CURRICULUM VITAE

Roger Lee Papke

DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS
UNIVERSITY OF FLORIDA SCHOOL OF MEDICINE
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Gainesville, Florida 32606
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rlpapke@ufl.edu

BIOGRAPHICAL DATA:

Born:	October 12, 1953, Kenmore, New York
Married:	December 24, 1980 to Clare Stokes
Citizenship:	U. S. A.

EDUCATION:

Starpoint Central School
Pendleton, N. Y.
Primary and Secondary
N.Y.S. Regents Diploma 1971

New York University
Washington Square College of Arts and Sciences
1971 - 1975
Majors in Biology and Classical Civilization
Bachelor of Arts awarded May 1975

New York University
Graduate school of Arts and Sciences
1975 - 1976
Thesis advisor: Dr. Fleur L. Strand
Thesis title: *An Alpha Adrenergic Response of Cardiac Muscle at an Alkaline pH*
Master of Science awarded May 1976

Cornell University
Graduate School of Arts and Science
1976-1979: Section of Physiology
Graduate Research Assistant in Reproductive Physiology
Advisor: Dr. William Hansel
Research topic: The endocrine control of delayed implantation in mink

Cornell University
Graduate School of Arts and Science
1979-1986: Section of Neurobiology and Behavior
Thesis Advisor: Dr. Robert Oswald
Primary research topic: Pharmacology of nicotinic acetylcholine receptors
Thesis Title: *The Gating of Single Channel Currents Through the Nicotinic Acetylcholine Receptors of BC_3H-1 Cells: Effects of Agonists and Allosteric Ligands*
Ph.D. conferred January 1987

ACADEMIC APPOINTMENTS:

1987	Postdoctoral Research Associate: Department of Pharmacology, Cornell University
1987	Lecturer: Department of Neurobiology and Behavior, Cornell University
1988-1993	Postdoctoral Research Fellow: Molecular Neurobiology Laboratory, Salk Institute
1993-1998	Assistant Professor: Department of Pharmacology and Therapeutics, University of Florida
1994-1998	Affiliate Assistant Professor: Department of Neuroscience University of Florida
1998-2006	Associate Professor: Department of Pharmacology and Therapeutics, University of Florida
1998-2006	Affiliate Associate Professor: Department of Neuroscience University of Florida
2006 - 2024	Professor: Department of Pharmacology and Therapeutics, University of Florida
2006 -2024	Affiliate Professor: Department of Neuroscience University of Florida
2024-	Professor: Emeritus Department of Pharmacology and Therapeutics, University of Florida
2024 -	Professor Emeritus: Department of Neuroscience University of Florida

HONORS AND AWARDS:

1971-1975	University Scholar, New York University
1971-1975	N.Y.S. Regents Scholarship
1975-1976	Graduate Fellowship, New York University
1976-1979	Graduate Research Assistantship, Cornell University
1979-1983 1985-1986	N.I.H. Cellular and Molecular Biology Traineeship, Cornell University

1983	Weigand Fellowship, Cornell University
1985	Rosenblatt Fellowship, Cornell University
1986	Travel Fellowship, NATO
1986	Biotechnology Research Fellowship, Cornell University
1988, 1989	J. Aaron Fellowship, Salk Institute
1989-1992	NIMH Post-doctoral Fellowship
1994	International Human Frontier Science Program Short-term Fellowship
2002	University of Florida, College of Medicine Top Ten Basic Science Faculty
2003	University of Florida, College of Medicine Exemplary Teacher award
2004	Co-recipient of R&D 100 award
2006	University of Florida, College of Medicine Exemplary Teacher award
2011	University of Florida, College of Medicine Exemplary Teacher award
2014	University of Florida, College of Medicine Exemplary Teacher award
2016	University of Florida, College of Medicine Exemplary Teacher award

ADMINISTRATIVE SERVICES

1994	Graduate Student Advocacy Committee
1995	Markey Fellow Faculty Search Committee
1995-96	University of Florida IDP Graduate Program Steering Committees
1997-98	College of Medicine Curriculum Committee Task Force For Vertical Integration of Neuroscience Teaching
1998	Dental College Neuroscience Faculty Search Committee
2000	Neuroscience Comprehensive Pain Program Director Search
2003-2004	Pharmacology Graduate Program Curriculum Committee
2005	Pharmacology Department Faculty Search Committee

Chair

2009-2013 College of Medicine Professorial Tenure and Promotion Committee

2012-13 Pharmacology Department Faculty Search Committee

2014-15 Pharmacology Department Faculty Search Committee

2016 - 21 Pharmacology Department Tenure and Promotion Committee, Chairman

GRANTS AND RESEARCH SUPPORT FUNDING:

1994-1996 Principle Investigator: American Heart Association Grant in Aid
The Molecular Substrates of The Nicotinic Regulation of Cardiovascular Function
Total direct support for investigator: $80,000

1994-2002 Consultant/Investigator: Taiho Pharmaceuticals
Studies of Nicotinic $\alpha 7$ Selective Agonists
Total direct support for investigator: $160,000

1995 Principle Investigator: University of Florida Research Development Award
Structural Elements of Nicotinic ACh Receptor Regulating Divalent Ion Permeability
Total direct support for investigator: $25,000

1995-1998 Principle Investigator: N.I.H. RO-1 Research Award:
Structural Elements of Nicotinic Acetylcholine Receptors
Total direct support for investigator: $500,000

1995-1996 Co-Investigator: N.I.A.D.A RO-1 Research Award
Chronic Ethanol Effects on Hippocampal LTP
Total direct support for investigator: $12,000

1996-1997 Principle Investigator: R. J. Reynolds Gift Awards
Molecular Mechanism of Nicotinic Drugs in Mammalian Brain
Total direct support for investigator: $40,000

1996-1999 N.I.H Program Project: Discovery of Novel Drugs for Alzheimer's Disease
Co-Investigator on Project 2:
Nicotinic Agonists and Alzheimer's Disease
Total direct support for investigator: $120,000

1999-2001 Principle Investigator: Layton Bioscience research award
Mechanistic studies of the inhibition of human neuronal nicotinic receptor subtypes by stereoisomers of mecamylamine
Total direct support for investigator: $50,000

1999-2009 N.I.H Program Project: Discovery of Novel Drugs for Alzheimer's Disease
Co-Investigator on Project 2: Renewal
Nicotinic Agonists and Alzheimer's Disease
Annual direct support for investigator: $75,000

2000-2004 Principle Investigator: N.I.H. RO-1 Research Award:
Targeting α7 nAChR for therapeutic effects
Total direct support for investigator: $600,000

2001-2004 Principle Investigator: McKnight Foundation Research Award:
The role of the septo-hippocampal cholinergic system in age-related memory dysfunction
Total direct support for investigator: $200,000

2002-2005 Principle Investigator: Targacept Research Award
Characterization of putative subtype-selective nicotinic receptor agonists
Total direct support for investigator: $60,000/yr

2002-2004 Principle Investigator: Memory Pharmaceuticals Research Award:
Characterization of putative α7-selective nicotinic receptor agonists
Total direct support for investigator: $60,000

2003- 2008 Co-investigator, NIDA MH-03-008
Characterization of putative subtype-selective nicotinic receptor agonists and antagonists
Annual direct support for investigator: $80,000

2005-2006 Principle Investigator: Servier Research Award
The activity profile of an alpha7-selective drug.
Total direct support for investigator: $68,884

2005-2006 Principle Investigator: McKnight Foundation Research Award:
Modulation of neurotransmitter receptor function in memory circuits of the brain
Total direct support for investigator: $75,000

2005-2009 Principle Investigator: N.I.H. RO-1 Research Award:
Targeting α7 nAChR for therapeutic effects (renewal)
Total direct support for investigator: $1,200,000

2006-2006 Principle Investigator: Servier Research Award
Electrophysiological effects of S 24795 on nicotinic Acetylcholine receptors, in hippocampal brain slices and Xenopus ococytes
Total direct support for investigator: $68,588

2007-2008 Principle Investigator: Critical Therapeutics Research Award
The activity profile of alpha7-selective drugs
Total direct support for investigator: $10,000

2007-2008 Principle Investigator: Servier Research Award
Evaluation of S 38232 with *in vitro* and *ex vivo* preparations: nicotinic receptor interactions and modulation by A-beta
Total direct support for investigator: $61,500

2008-2009 Principle Investigator: Targacept Research Award
Activity of nicotinic receptor agonists on high sensitivity and low sensitivity nAChR
Total direct support for investigator: $60,000/yr

2008-2014 Principle Investigator: Lundbeck Research Award
Evaluation of the efficacy and specificity of putative nAChR positive allosteric modulators
Total direct support for investigator: $14,830/yr

2009-2011 Principle Investigator: SK Holdings Research Award
Stable desensitization and signal transduction by α7 agonists
Total direct support for investigator: $28,000/yr

2010 Principle Investigator: N.I.H. RO-1 supplement:
Targeting α7 nAChR for therapeutic effects
Total direct support for investigator: $50,000

2010-2015 Principle Investigator: James and Esther King Biomedical Research Program Grant
Therapies to improve smoking cessation in neuropsychiatric and depressed patients.
Total direct support for investigator: $100,000/yr

2010-2015 Principle Investigator: N.I.H. RO-1 Research Award:
Targeting α7 nAChR for therapeutic effects (second renewal)
Total direct support for investigator: $1,200,000

