journal of Pharmacology and Experimental Therapeutics* 272:423-428.
- Xue JC, Chen C, Zhu J, Kunapuli S, DeRiel JK, <u>Yu L</u>, Liu-Chen LY (1995) The third extracellular loop of the μ opioid receptor is important for agonist selectivity. *Journal of Biological Chemistry 270*:12977-12979.
- Chuang TK, Killam KF Jr, Chuang LF, Kung HF, Sheng WS, Chao CC, <u>Yu L</u>, Chuang RY (1995) Mu opioid receptor gene expression in immune cells. *Biochemical and Biophysical Research Communications* 216:922-930.
- Chuang LF, Chuang TK, Killam KF Jr, Qiu Q, Wang XR, Lin JJ, Kung HF, Sheng W, Chao C, Yu L, Chuang RY (1995) Expression of kappa opioid receptors in human and monkey lymphocytes. *Biochemical and Biophysical Research Communications* 209:1003-1010.

Mestek A, Hurley JH, Bye LS, Campbell A, Chen Y, Tian M, Schulman H, <u>Yu L</u> (1995) The human mu opioid receptor: Modulation of functional desensitization by calcium/calmodulin-dependent protein kinase and protein kinase C. *Journal of Neuroscience* 15:2396-2406.

- Xue JC, Chen C, Zhu J, Kunapuli S, DeRiel JK, <u>Yu L</u>, Liu-Chen LY (1994) Differential binding domains of peptide and non-peptide ligands in the cloned rat kappa opioid receptor. *Journal of Biological Chemistry* 269:30195-30199.
- Chen Y, Baez M, <u>Yu L</u> (1994) Functional coupling of the 5-HT_{2C} serotonin receptor to G proteins in *Xenopus* oocytes. *Neuroscience Letters* 179:100-102.
- Chuang LF, Chuang TK, Killam KF Jr, Chuang AJ, Kung HF, <u>Yu L</u>, Chuang RY (1994)
 Delta opioid receptor gene expression in lymphocytes. *Biochemical and Biophysical Research Communications* 202:1291-1299.
- Delfs JM, Yu L, Ellison GD, Reisine T, Chesselet MF (1994) Regulation of μ opioid receptor mRNA in rat globus pallidus: effects of enkephalin increases induced by short- and long-term haloperidol administration. *Journal of Neurochemistry* 63:777-780.
- Chen Y, Fan Y, Liu J, Mestek A, Tian M, Kozak CA, <u>Yu L</u> (1994) Molecular cloning, tissue distribution and chromosomal localization of a novel member of the opioid receptor gene family. *FEBS Letters* 347:279-283.
- Kozak CA, Filie J, Adamson MC, Chen Y, <u>Yu L</u> (1994) Murine chromosomal location of the mu and kappa opioid receptor genes. *Genomics* 21:659-661.
- Delfs JM, Kong H, Mestek A, Chen Y, <u>Yu L</u>, Reisine T, Chesselet MF (1994) Expression of μ opioid receptor mRNA in rat brain: an *in situ* hybridization study at the single cell level. *Journal of Comparative Neurology 345*:46-68.
- Chen Y, <u>Yu L</u> (1994) Differential regulation by cAMP-dependent protein kinase and protein kinase C of the μ opioid receptor coupling to a G protein-activated K⁺ channel. *Journal of Biological Chemistry* 269:7839-7842.
- Raynor K, Kong H, Yasuda K, Chen Y, Yu L, Bell GI, Reisine T (1994) Pharmacological characterization of the cloned kappa, delta and mu opioid receptors. *Molecular Pharmacology* 45:330-334.
- Chen Y, Pollock JD, Wang Y, DePaoli-Roach AA, <u>Yu L</u> (1993) Protein kinase A modulates an endogenous calcium channel, but not the calcium-activated chloride channel, in *Xenopus* oocytes. *FEBS Letters* 336:191-196.

Wilkie TM, Chen Y, Gilbert DJ, Moore KJ, <u>Yu L</u>, Simon MI, Copeland NG, Jenkins NA (1993) Identification, chromosomal location and genome organization of mammalian G protein-coupled receptors. *Genomics* 18:175-184.

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- Chen Y, Mestek A, Liu J, <u>Yu L</u> (1993) Molecular cloning of a kappa opioid receptor reveals sequence similarity among opioid receptors. *Biochemical Journal* 295:625-628.
- Lal R, <u>Yu L</u> (1993) Atomic force microscopy imaging of nicotinic acetylcholine receptor expressed in *Xenopus* oocytes. *Proceedings of the National Academy of Sciences USA* 90:7280-7284.
- Chen Y, Mestek A, Liu J, Hurley JA, <u>Yu L</u> (1993) Molecular cloning and functional expression of a μ-opioid receptor from rat brain. *Molecular Pharmacology 44*:8-12.
- Bloem LJ, Chen Y, Liu J, Bye LS, <u>Yu L</u> (1993) Analysis of the promoter sequence and the transcription initiation site of the mouse 5-HT_{1C} serotonin receptor gene. *Molecular Brain Research 17*:194-200.
- Liu J, Chen Y, Kozak CA, <u>Yu L</u> (1991) The 5-HT₂ serotonin receptor gene *Htr-2* is tightly linked to *Es-10* on mouse Chromosome 14. *Genomics* 11:231-234.
- Yu L, Nguyen H, Le H, Bloem LJ, Kozak CA, Hoffman BJ, Snutch TP, Lester HA, Davidson N, Lübbert H (1991) The mouse 5-HT_{1C} receptor contains eight hydrophobic domains and is X-linked. *Molecular Brain Research 11*:143-149.
- Walter AE, Hoger JH, Labarca C, <u>Yu L</u>, Davidson N, Lester HA (1991) Low molecular weight mRNA encodes a protein that controls serotonin 5-HT_{1C} and acetylcholine M₁ receptor sensitivity in *Xenopus* oocytes. *Journal of General Physiology* 98:399-417.
- <u>Yu L</u>, Williams CJ (1991) Estimation of sample size and assurance probability in library screening. *Biotechniques* 10:776-777.
- Yu L, Leonard RJ, Davidson N, Lester HA (1991) Single-channel properties of mouse-Torpedo acetylcholine receptor hybrids expressed in *Xenopus* oocytes. *Molecular* Brain Research 10:203-211.
- Hoger JH, Walter AE, Vance D, <u>Yu L</u>, Lester HA, Davidson N (1991) Modulation of a cloned mouse brain potassium channel. *Neuron 6*:227-236.

Baez M, <u>Yu L</u>, Cohen ML (1990) Pharmacological and molecular evidence that the contractile response to serotonin in rat stomach fundus is not mediated by activation of the 5HT_{1C} receptor. *Molecular Pharmacology* 38:31-37.

- Bloem LJ, <u>Yu L</u> (1990) A time-saving method for screening cDNA or genomic libraries. *Nucleic Acids Research 18*:2830.
- Yu L, Blumer KJ, Davidson N, Lester HA, Thorner J (1989) Functional expression of the yeast α-factor receptor in *Xenopus* oocytes. *Journal of Biological Chemistry* 264:20847-20850.
- Yoshii K, <u>Yu L</u>, Mayne KM, Davidson N, Lester HA (1987) Equilibrium properties of mouse-*Torpedo* acetylcholine receptor hybrids expressed in *Xenopus* oocytes. *Journal of General Physiology* 90:553-573.
- Mayne KM, Yoshii K, <u>Yu L</u>, Lester HA, Davidson N (1987) Expression of mouse-*Torpedo* acetylcholine receptor subunit chimeras and hybrids in *Xenopus* oocytes. *Molecular Brain Research* 2:191-197.
- Yu L, LaPolla RJ, Davidson N (1986) Mouse muscle nicotinic acetylcholine receptor γ subunit: cDNA sequence and gene expression. *Nucleic Acids Research 14*:3539-3555.