2012-2013 Principle Investigator: SK Holdings Research Award
SK-A4R Binding interaction studies
Total direct support for investigator: $110,000

2012-2014 Principle Investigator: Servier Research Award
Effects of nicotinic ligands on nicotinic alpha7 receptors in Xenopus oocytes
Total direct support for investigator: $6,000

2012-2013 Principle Investigator: Servier Research Award
Evaluation of compounds for antagonist activity with rat nicotinic alpha7 receptors in Xenopus oocytes
Total direct support for investigator: $112,600

2012-2013 Principle Investigator: Asmacure Ltee Research Award
In vitro characterization of the cholinergic receptor profile of ASM-024 and its metabolite ASM-073
Total direct support for investigator: $12,600

2013-2015 Principle Investigator: Servier Research Award
Evaluation of novel nicotinic alpha7 ligands
Total direct support for investigator: $42,600

2014-2020 Co- Investigator: United States- Israel Binational Science Foundataion
Understanding the mechanisms of action of alpha7 nicotinic acetylcholine receptor and RIC-3 in the cholinergic antiinflammatory pathway
Total direct support for investigator: $75,000

2015-2017 Co- Investigator: R21 DA038286-01A1
Effects of GTS-21 on smoking behavior and neurocognitive function
Total direct support for investigator: $4,976

2016-2019 Principle Investigator: N.I.H. R01 GM057481 Continuation
Targeting $\alpha 7$ nAChR for therapeutic effects
Total direct support for investigator: $1,150,000

2017 CTSI Limited submission Network Science Pilot awards program.
Linking Prenatal Smoking Cessation Therapies to Infant Health Outcomes
Total direct support for investigator: $1,500

2019 College of Charleston/UNITED STATES DEPARTMENT OF COMMERCE, National Institute of Standards and Technology Hollings Marine Laboratory
1% salary support for PI during studies of new cono-toxins
Total direct support for investigator: $2,026

2020-2024 Principle Investigator: N.I.H. R01 GM057481 Continuation
Targeting $\alpha 7$ nAChR for therapeutic effects
Total direct support for investigator: $1,400,000

2020 to 2023 Role: Co-Investigator (PI: McMahon)
"McMahon/Pharmacodynamics" Molecular mechanism of epibatidine derivatives
Total direct support for investigator: $12,500

TEACHING EXPERIENCE:

Formal courses

1977 Teaching Assistant: Endocrinology, Cornell University,

1978 Teaching Assistant: Mammalian Physiology, Cornell University

1980 Laboratory Instructor: Principles of Neurophysiology, Cornell University

1981 Teaching Assistant: Cellular Neurobiology, Cornell University

1983-5 Laboratory Instructor: Principles of Neurophysiology, Cornell University

1984 Teaching Assistant: Introduction to Neurobiology, Cornell University

1985 Head Teaching Assistant: Introduction to Neurobiology, Cornell University

1987 Lecturer and Course Director: Principles of Neurophysiology, Cornell University

1994- Lecturer: Dental Pharmacology, University of Florida College of Dentistry

1995 Lecturer: Pharmacotherapeutics for Physician Assistants, University of Florida, College of Health Related Professions

1995-99 Course Director and Lecturer: Pharmacotherapeutics for Physician Assistants, University of Florida, College of Health Related Professions

1994- Lecturer: Medical Pharmacology, University of Florida, College of Medicine

1994-97 Lecturer: Molecular Pharmacology, University of Florida, Graduate School

1994-97 Lecturer: Molecular Neuroscience, University of Florida, Graduate School

1994- Mentor: Junior Honors in Pharmacology, University of Florida

1994-6 Course Director: Student Research Presentations in Pharmacology and Physiology, University of Florida, Graduate School

1994-98 Lecturer: Principles of Drug Action, University of Florida, Graduate School

1995- Course Director and Lecturer: Ion Channels of Excitable Membranes University of Florida, Graduate School

1996-03	Discussion group coordinator: Interdisciplinary Graduate program in Biomedical Sciences, University of Florida
1998-	Course Director and Lecturer: Synaptic Function and Plasticity University of Florida, Graduate School
2001-03	Course Director and Lecturer: Principles of Neuroscience II: Signaling In The Nervous System University of Florida, Graduate School
2002-	Lecturer: Principles of Drug Action, University of Florida, Graduate School
2004	Lecturer: Principles of Neuroscience II: Signaling In The Nervous System University of Florida, Graduate School
2013-15	Lecturer: Neuropharmacology, University of Florida, Graduate School
2017-23	Lecturer: SURF program
2018-	Course co-Director and Lecturer: Ion Channels of Excitable Membranes University of Florida, Graduate School
2018-20	Lecturer: GMS6560 Molecules to Man
2019	Lecturer: On-line Pharmacology certificate program
2019	Lecturer: GMS 6705 Functional Human Neuroanatomy
2019	Lecturer: GMS 6022 Principle of Neuroscience II: Cellular and Molecular Neuroscience
2020	Lecturer and course director: IDH2930-26274, The Greeks and the Irrational
2021	Lecturer: GMS 6022 Principle of Neuroscience II: Cellular and Molecular Neuroscience
2021	Lecturer and course director: IDH2930-26274, Sociobiology
2022	Lecturer and course director: IDH2930-26274, The plays of Aristophanes
2023	Lecturer and course director: IDH2930-26274, The Tragedies of Ancient Athens
2020-	GMS 6520 On-line Masters program Medical Pharmacology & Therapeutics, The Nervous System: 14 Lectures

Informal courses and journal clubs

1994 Organizer and lecturer: Molecular Biology coffee hour

1993- 2020 Organizer and lecturer: Ion Channel Pharmacology Journal Club

STUDENTS AND TRAINEES

Post-Doctoral Trainees:

1994-1996 Rebecca Moulton, Ph.D.

1995-1996 Lakshmi Jakkula, Ph.D.

1995-1996 Kung Il Choi, Ph.D.

1996-1999 Anatolii Kabakov, Ph.D.

1997-1999 Tom Nutter, Ph.D.

2000-2001 Lance Molnar

1999-2004 Vladimir Uteshev

2000-2003 Charles Jason Frazier

2003-2005 Thomas McCormack

2006 Andon Placzek

2005-2010 Gretchen Lopez

2011-2015 Can Peng

2012-2013 Chengju Tian

2016-2019 Marta Quadri

2021-2024 Hina Andleeb

PRE-DOCTORAL STUDENTS:

1993-1998 Michael Francis, University of Florida, Department of Neuroscience Ph.D. Program
Awarded: University of Florida DSR Graduate Award 1994-1995
Awarded: N.I.H. National Research Service 1995-1998
Ph.D. Awarded August 1998 Thesis title: *Subunit specific determinants of the function and pharmacology of nAChR*

1994-1999 Nik Karkanias, University of Florida, Department of Neuroscience
Ph.D. Program
Awarded: University of Florida DSR Graduate Award 1994-1995
Awarded: Center for Neurobiological Sciences Graduate Award 1997-1999
Ph.D. Awarded August 1999 Thesis title: *Lithium modulates desensitization of AMPA receptors*

2000-05 Andon Placzek, University of Florida, Department of Pharmacology
Ph.D. Program
Awarded: N.I.H. National Research Service 2003-2005
Ph.D. Awarded April 2005 Thesis title: *Regulation of Alpha7 Nicotinic Acetylcholine Receptor Function and Pharmacology by Amino Acid Sequence in the Second Transmembrane Domain*

2007-11 Jingyi Wang, University of Florida, Department of Chemistry
Ph.D. Program, co-mentored with Dr. Nicole Horenstein
Awarded: Crow awards for excellence in scientific publication
Awarded: Procter & Gamble Research Award
Ph.D. Awarded December 2011 Thesis title: *Using Molecular Tools To Study The Structure And Functional States Of The Human A7 Nicotinic Acetylcholine Receptor*

2008-12 Dustin Williams, University of Florida, Department of Pharmacology
Ph.D. Program
Ph.D. Awarded May 2012 Thesis title: *Activation, Desensitization And Potentiation Of Alpha7 Nicotinic Acetylcholine Receptors: Relevance To Alpha7-Targetted Therapeutics*

2010-13 Kinga Chojnacka, University of Florida, Department of Chemistry
Ph.D. Program, co-mentored with Dr. Nicole Horenstein
Ph.D. Awarded December 2013 Thesis title: *Synthesis Of Nicotinic Receptor Ligands And Strigolactones*

2012-2016 Abhijit Kulkarni, Department of Pharmaceutical Sciences
Bouvé College of Health Sciences, Northeastern University.
External committee member
Ph.D. Awarded August 2016 Thesis title: *Novel Allosteric Modulators of α7 Nicotinic Acetylcholine Receptor and Development of Efficient Technologies Enabling Synthesis of Tetrahydroquinolines and Unsymmetrical Ureas*

2016-2017 Alican Gulsevin, Department of Chemistry, University of Florida
External committee member
Ph.D. Awarded December 2017 Thesis title: *A Comparative Analysis of The Principles Behind α7 Nicotinic Acetylcholine Receptor Function*

2017 - 2019 Joseph Libowitz, Neuroscience concentration, University of Florida IDP
Committee member

Ph.D. Awarded December 2019 Thesis title: Kv2.1 Clusters as Discrete Regulatory Microdomains of Dopamine Transporter Trafficking, Mobility, and Activity

OTHER STUDENTS AND TRAINEES:

1995-97	Keith Sawh, Master's Thesis student, University of Florida, D
1993-94	Uyen Dao, University of Florida Undergraduate Research Student
1994	Jeff Henry, University of Florida Undergraduate Research Student
1994	Sherry Robinson, Minority Student Collegiate Research Program
1995	Sima Jain, Florida Pre-Collegiate Student Research Program
1996	Peter Roessler, University of Florida Undergraduate Research Student
1997	Jose Gomez, University of Florida Undergraduate Research Student
1999	Jessica Walrath, University of Florida Graduate Rotation Student
1999	Ken Schmidt, University of Florida Graduate Rotation Student
2000	Andon Placzek, University of S. Florida, visiting Graduate student
2000	Heather Courtney, University of Florida Undergraduate Honors student
2003	Cain Soltoff, Florida Pre-Collegiate Student Research Program
2003	Michael Spertus, Florida Pre-Collegiate Student Research Program
2003-05	Susan Le Francois, University of Florida Graduate Student (committee member)
2003-06	Kristin Wildeboer, University of Florida Graduate Student (committee member)
2004	Yesenia Del Valle, University of Florida Graduate Rotation Student
2004	Karen Porter, University of Florida Graduate Rotation Student
2005	Laura Faye Butler, Research rotation student University of Bath, United Kingdom
2005	Matthew Pellnitz, University of Florida Undergraduate Honors student
2006	Jeremiah Mitzelfelt, University of Florida Graduate Rotation Student
2006	Casie Lindsly, University of Florida Graduate Rotation Student

2007 Larissa Caudill, University of Florida Graduate Student (committee member)

2007- Fedra Leonik , University of Florida Graduate Student (committee member)

2007 Dustin Williams, University of Florida Graduate Rotation Student

2008 Jennifer Stamps, University of Florida Graduate Rotation Student

2010 Natalia Diaz, University of Florida Graduate Rotation Student

2011 Melinda Nicole Williams, Summer Research for Rising Seniors Student

2011 Monica Santisteban, University of Florida Graduate Rotation Student

2012 Gayathri Srinivasan, University of Florida Graduate Rotation Student

2012- Kinga Chojnack, University of Florida, Department of Chemistry (Ph.D. committee member)

2013 Akshatha Rao, University of Florida undergraduate lab trainee

2013-2017 Khan Manther, University of Florida undergraduate lab trainee

2014 Siham Hourani, University of Florida Graduate rotation student

2014-2015 Marta Quadri, co-mentor international student, University of Milan

2015 Joseph J Lebowitz, University of Florida Graduate rotation student

2016 Ciara Sanon, UF ASPET Summer Fellowship student

2017 Kofi Ofosu, UF ASPET Summer Fellowship student

2017-2018 Maria Chiara Pismataro, co-mentor international student, University of Milan

2017 Joseph Dragone, University of Florida Graduate rotation student

2019 Meghan Grandal, visiting student, Hollings Marine Laboratory

2019-2020 Jay Patel University of Florida undergraduate lab trainee

2021 Madison Karaffa, distant learning student

FLORIDA STATE BOARD OF REGENTS CENTERS OF EXCELLENCE:

Member, Brain Research Institute, University of Florida

Member, Cancer Institute, University of Florida

Member, Myology Institute, University of Florida

Member, UF Center for Addiction Reseach and Education

PROFESSIONAL SOCIETIES:

Society for Neuroscience

Biophysical Society

International Brain Research Organization

American Society for Pharmacology and Experimental Therapeutics

Society for Research on Nicotine and Tobacco

PATENTS:

Use-dependent Inhibition of Neuronal Nicotinic Acetylcholine Receptors.
A proposed treatment for nicotine addiction.
UF # 955,674 Filed by The Salk Institute October 2, 1992. Inventor: Roger L. Papke.

Methods For The Use And Compositions For Benzylidene- And Cinnamylidene-Anabaseines. UFL:041. Inventors: Edwin Meyer, William Kem, Franz VanHaaren, John A. Zoltewicz, Christopher M. de Fiebre, Roger Papke, and Art Day.
U.S. patent # 5,977,144 issued November 2, 1999

Compositions and Methods for Treatment of Neurological Disorders
U.S. Patent Application Docket No. UF-293; UF#-10359; Inventor: Roger L. Papke.
U.S. patent # 6,852,741 issued February 8, 2005

Variant Neuronal Nicotinic Alpha7 Receptor and methods for use
U.S. Patent Application Docket No. UF-408 Inventors: Roger L. Papke and Andon Placzek.

Rigid Nicotine Analogs that are Selective Activators of Neuronal Nicotinic alpha7 Receptors. Docket No. UF-10675 Inventors: Roger L. Papke, P. Crooks, and L. Dwoskin.

Compositions And Methods For Selective Inhibition Of Nicotine Acetylcholine Receptors. U.S. Patent Application Docket No. UF-13023 Inventors: Roger L. Papke and Nicole Horenstein. U.S. Patent Nos. 7531555, 8980923

Tris-Quaternary Ammonium Salts and Methods for Modulating Neuronal Nicotinic Acetylcholine Receptors. University of Kentucky Docket number 12/158,192 U.S. Patent No. 8,299,253

Use Of A Novel Alpha7 nAChR Antagonist To Suppress Pathogenic Signal Transduction In Cancer And AIDS. University of Kentucky Docket number PAC-0006 Application number 61/195,820

Compositions, Methods of use, and Methods of treatment for nicotine dependence in high risk patients. U.S. Patent Application Docket No. UF-222106-8770 Inventors: Roger L. Papke, Adriaan Willem Bruijnzeel and Sara Jo Nixon. Issued Patent No: 9,233,109

Compositions, Methods Of Use, And Methods Of Treatment Of Betel (Areca) Nut Addiction. Docket No: 222108-880. (UF 15725) Inventors: Roger L. Papke, Nicole A. Horenstein, Clare Stokes

Ligands for Alpha-7 Nicotinic Acetylcholine Receptors and Methods of Treating Neurological and Inflammatory Conditions Docket No. UF-15850 Inventors: Ganesh Thakur, Roger L. Papke US371 Application No. 15/328,112

Silent Agonists for the alpha7 nicotinic acetylcholine receptor. Inventors: Nicole A. Horenstein, Marta Quadri, Roger L. Papke United States Letters Patent No. 11,155,551 for "NICOTINIC ACETYLCHOLINE RECEPTOR SILENT AGONISTS." issued on October 26, 2021

Novel Small Molecule Nicotinic Acetylcholine Receptor Agents. Application number 62/464,326. Inventors: Nicole A. Horenstein, Marta Quadri, Roger L. Papke

Ligands For alpha7 Nicotinic Acetylcholine Receptors and Methods Of Treating Neurological And Inflammatory Conditions. Patent number: US 11,299,496 B2 Issued Apr. 12, 2022. Inventors: Ganeshsingh A. Thakur, Abhijit R. Kulkarni, Roger Lee Papke

N,N Diethyl-N'phenylpiperazine Alpha 7 And Alpha 9 Nicotinic Acetylcholine Receptor Agonistsand Antagonists. Patent No.: US 11,884,629 B2. Date of Patent: Jan. 30,2024. Inventors: Nicole A. Horenstein, Hina Andleeb, Roger L. Papke

Betel quid cessation therapy with nicotine and pilocarpine Patent No.: US 11,890,278B2 Inventors: Roger L. Papke and Sam Glatman issued Feb. 6 , 2024

Sulfonium Compounds And Methods For Making And Using The Same PCT/US2024/020628 Inventor(s): Roger Lee Papke, Clelia Mariangiola Luisa Dallanoce, Claudio Papotto

CONSULTATION SERVICES, INDUSTRIAL:

1993 - 2004 Axon Instruments, Union City, CA

1994 - 2003	Taiho Pharmaceuticals, Japan
1995 – 1998	R. J. Reynolds Tobacco, Winston-Salem, NC
1997 – 1998	Burleigh Instruments
1999 - 2000	Layton Biosciences
2000 - 2011	Targacept Pharmaceuticals
2000	AstraZeneca
2001 - 2003	Memory Pharmaceuticals
2003 - 2008	Critical Therapeutics
2008	Cornerstone Therapeutics
2004 - 2005	Molecular Devices
2004	Bristol Meyer Squib
2004 - 2017	Servier
2007 - 2016	Lundbeck
2008	Krog & Partners Incorporated
2008 - present	Guidepoint Global
2008 - 2009	SK Holdings
2011	Sanofi Adventis
2011 - 2013	Asmacure L. C. C.
2014	Demerex
2014	Pfizer
2015	Merck Sharp & Dohme Corp
2015	BVF Partners L.P.
2016-2020	Attenua
2016-2021	Guava Myanmar
2020-23	BVF Partners L.P.