Reviews and Book Chapters

- <u>Yu L</u> (2014) Opioids, *Reference Module in Biomedical Sciences. Elsevier.* 18-Oct-2014 doi: 10.1016/B978-0-12-801238-3.00248-8
- <u>Yu L</u> (2004) Pharmacogenetics The *OPRM* (mu-opioid receptor) gene. In *The Genetics of Pain*, J.S. Mogil eds. IASP Press, pp. 239-254.
- Mogil JS, <u>Yu L</u>, Basbaum AI (2000) Pain genes?: Natural variation and transgenic mutants. *Annual Review of Neuroscience* 23:777-811.
- You H, Yu L (1999) Atomic force microscopy imaging of living cells: Progress, problems and prospects. *Methods in Cell Science* 21:1-17.
- <u>Yu L</u> (1997) Opioids. In *Encyclopedia of Human Biology, 2nd Ed.*, R. Dulbecco, ed. Academic Press, pp. 445-450.
- Yu L (1996) Protein kinase modulation of mu opioid receptor signaling. *Cellular Signalling 8*:371-374.

Yu L (1996) The mu opioid receptor: from molecular cloning to functional studies. Addiction Biology 1:19-30.

- Yu L, Bloem LJ (1996) Use of polymerase chain reaction to screen phage libraries. In *Methods in Molecular Biology, Vol. 58: Basic DNA and RNA Protocols*, A.J. Harwood, ed. Humana Press, Totowa, New Jersey, pp. 335-339.
- Mestek A, Chen Y, Yu L (1996) Mu opioid receptors: Cellular action and tolerance development. *National Institute on Drug Abuse Research Monograph Series, Vol. 161: Molecular Approaches to Drug Abuse Research Vol. III*, T.N.H. Lee, ed. National Institute on Drug Abuse, Rockville, Maryland, pp. 104-126.
- Yu L, Bloem LJ (1993) Use of polymerase chain reaction to screen phage libraries. In *Methods in Molecular Biology, Vol. 15: PCR Protocols: Current Methods and Applications*, B.A. White, ed. Humana Press, Totowa, New Jersey, pp. 211-215.
- Baez M, Yu L, Cohen ML (1991) Is contraction to serotonin mediated via 5-HT_{1C} receptor activation in rat stomach fundus? In *Serotonin: Molecular Biology, Receptors and Functional Effects*, J.R. Fozard and P.R. Saxena, ed. Birkhauser Verlag, Basel, Switzerland, pp. 144-152.
- Yu L (1990) Neurotransmitter receptors: Molecular cloning and functional characterization. In *Molecular Biology, the Aging Process and Neurodegenerative Disease*, H.C. Hendrie, L.G. Mendelsohn, and C. Readhead, ed. Hogrefe and Huber Publishers, Toronto, pp. 51-61.

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PATENTS

- <u>Yu L</u>, Guo N, Zhang YQ, Zhao ZQ, Jing NH "Compositions and methods for treatment of neuropathic pain." US Patent 9,068,984 (issued June 30, 2015).
- <u>Yu L</u> "Methods for screening for substances that bind opioid receptors." US Patent 7097988 (issued August 29, 2006).
- Kreek MJ, LaForge KS, <u>Yu L</u>, Tischfield JA "Alleles of the human mu opioid receptor diagnostic methods using said alleles and methods of treatment based thereon." US Patent 6337207 (issued January 8, 2002).
- Kreek MJ, LaForge KS, <u>Yu L</u>, Tischfield JA "Alleles of the human mu opioid receptor and diagnostic methods based thereon." US Patent 6335168 (issued January 1, 2002).
- Yu L "Nucleic acid encoding mammalian mu opioid receptor." US Patent 6235496 (issued May 22, 2001).
- Yu L "Polynucleotide encoding mu opioid receptor." US Patent 6103492 (issued August 15, 2000).
- Yu L "Methods of using dynorphins as ligands for XOR1 receptor." US Patent 5866346 (issued February 2, 1999).