CONSULTATION SERVICES, ACADEMIC:

2007- 2011	Program advisory committee, University of Puerto Rico NeuroAIDs program
2010	University of Florida Pew Scholars Program in the Biomedical Sciences
	Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors Cambridge England, 18th - 22nd May 2011 Scientific Advisory board
2011	Nicotinic Acetylcholine Receptors as Therapeutic Targets: Emerging Frontiers in Basic Research and Clinical Science" , Washington DC Nov. 9-11th, 2011 Scientific Advisory Board
2011-13	INBRE Mentoring program, University of Hawaii at Hilo.
2013	Reviewer for the Dutch Research Council
2013	Nicotinic Acetylcholine Receptors as Therapeutic Targets: Emerging Frontiers in Basic Research and Clinical Science" , San Diego Nov. 6-8th, 2013 Scientific Advisory Board
2017	Nicotinic Acetylcholine Receptors Meeting, Chania, Crete, May 7-11, 2017 International Advisory Board
2019-20	Guest editor, Neuropharmacology, Special Issue along with Imad Damaj and Mariella De Biasi *Contemporary Advances in Nicotine Neuropharmacology*

REVIEW SERVICES:

Grants:

National Institute of Health Neurological Sciences: Emerging Technologies and Training in Neurosciences IRG Study Section

National Institute of Health Neurological Sciences Study Section

National Science Foundation

National Institute on Drug Abuse

National Cancer Institute

Biotechnology and Biological Sciences Research Council of the United Kingdom

National Institute on Neurological Disease and Stroke

National Center for Complimentary and Alternative Medicine

Phillip Morris Foundation

Institute for Mental Health Research.

External Advisory Committee Specialized Neuroscience Research
University of Puerto Rico Medical Sciences Campus

Michael Smith Foundation for Health Research

Special study section for RFA-DA-11-007: Assay Development for High Throughput Screening for Nicotinic Receptor Subunits
Chairman

IMST-11 Small Business review panel
.

Special study section for RFA- MH-12-140: Development of Tools to Explore the Synaptome

Special study section for RFA DA 13-004 “Synthesis and Preclinical Evaluation of Medications to Treat Substance use Disorders

Therapeutics Discovery X02 Special Emphasis Panel (SEP)

Special study section for RFA DA 13-004 “Synthesis and Preclinical Evaluation of Medications to Treat Substance use Disorders

Danish Agency for Science Technology and Innovation

The United Arab Emirates University Program for Advanced Research

Neurobiology of Motivated Behavior Study Section

California Tobacco-related Disease Research Program

National Institute on Drug Abuse Special Emphasis Panel
Nicotinic Immune Modulation in the Presence of HIV-1 Infection

Chilean National Science and Technology Commission

Program Evaluation of NIH Peer Review Processes: The Role of Anonymization

United Kingdom Medical Research Council

Nicolaus Copernicus University

Editorial Review Boards

Frontiers in Neuroscience

CNS & Neurological Disorders-Drug Targets

Journal of Addiction Research & Therapy

Frontiers in Neuropharmacology

Neuropharmacology, Associate editor, special issue:
Contemporary Advances in Nicotine Neuropharmacology

Journal reviews:

Archives of Biochemistry and Biophysics

ASSAY and Drug Development Technologies

BBA Biomembranes

BBA - Proteins and Proteomics

Biochemical Pharmacology

Biochemistry

Biological Psychiatry

Bioorganic Medicinal Chemistry letters

Biophysical Journal

Biotechnology Journal

British Journal of Pharmacology

Cell Calcium

Circulation Research

Current Pharmaceutical Design

Expert Opinion on Drug Discovery

FASEB Journal

Febs Letters

Journal of General Physiology

Journal of Leukocyte Biology

Journal of Neurochemistry

Journal of Neuropharmacology

Journal of Neurophysiology

Journal of Neuroscience

Journal of Neuroscience Research

Journal of Pharmacology and Experimental Therapeutics

Journal of Physiology

Life Sciences

Medicinal Research Reviews

Molecular Biology of the Cell

Molecular Pharmacology

Neuron

Neuropeptides

Neuropharmacology

Neuroscience Letters

Neuroscience Research

The Open Neuroscience Journal

PLoS ONE

Proceedings of the National Academy of Science

INVITED PRESENTATIONS AND SEMINARS:

1987

University of California at Davis

Tulane University, New Orleans

1990

University of New York at Buffalo, Department of Pharmacology

Cornell University, Ithaca

1991

University of New York at Buffalo, College of Pharmacy

University College, London, England

Max Plank Institute for Experimental Medicine, Gottingen, FRG

Cold Spring Harbor Laboratory

Case Western Reserve, Cleveland

New York University

1992

Loyola University, Chicago

Ohio University

Meharry Medical College, Nashville

University of Rochester, Rochester N.Y.

Cornell University, Ithaca, N.Y.

Emory University, Atlanta, Georgia

Dartmouth College, Dartmouth, New Hampshire

University of Florida, Department of Pharmacology

1993

University of Indiana, Indianapolis, Indiana

University of Massachusetts, College of Medicine, Worchester, MA

University of Florida, Department of Opthamology

1994

Institute Alfred Fessard, CNRS, Paris, France

Pasteur Institute, Paris, France

CNRS, Montpellier, France

University Hospital, Zurich, Switzerland

Suncoast Workshop, Amelia Island, Florida

1995

University of Florida, Whitney Laboratory

Springfield Alzheimer Conference, Springfield Illinois

University of Florida, Department of Pharmacodynamics

R. J. Reynolds Co., Winston -Salem, North Carolina

1996

University of South Florida, Department of Pharmacology

Osaka International Alzheimer's Conference, Osaka Japan

1997

University of Florida, Department of Neuroscience

1998

University of Aarhus
July 16, 1998 Aarhus, Denmark
Title: Physiology, pharmacology and biophysics of neuronal nicotinic acetylcholine receptors

1999

University of Kentucky, College of Pharmacy
September 16, 1999, Lexington Kentucky
Title: Activation and inhibition of neuronal nicotinic acetylcholine receptor function

Conference on Neuronal Nicotinic Acetylcholine Receptors
October 2, 1999 Venice Italy
Title: α7–selective agonists and modes of α7 receptor activation

University of South Florida, Department of Psychiatry
Nov. 9, 1999, Tampa Florida
Title: Inhibition of neuronal nicotinic acetylcholine receptor function by antagonists and agonists

2000

Astra- Zeneca Pharmaceuticals,
May 15, 2000, Worchester, MA
Title: α7–selective agonists and modes of α7 receptor activation

6th Annual Duke Nicotine Research Conference
November 1, 2000, Durham, NC
Title: Nicotinic receptor desensitization
(declined due to hospitalization)

Benzon Symposium
August 14, 2000 , Copenhagen, Denmark

Title: Kinetic analysis of alpha7 nAChR fast desensitization in acutely dissociated hypothalamic neurons: implications for therapeutics

2001

Memory Pharmaceuticals
February 16, 2001, Montvale, NJ
Title: α7–selective agonists and modes of α7 receptor activation

University of Alabama Department of Neurobiology
June 7, 2001, Birmingham, Alabama
Title: The therapeutic targeting of α7 nicotinic acetylcholine receptors

2002

University of Rome
July 10, 2002, Rome, Italy
Title: Properties of neuronal nicotinic α7 receptors: implications for therapeutics

Strategic Research Institute conference: Ion Channels in Drug Discovery & Development
Sept 18, 2002, Princeton New Jersey
Title: The therapeutic targeting of α7 nicotinic acetylcholine receptors

Memory Pharmaceuticals
April 12, 2002, Montvale, NJ
Title: The structural basis for drug selectivity between human and rat nicotinic alpha7 receptors

2003

NIDA conference on nicotine dependence
June 13, 2003, Bal Harbor , Florida
Title: α7–selective agonists and the structural basis for drug selectivity between human and rat nicotinic α7 receptors

Critical Therapeutics
July 15, 2003, Boston, MA
Title: The Therapeutic Targeting of α7 Nicotinic Acetylcholine Receptors

IBC's 2nd International Ion Channel Drug Target Conference,
October 21, 2003, Boston, MA
Title: The Therapeutic Targeting of α7 Nicotinic Acetylcholine Receptors

Department of Biochemistry, University of Florida, College of Medicine
October 10, 2003, Gainesville, FL
Title: Neuronal nicotinic α7 receptors

University of Puerto Rico Guest lecture in the Neuroscience program
November 23, 2003, San Juan Puerto Rico
Title: Acetylcholine Receptors

University of Puerto Rico Guest lecture in the SCORE program
November 23, 2003, San Juan Puerto Rico
Title: The Therapeutic Targeting of α7 Nicotinic Acetylcholine Receptors

2004

Critical Therapeutics
May 20, 2004, Boston, MA
Title: The structural basis for α7–selective drugs

University of Kentucky, College of Pharmacy
June 23, 2004, Lexington, KY
Title: The pharmacology and physiology of neuronal nicotinic acetylcholine receptors

University of Florida, Department of Chemistry
December 10, 2004, Gainesville, FL
Title: Structural basis for nicotinic drug selectivity

2005

University of Kentucky, College of Pharmacy
April 13, 2005, Lexington, KY
Title: Molecular pharmacology of α7–type nicotinic acetylcholine receptors

Targacept
April 21, 2005, Winston Salem NC
Title: α7–type nicotinic acetylcholine receptors a therapeutic target for mind and body

Whitney Laboratory University of Florida,
May 19, 2005, Marineland, FL

Title: Molecular pharmacology of α7–type nicotinic acetylcholine receptors

Molecular Devices: Web seminar
September 29, 2005
http://www.moleculardevices.com/index.html
Title: Drug development with OpusXpress

2006

University of North Texas, College of Medicine
February 6, 2006, Forth Worth, Texas
Title: Molecular pharmacology of α7–type nicotinic acetylcholine receptors

Institut De Recherches Internationales Servier
April 14, 2006, Paris, France
Title: A Molecular Perspective on the Therapeutic Targeting of Brian nicotinic Receptors

Duke University Medical Center, Department of Pharmacology
June 5, 2006 Durham, NC
Title: Molecular perspectives on alpha7-type neuronal nicotinic acetylcholine receptors

Barrow Neurological Institute
June 20, 2006 Phoenix, Arizona
Title: Molecular perspectives on neuronal nicotinic acetylcholine receptors

Human Memory and Aging Colloquium
September 22, 2006 VA Hospital, Gainesville FL
Title: Brain nicotine receptors and age-related memory loss

University of Georgia, Department of Physiology and Pharmacology
November 7, 2006 Athens, GA
Title: Molecular perspectives on brain nicotinic acetylcholine receptors

2007

Lundbeck Pharmaceuticals
February 22, 2007 Copenhagen, Denmark
Title: Molecular perspectives on the therapeutic targeting of nicotinic acetylcholine receptors.

Ohio State University, Department of Neuroscience
April 2, 2007 Columbus, OH
Title: Molecular perspectives on brain nicotinic acetylcholine receptors

NIDA Satellite meeting to CPDD, Building Translational Research in Medication Development in Academia.
Saturday June 16, 2007, Quebec City, Quebec, Canada
Title: Wild type, mutant and chimeric nicotinic acetylcholine receptors: Using pieces to solve a puzzle

2008

Department of Neuroscience, University of Florida, College of Medicine
April 9, 2008, Gainesville, FL
Title: Molecular perspectives on neuronal nicotinic receptors

Nicotinic Acetylcholine Receptors 2008, Wellcome Trust Conference, Hinxton, England. April 24th 2008
Title: Effective opening of nicotinic acetylcholine receptors with single agonist binding sites: implications for the therapeutic targeting of homomeric α7 nAChR.

nAChR Workshop, Bath University, Bath England
April 28, 2008
Title: Turning α7 on and off.

Strathclyde Institute of Pharmacy and Biomedical Sciences
April 28, 2008
Title: Turning α7 on and off in the Brain: Pharmacology and Therapeutic approaches.

Department of Molecular Medicine, Cornell University, Ithaca NY
May 23, 2008
Title: Therapeutic targeting of homomeric α7 nAChR and the significance of the effective opening of nicotinic acetylcholine receptors with single agonist binding sites.

Department of Structural and Molecular Biology, University of Puerto Rico, San Juan Puerto Rico
May 28, 2008

Title: Turning α7 on and off in the Brain: Pharmacology and Therapeutic approaches.

XIII International Symposium on Cholinergic Mechanisms: Neuronal and Non-Neuronal Cholinergic Systems: Molecular and Translational Significance Foz do IguaŸu, Brazil
August 16-20, 2008
Title: Therapeutic targeting of α7 receptors.

2009

The Institute of Behavioral Genetics, University of Colorado
March 13, 2009, Boulder, Colorado
Title: The fertile frog oocyte and what it can tell us about the effects of nicotine in the mammalian brain

Department of Structural and Molecular Biology, University of Puerto Rico, San Juan, Puerto Rico
May 19, 2009
Title: The therapeutic targeting of nicotinic receptors in the brain: Lesson 1, unlearning what we know about the neuromuscular junction

NIDA Satellite meeting to CPDD, Nicotinic Cholinergic Mechanisms in Drug Dependence: Receptor Subtypes and Ligands.
Saturday June 25, 2009, Reno, Nevada
Title: Modulation of nicotinic receptor functional tone by therapeutic agents and endogenous factors

Institut De Recherches Internationales Servier
July 7, 2009, Paris, France
Title: Multiple factors associated with the targeting of nicotinic alpha7 AChR for therapeutic effects include potency, efficacy, selectivity and the induction of stable desensitization by candidate drugs

Center for Brain Research, Division of Biochemistry and Molecular Biology Medical University of Vienna
July 14, 2009, Vienna, Austria
Title: The therapeutic targeting of alpha7 nAChR: is it only about ion channel activation?

Mini-symposium on nAChR function in non-neuronal cells
July 17, 2009, Amsterdam, Netherlands

Title: Multiple factors associated with the targeting of nicotinic alpha7 AChR for therapeutic effects include potency, efficacy, selectivity and the induction of stable desensitization by candidate drugs

Department of Neuroscience, McKnight Brain Institute University of Florida
September 23, 2009, Gainesville, Florida
Title: The therapeutic targeting of alpha7 nAChR: is it only about ion channel activation?

Satellite Symposium Society of Neuroscience 2009 meeting
Nicotinic Acetylcholine Receptors as Therapeutic Targets: Emerging Frontiers in Basic Research & Clinical Science
October 14-17, 2009, Chicago Illinois
Chair, Session one, nAChR: Concepts and Overview.

Center for Neuropsychological Studies, Veteran's Administration Hospital
November 6, 2009, Gainesville, Florida
Title: The molecular substrates for nicotine's effects in the brain and the development of potential novel therapeutics for neurodegenerative and neuropsychiatric disorders

2010

Institut De Recherches Internationales Servier
February 25, 2010, Paris, France
Title: Therapeutic utility of nicotinic partial agonists as selective regulators of heteromeric and homomeric nAChR subtypes.

FASEB/ASPET Symposium, When the smoke clears
April 25, 2010, Anaheim, CA
Title: Electrophysiological perspectives on the therapeutic use of nicotinic partial agonists

Computational Neurobiology Laboratory, Salk Institute
April 26, 2010, La Jolla, CA
Title: The curious character of α7 nAChR

The Whitney Laboratory for Marine Bioscience University of Florida
October 29, 2010 St. Augustine, FL
Title: Multiple signaling modes of α7 nAChR

20th Neuropharmacology conference: High resolution neuropharmacology: Structure changes the paradigm
November 11, 2010, San Diego, CA
Title: Evaluating alpha7 nicotinic receptor function with allosteric modulators and tethered agonists

Texas Tech University College of Medicine, Department of Pharmacology & Neuroscience
December 7, 2010 St. Lubbock Texas
Title: Molecular perspectives on nicotinic acetylcholine receptor activation and desensitization.

2011

Nicotinic Acetylcholine Receptors 2011, Wellcome Trust Conference, Hinxton, England. May 21st 2011
Title: Molecular perspectives on the activation, desensitization and modulation of nAChR.

Nicotinic Acetylcholine Receptors 2011, Wellcome Trust Conference, Hinxton, England. May 20th 2011
Chair, Session nine.

University College, Research Department of Neuroscience, May 23, 2011, London, England
Title: Molecular perspectives on the activation, desensitization and modulation of nAChR: Agonist binding and function.

Lundbeck Pharmaceuticals
May 26, 2011 Copenhagen, Denmark
Title: Molecular perspectives on the activation, desensitization and modulation of nAChR: Relevance to therapeutic targeting.

University of Hawaii at Hilo, College of Pharmacy
September 19, 2011 Hilo, Hawaii
Title: Nicotine receptors of the brain: mysteries, hypotheses and a few answers.

Satellite Symposium Society of Neuroscience 2011 meeting
Nicotinic Acetylcholine Receptors as Therapeutic Targets: Emerging Frontiers in Basic Research & Clinical Science
October 14-17, 2009, Chicago Illinois
Chair, Session two, nAChR: Recent Progress in Basic Research.

2012

Baylor University, College of Medicine, Department of Neuroscience.
March 12, 2012
Title: Positive allosteric modulation of alpha7 nAChR: a hot topic or too much of a good thing?

Workshop at 2012 meeting of the Society for Research on Nicotine and Tobacco: Cholinergic Regulation of Addiction and Disease: Understanding Mechanisms and Identifying Novel Therapeutic Targets. March13 2012, Houston Texas.
Title: Tuning the properties of nicotinic partial agonists for the treatment of depression or nicotine addiction

Neurosciences & Neurological Disorders Seminar Series, University of Toledo Dept. of Neurosciences, April 11, 2012
Title: Improved molecular perspectives on the therapeutic targeting of neuronal nicotinic acetylcholine receptors provided by positive allosteric modulators.

Ohio State University College of Medicine, Department of Neuroscience
April 13, 2012
Title: Improved molecular perspectives on the therapeutic targeting of neuronal nicotinic acetylcholine receptors provided by positive allosteric modulators.

Asmacure LLC
June 22, 2012, Quebec City, Canada
Title: Molecular perspectives on nicotinic acetylcholine receptors: Ion currents and signal transduction

Institut De Recherches Internationales Servier
August 31, 2012, Paris, France
Title: Nicotinic PAMs, antagonists and signal transduction

Virginia Commonwealth University College of Medicine, Department of Pharmacology October 23, 2012
Title: Elucidating the curious character of alpha7 nicotinic acetylcholine receptors in neuronal and non-neuronal cells.

2013

Purdue University West Lafayette, IN
Department of Medicinal Chem. & Molecular Pharmacology
March 28, 2013
Title: The molecular pharmacology of Alpha7 nAChR revealed by allosteric modulators

Northeastern University, Boston, MA
Department of Pharmaceutical Sciences
April 4, 2013
Title: The molecular pharmacology of Alpha7 nAChR revealed by allosteric modulators

Hebrew University - Hadassah Medical School
Department of Medical Neurobiology
May 7, 2013
Title: The molecular pharmacology of Alpha7 nAChR revealed by allosteric modulators

2014

Yale University New Haven, CT
Biological Sciences Training Program
March 24, 2014
Title: Leaving the neuromuscular junction behind: insights into alpha7 nicotinic acetylcholine receptors, potential therapeutic targets for diverse indications from arthritis to addiction to Alzheimer's disease.

Neuroscience Institute, Milan Italy.
July 21st 2014
Title: Insights into alpha7 nicotinic acetylcholine receptors: leaving the neuromuscular junction behind.

Nicotinic Acetylcholine Receptors 2014, Wellcome Trust Conference, Cambridge, England.
July 23st 2014
Title: The coupling of orthosteric and allosteric activation in nicotinic alpha7 receptors.

2015

Merck Sharp & Dohme Corp, Neuroscience Research Group, West Point, Pennsylvania.
April 21, 2015
Title: The targeting of alpha7 nicotinic acetylcholine receptors for therapeutic effects.

University of Florida, Department of Pharmacology and Therapeutics, Gainesville, FL
November 18, 2015
Title: Alpha7 nicotinic acetylcholine receptors: curiouser and curiouser.

2016

International Conference on Betel Quid and Areca Nut, Kuala Lumpur, Malaysia, *Plenary Speaker*
April 27, 2016
Title: Properties of arecoline suggest links between betel quid use and nicotine addiction

XV International Symposium on Cholinergic Mechanisms
Marsielle, France, *Invited speaker*
October 16-20, 2016
Title: Paradoxical interactions of alpha7 nAChR silent agonists and allosteric modulators; equilibration between desensitized states and persistent currents.

2017

Society for Research on Nicotine and Tobacco Webinar on Betel Quid and Areca Nut: State of Knowledge and Parallels with Tobacco-Related Issues.
Invited speaker
January 12, 2017
Title: Cracking the betel nut: links between betel quid use and nicotine addiction.

Nicotinic Acetylcholine Receptors 2017 Meeting, Chania, Crete, 7-11 May 2017
Invited speaker
Title: Orthosteric, allosteric, and metabotropic activity of alpha7 nAChR

Nicotinic Acetylcholine Receptors 2017 Meeting, Chania, Crete, 7-11 May 2017
Chair, Closing Session.

University of Florida Center for Addiction Research and Education
Invited speaker
September 20, 2017
Title: Cracking the betel nut: addressing an orphan addiction.

2018

University of Medicine, Yangon, Myanmar
Invited speaker
January 24, 2018
Title: New Insights into Betel quid addiction

Parami Institute of Liberal Arts & Sciences, Yangon, Myanmar
Invited speaker
January 24, 2018
Title: Drugs, Addiction, and Disease

Symposium on Concerns on Areca Nut, Healis Institute for Public Health
Invited speaker
February 1, 2018
Title: Neurological Aspects of Areca nut

Lady Hardinge Medical college and the Indian Dental Association
Symposium: Oral, Potentially Malignant lesions and Risk Factors
Invited speaker
February 4, 2018
Title: New Insights into Betel quid addiction

2019

SRNT 2019 Meeting San Francisco, California
Symposium: Smokeless Tobacco And Areca Nut: Global Diversity Of Products And Parallels In Associated Health Risks
Invited speaker
February 24, 2019
Title: The Traditional Use Of Betel Nut (Areca) Promotes Smokeless Tobacco Addiction In South Asia And Associated Health Risks, And A Hypothesis For A Novel Cessation Therapy

Sapienza University Di Roma, Dipartimento di Fisiologia e Farmacoligia "Vittorio Erspamer"
Invited speaker
May 24, 2019
Title: Orthosteric and allosteric activation of nicotinic acetylcholine receptors

Virginia Commonwealth University College of Medicine, Department of Pharmacology
Invited speaker
November 12, 2019
Title: Betel nut, an orphan addiction and world health problem.

XVI International Symposium on Cholinergic Mechanisms
2nd Misrahi Symposium On Neurobiology
Weizmann Institute of Science, in Rehovot, Israel.
Invited speaker
December 8-12, 2019
Title: Allosteric activation of nicotinic acetylcholine receptors

2022

University of Florida, Department of Pharmacology and Therapeutics
Title: Thirty years of collaboration with Nicole Horenstein: biochemical investigations of nAChR with molecules and mutants

2023

European Psychoneuroimmunology Network and the Center for Mind, Brain and Behavior. Justus-Liebig-University Giessen and Philipps-University Marburg
Invited speaker
April 18, 2023
Title: Functions of desensitized nicotinic acetylcholine receptors

PUBLICATIONS:

Major creative works (non-academic):

Roger L. Papke 2010, 2011, 2012, 2014. *Handfuls of History Volume 1*, a book chronicling the history of firearm development. Digital format and self published at: www.handfulsofhistory.com

Roger L. Papke 2017. *Handfuls of History Volume 2: Cutting edges*, Adventures in histories and cultures from the descriptions and details of edged weapons. Digital format and self published at: www.handfulsofhistory.com

Roger L. Papke 2022. *Handfuls of History Volume 3: Gods in the palm of your hand*, Ancient history illustrated with coins. Publication pending, Cambridge Scholars

Minor creative works (non-academic):

Roger L. Papke 2017. *Properly Greeced.* A memoir of motorcycles in Greece in 1986. Published in *Classic Bike* Magazine November 2017 pages 28-19.

Scientific Book Chapters, Technical Notes, and Reviews:

Roger L. Papke* and Robert E. Oswald. 1986. Effects of allosteric ligands on the gating of single channel currents in bc3h-1 cells. N.A.T.O. *Advanced Research Workshop Mechanism of Action of The Nicotinic Acetylcholine Receptor,* Santorini, Greece. NATO ASI Series Vol. H3 Ed. A. Maelicke Springer-Verlag, Berlin.

S.Heinemann, J. Boulter, E. Deneris, J. Connelly, R. Duvoisin, R. Papke, and J. Patrick. 1989. The brain nicotinic acetylcholine receptor gene family. *Cell and Molecular Biology of Neuroplasticity in Aging and Alzheimer's Disease, Conference Proceedings.* Bethesda, Maryland, May 1-3, 1989.

S. Heinemann, J. Boulter, J. Connelly, E. Deneris, R. Duvoisin, M. Hartley, I. Hermans-Borgmeyer, M. Hollmann, A. O'Shea-Greenfield, R. Papke, S. Rogers, and J. Patrick. 1989. The brain nicotinic receptor genes. *Molecular Approaches to Drug Abuse Research. N.I.D.A.Conference Proceedings.* Bethesda, Maryland, August 24-25, 1989.

S. Heinemann, J. Boulter, J. Connelly, E. Deneris, R. Duvoisin, M. Hartley, I. Hermans-Borgmeyer, M. Hollmann, A. O'Shea-Greenfield, R. Papke, S. Rogers, and J. Patrick. 1989. The nicotinic receptor genes. *Hoechest-Roussel Pharmaceuticals Research Seminar. Conference Proceedings.* Hershey Pennsylvania, October 25, 1989.

Roger L. Papke. 1993. The kinetic properties of neuronal nicotinic receptors: Genetic basis of functional diversity. *Progress in Neurobiology* **41**:509-531.

Roger L. Papke*, Christopher M. de Fiebre, William Kem, and Edwin M. Meyer. 1994. The subunit specific effects of novel anabaseine-derived nicotinic agents. Proceedings of the Third International Springfield Alzheimer Symposium. Springfield Illinois May 11-15 1994. Editors: E. Giacobini and R. Becker. Birkhauser Boston publishers.

R.H. Lenox, R.K. McNamara, R.L. Papke and H. Manji, 1998. Neurobiology of lithium: an update. *Journal of Clinical Psychiatry*, **58**(supplement 6): 37-47.

Anatolii Y. Kabakov and Roger L. Papke*, 1998. Ultra fast solution applications for prolonged gap-free recordings: Controlling a Burleigh piezo-electric positioner with Clampex7. *Axobits* Jan. 1998 **24**:6-9.

Michael M. Francis, and Roger L. Papke*, 2000. The functional diversity of nicotinic receptors in the nervous system: perspectives on receptor subtypes and receptor specialization *Handbook of Experimental Pharmacology* **144**: 301-336.

Roger L. Papke, 1999. Single channel analysis in pClamp 8. *Axobits* October. 1999 **27:**7-12.

Roger L. Papke, 1999. Neuronal Nicotinic Receptors: From Structure to Therapeutics. Meeting report. *Investigational Drugs, weekly highlights.* **48**:37-41

Roger L. Papke* and Julia K. Porter Papke. 2002. The Use of Net-Charge Analysis for the Study of Ion Channel Pharmacology. *Axobits* November 2002 **36**:6-9

Roger L. Papke and Cathy Smith-Maxwell, 2009. High-throughput electrophysiology with *Xenopus* oocytes. *Combinatorial Chemistry & High Throughput Screening.* **12(1):**38-50

Shafiqur Rahman, Gretchen Y. López-Hernández, William A. Corrigall, and Roger L. Papke, 2008. Neuronal Nicotinic Receptors as Brain Targets for Pharmacotherapy of Drug Addiction. *CNS & Neurological Disorders - Drug Targets*, **7**: 422-441.

Marjolein A. van Maanen, Roger L. Papke, Jessica Koepke, Lisette Bevaart, Roger Clark, Diana Lamppu, Margriet J. Vervoordeldonk, Gregory J. LaRosa, and Paul P. Tak. Therapeutic effect of stimulating the nicotinic acetylcholine receptor in the collagen-induced model of rheumatoid arthritis: a role for ion channel activity and penetration of the central nervous system. Chapter 5 77-97 in *Cholinergic Nervous System as Therapeutic Approach for the treatment of arthritis*, Ph. D. Thesis Marjolein A. van Maanen, 2009, University of Amsterdam, The Netherlands.

Roger L. Papke* and Clare Stokes. 2010. Working with OpusXpress: methods for high volume oocyte experiments, in "Xenopus Oocytes as an Experimental System", special issue. *Methods*. 51(1):121-33.

Roger L. Papke. 2010. α4β2 nicotinic acetylcholine receptors, willing if able. Commentary in *The British Journal of Pharmacology*. **160(8)**:1903-5.

Roger L. Papke. Neuroscience in the 21st Century, Chapter 1: Water, ions, membranes, pumps, and transporters. Donald Plaff editor. Published by Rockefeller University Press.

Dustin K. Williams, Jingyi Wang, and Roger L. Papke*. 2011. Positive allosteric modulators as an approach to nicotinic acetylcholine receptor-targeted therapeutics: advantages and limitations. *Biochemical Pharmacology*, **82(8)**:915-30.

Roger L. Papke*, Marina R. Picciotto 2012. Nicotine Dependence and Depression, What is the Future for Therapeutics? *Journal of Addiction Research and Therapy*. **2**(3):1000e1105.

Darlene H. Brunzell, J. Michael McIntosh and Roger L. Papke. 2014. Diverse strategies targeting alpha7 homomeric and alpha6beta2* heteromeric nicotinic acetylcholine receptors for smoking cessation. *Annals of the New York Academy of Sciences*, **1327**:27-45.

Roger L. Papke*. 2014. Merging old and new perspectives on nicotinic acetylcholine receptors. *Biochemical Pharmacology*, **89(1)**:1-11.

> *" This is a captivating review. It is the first time in a many-year career that I have looked at a review article with the intent of a preliminary skim and instead found myself drawn into a complete and detailed read. Totally absorbing! An excellent story. Historical perspective is provided in an engaging manner, current findings are crisply and clearly presented, and promising future directions are indicated, along with some intriguing nel ideas. I can think of no changes to make. One can always suggest more or slightly altered takes but the current account is superb."*
> Anonymous reviewer for Biochemical Pharmacology.

Clare Stokes, Millet Treinin, and Roger L. Papke*. 2015. Looking below the surface of nicotinic acetylcholine receptors. *Trends in Pharmacological Sciences*, **36(8)**:514-23

Melissa Little and Roger L. Papke*. 2015. Betel, the orphan addiction. *Journal of Addiction Research and Therapy*, **6(3):**e130.

Millet Treinin, Roger L. Papke, Eran Nizri, Yael Ben-David, Tehila Mizrachi and Talma Brenner. 2016. Role of the α7 Nicotinic Acetylcholine Receptor and RIC-3 in the Cholinergic Anti-inflammatory Pathway. *Central Nervous System Agents in Medicinal Chemistry*, 2016. **17(2)**:90-99.

Deniz Bagdas, Mine S. Gurun, Pamela Flood, Roger L. Papke, and M. Imad Damaj. 2017. New Insights on Neuronal Nicotinic Acetylcholine Receptors as Targets for Pain and Inflammation: A Focus on α7 nAChRs. 2018. *Current Neuropharmacology*. **16(4):**415-425.

Nicole Horenstein, and Roger L. Papke. 2017. Anti-inflammatory silent agonists. *ACS Medicinal Chemistry Letters.* **8(10):**989-991.

Roger L. Papke. 2018. Nicotinic Acetylcholine Receptors, chapter in *The Oxford Handbook of Neuronal Ion Channels*, edited by Arin Bhattacharjee, Oxford University Press. Online Publication Date: Mar 2018. (https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780190669164.001.0001/oxfordhb-9780190669164-e-18)

Roger L. Papke, Dorothy K. Hatsukami, and Thaddeus A. Herzog. Betel quid, health, and addiction. Commentary in a special issue of *Substance Use and Misuse* on betel quid. **55(9):** 1528-1532

A. Gulsevin, R. L. Papke, N. Horenstein. In silico modeling of the α7 nicotinic acetylcholine receptor: new pharmacological challenges associated with multiple modes of signaling. *Mini Reviews in Medicinal Chemistry*. 2020 Jan 29. 2020;20(10):841-864 PubMed PMID: 32000651.

Roger L. Papke, Jon M. Lindstrom. Nicotinic acetylcholine receptors: Conventional and unconventional ligands and signaling. Neuropharmacology. 2020 Published online 2020 Feb 28. doi: 10.1016/j.neuropharm.2020.108021

Roger L. Papke, D. H. Brunzell , M. De Biasi Cholinergic Receptors and Addiction. Curr Topic in Behavorial Neuroscience. 2020 **45:**123-151.

John A Dani Robin AJ Lester and Roger L. Papke Neuronal Nicotinic Acetylcholine Receptors. eLS, Citable reviews in the life Sciences, Wiley Online Library, 2021

Roger L. Papke*, Mariella De Biasi and M. Imad Damaj. Nicotine: understanding the big picture while also studying the details. Editorial in *Contemporary Advances in Nicotine Neuropharmacology. Special issue Neuropharmacology*. 2020 **45**:123-151**.**

Roger L. Papke, and N. Horenstein. The therapeutic targeting of α7 nicotinic acetylcholine receptors. 2021 *Pharmacological Reviews*. Jul;**73(3)**:1118-1149. doi: 10.1124/pharmrev.120.000097. PMID: 34301823 PMCID: PMC8318519.

Roger L. Papke, M. Quadri, and A. Gulsevin. Silent agonists for α7 nicotinic acetylcholine receptors. Pharmacological Research. Apr;190:106736. doi: 10.1016/j.phrs.2023.106736. Epub 2023 Mar 20.

Roger L. Papke. The Many enigmas of nicotine. 2024 *Advances in Pharmacology.* Vol. 99

Peer-reviewed Research Articles:

Roger L. Papke, Patrick W. Concannon, Hugh F. Travis and William Hansel. 1980. Control of luteal function and implantation in the mink by prolactin. *Journal of Animal Science* **50(6)**:1102-1107.

Roger L. Papke*, Tom R. Podleski and Robert Oswald. 1986. Effects of pineal factors on the action potentials of sympathetic neurons. *Cellular and Molecular Neurobiology* **6(4)**:381-396.

Roger L. Papke*, Glenn Millhauser, Zorba Lieberman and Robert Oswald. 1988. Relationships of agonist properties to the activation kinetics of nicotinic acetylcholine receptors. *Biophysical Journal* **53(1)**:1-10.

Robert E. Oswald, Roger L. Papke and Ronald J. Lukas. 1989. Characterization of nicotinic acetylcholine receptor channels of the TE671 human medulloblastoma cell line. *Neuroscience letters*. **96**:207-212.

Roger L. Papke* and Robert E. Oswald. 1989. Mechanisms of noncompetitive inhibition of acetylcholine-induced single channel currents. *Journal of General Physiology* **93**:785-811.

Roger L. Papke*, Jim Boulter, Jim Patrick, and Steve Heinemann. 1989. Single channel currents of rat neuronal nicotinic acetylcholine receptors expressed in *Xenopus laevis* oocytes. *Neuron* **3(5)**:589-596.

Scott W. Rogers, Lorise C. Gahring, Roger L. Papke, and Stephen Heinemann. 1991. Identification of cultured cells expressing ligand-gated cationic channels. *Protein Expression and Purification* **2**:108-116.

Roger L. Papke*, and Steve F. Heinemann. 1991. The role of the β4 subunit in determining the kinetic properties of rat neuronal nicotinic acetylcholine α3 receptors. *Journal of Physiology, London* **440**:95-112.

Roger L. Papke*, Robert M. Duvoisin, and Stephen F. Heinemann. 1993. The amino terminal half of the nicotinic β subunit extracellular domain regulates the kinetics of inhibition by neuronal-bungarotoxin. *Proceedings of the Royal Society, (London)*, *Series B* **252**:141-147.

Roger L. Papke*, and Steve F. Heinemann. 1994. The partial agonist properties of cytisine on neuronal nicotinic receptors containing the β2 subunit. *Molecular Pharmacology* **268**:718-726.

Roger L. Papke*, A. Grey Craig, and Steve F. Heinemann. 1994. Inhibition of nicotinic acetylcholine receptors by bis (2, 2, 6, 6, - tetramethyl-4-piperidinyl) sebacate (Tinuvin® 770), an additive to medical plastics. *Journal of Pharmacology and Experimental Therapeutics* **268**:718-726.

Bruce E. Hunter, Christopher M. de Fiebre, Roger L. Papke, William R. Kem, and Edwin M. Meyer. 1994. A novel nicotinic agonist facilitates induction of long-term potentiation in the rat hippocampus. *Neuroscience Letters* **168**:130-134.

Christopher M. de Fiebre, Edwin M. Meyer, Jeffrey C. Henry, Samuel I. Muraskin, William R. Kem and Roger L. Papke*. 1995. Characterization of a series of anabaseine-derived compounds reveals that the 3-(4)-dimethylaminocinnamylidine derivative (DMAC) is a selective agonist at neuronal nicotinic α7/[^{125}i]a-bungarotoxin receptor subtypes. *Molecular Pharmacology* **47**:164-171.

D.H. Feldman, J.S. Thinschmidt, A.L. Peel, R. L. Papke, and P.J. Reier. 1996. Differentiation of ionic currents in CNS progenitor cells: Dependence upon substrate attachment and epidermal growth factor. *Experimental Neurology* **140(2)**:206-17.

Michael M. Francis and Roger L. Papke*. 1996. Muscle-type nicotinic acetylcholine receptor delta subunit determines sensitivity to noncompetitive inhibitors while gamma subunit regulates divalent permeability. *Neuropharmacology* **35**:1547-1556.

R. L. Papke*, M. Bencherif, and P. Lippiello. 1996. An evaluation of neuronal nicotinic acetylcholine receptor activation by quaternary nitrogen compounds indicates that choline is selective for the α7 subtype. *Neuroscience Letters* **213:**201-204.

R. L. Papke*, J. S. Thinschmidt, B. A. Moulton, E. M. Meyer, and A. Poirier. 1997. Activation and inhibition of rat neuronal nicotinic receptors by ABT-418. *British Journal of Pharmacology* **120**:429-438.

William R. Kem, Vladimir M. Mahnir, Roger L. Papke and Christopher J. Lingle. 1997 Anabaseine is a potent agonist upon muscle and neuronal alpha-bungarotoxin sensitive nicotinic receptors *Journal of Pharmacology and Experimental Therapeutics,* **283:**979-992.

E. M. Meyer, E. T. Tay, R. L. Papke, C. Meyers, G. Huang, and C. M. de Fiebre. 1997. Effects of 3-[2,4-dimethoxybenzylidene]anabaseine (DMXB) on rat nicotinic receptors and memory-related behaviors. *Brain Research*, **768(1-2):**49-56.

Anatolii Y. Kabakov, Nikolas B. Karkanias, Robert H. Lenox, and Roger L. Papke*. 1998 Synapse specific accumulation of lithium in intracellular microdomains: A model for uncoupling coincidence detection in the brain. *Synapse,* **28:**271-279

M. M. Francis, K. Il Choi, B. A. Horenstein and R. L. Papke*. 1998 Sensitivity to voltage-independent inhibition determined by pore-lining region of ACh receptor. *Biophysical Journal,* **74**:2306-2317

Edwin M. Meyer, Ee Tein Tay, John A. Zoltewicz, Roger L. Papke, Craig Meyers, Mike King, and Christopher M. de Fiebre. 1998 Neuroprotective and memory-related actions of novel $\alpha 7$ nicotinic agents with different mixed agonist/antagonist properties. *Journal. of Pharmacology and Experimental Therapeutics* **284:**1026-1032

Edwin Meyer, Alexander Kuryatov, Volodymyr Gerzanich, Jon Lindstrom and Roger L. Papke*. 1998. Analysis of 40H-GTS-21 Selectivity and Activity at Human and Rat $\alpha 7$ Nicotinic Receptors. *Journal of Pharmacology and Experimental Therapeutics*, **287**(3):918-25

Jose R. Gomez, Nikolas B. Karkanias, Robert H. Lenox, and Roger L. Papke*. 1998. Lithium Homeostasis In *Xenopus* Oocytes: Implications For The Study Of Signal Transduction. *Life Sciences* **63**(19):1715-1724**.**

Roger L. Papke*, and Jeffrey S. Thinschmidt. 1998. The Correction of Alpha7 Nicotinic Acetylcholine Receptor Concentration-Response Relationships in *Xenopus* Oocytes. *Neuroscience Letters* **256**(3):163-166**.**

Yangxin Li, Roger L. Papke, Yun-Ju He, Bill Millard, and Edwin M. Meyer. 1999. Characterization of the neuroprotective and toxic effects of $\alpha 7$ nicotinic receptor activation in PC12 cells. *Brain Research*, **830(2):**218-25.

Nikolas B. Karkanias and Roger L. Papke*. 1999. Subtype specific effects of lithium on Glutamate receptor function. *Journal of Neurophysiology,* **81(4):**1506-12

J. Christopher Webster, Michael M. Francis, Julia K. Porter, Gillian Robinson, Clare Stokes, Ben Horenstein, and Roger L. Papke*. 1999. Antagonist activities of mecamylamine and nicotine show reciprocal dependence on beta subunit sequence in the second transmembrane domain. *British Journal of Pharmacology*, **127:**1337-48.

Nikolas B. Karkanias and Roger L. Papke*, 1999. Lithium Modulates Desensitization of the Glutamate Receptor Subtype GluR3**.** *Neuroscience Letters,* **277(3):**153-6**.**.

Roger L. Papke*, Edwin Meyer, Tom Nutter, and Vladimir V. Uteshev. 2000. Alpha7-selective agonists and modes of alpha7 receptor activation. *European Journal of Pharmacology*, **393(1-3):**179-195

Roger L. Papke*, J. Christopher Webster, Patrick M. Lippiello Merouane Bencherif, and Michael M. Francis. 2000. The activation and inhibition of human nAChR by RJR-2403 indicate a selectivity for the $\alpha 4\beta 2$ receptor subtype. *Journal of Neurochemistry* **75**(1)204-216.

M. M. Francis, R. W. Vazquez, R. L. Papke, and R. E. Oswald. 2000 Subtype-selective inhibition of neuronal nAChRs by cocaine is determined by the alpha4 and beta4 subunits. *Molecular Pharmacology,* **58**(1):109-19.

Roger L. Papke*, Paul R. Sanberg, R. Douglas Shytle, 2001. Analysis of Mecamylamine Stereoisomers on Human Nicotinic Receptor Subtypes. *Journal of Pharmacology and Experimental Therapeutics*, **297**:646–656**.**

Roger L. Papke*, Benjamin A. Horenstein, and Andon N. Placzek 2001. Inhibition of Wild-Type and Mutant Neuronal Nicotinic Acetylcholine Receptors by Local Anesthetics. *Molecular Pharmacology,* **60**(6):1365-1374.

Simon M. N. Efange , Zhude Tu, Krystyna von Hohenberg, Lynn Francesconi, Robertha C. Howell, Marilyn V. Rampersad, Louis J. Todaro, Roger L. Papke, and Mei-Ping Kung. 2001. 2-(2-Piperidyl)- and 2-(2-Pyrrolidyl)chromans as Nicotine Agonists: Synthesis and Preliminary Pharmacological Characterization. *Journal of Medicinal Chemistry,* **44**(26):4704-4715.

Roger L. Papke*. 2002. Enhanced inhibition of a mutant neuronal nAChR by agonists: protection of function by TC-2403. *Journal of Pharmacology and Experimental Therapeutics,* **301**(2):765-73.

Daisuke Takeda, Terumasa Nakatsuka, Roger Papke, Jianguo Gu. 2003 Modulation of inhibitory synaptic activity by a non-$\alpha 4\beta 2$, non-$\alpha 7$ subtype of nicotinic receptors in the substantia gelatinosa of adult rat spinal cord. *Pain,* **101:**13-23

Vladimir V. Uteshev, Edwin M. Meyer and Roger L. Papke*. 2002 Activation and inhibition of native neuronal alpha-bungarotoxin-sensitive nicotinic ACh receptors. *Brain Research*, **948**(1-2):33-46.

Roger L. Papke* and Julia K. Porter Papke. 2002 Comparative pharmacology of rat and human α7 nAChR conducted with net charge analysis. *British Journal of Pharmacology,* **137**(1)**:**49-61.

Vladimir V. Uteshev, Edwin M. Meyer, and Roger L. Papke*. 2003. Regulation of neuronal function by choline and 4OH-GTS-21 through alpha7 nicotinic receptors. *Journal of Neurophysiology*, **89**(4):1797-1806.

Charles J. Frazier, Ben W. Strowbridge, and Roger L. Papke. 2003 Nicotinic acetylcholine receptors on local circuit neurons in the dentate gyrus: a potential role in the regulation of granule cell excitability. *Journal of Neurophysiology,* **89(6):**3018-28.

Roger L. Papke*, Julia K. Porter Papke, and Greg Rose. 2003. Activity of α7–selective agonists at nicotinic and serotonin 5HT3 receptors expressed in *Xenopus* oocytes. *Bioorganic & Medicinal Chemistry Letters*, **14**(8): 1849-53.

William R. Kem, Vladimir M. Mahnir, Laszlo Prokai, Roger L. Papke Xuefang Cao, Susan Le Francais, Kristin Wildeboer, Katalin Prokai-Tatrai, Julia Porter-Papke and Ferenc Soti. 2004 Hydroxy metabolites of the Alzheimer's drug candidate DMXBA (GTS-21): their molecular properties, interactions with brain nicotinic receptors and brain penetration, *Molecular Pharmacology,* Jan; **65**(1): 56-67.

Roger L. Papke*, Edwin M. Meyer, Sophie Lavieri, Sirisha R. Bollampally, Thaddeus Papke, Nicole A. Horenstein, Yoshitsugu Itoh, and Julia K. Porter Papke. 2004 Effects at a distance in α7 nAChR selective agonists: Benzylidene substitutions that regulate potency and efficacy, *Journal of Neuropharmacology*, **46**(7):1023-1038.

Mario B. Marrero, Roger L. Papke, Balwinder S. Bhatti, Seán Shaw, and Merouane Bencherif. 2004. The Neuroprotective Effect of TC-1698, A Novel Alpha7 Selective Ligand, Is Prevented Through Angiotensin II Activation of a Tyrosine Phosphatase. *Journal of Pharmacology and Experimental Therapeutics,***309**(1):16-27.

Clare Stokes, Julia Kay Porter Papke, Ben Horenstein, William R. Kem, Tom McCormack and Roger L. Papke*. 2004 The structural basis for drug selectivity between human and rat nicotinic alpha7 receptors. *Molecular Pharmacology* **66**(1):14-24.

John Dominy, Jr., Jeffrey S. Thinschmidt, Joanna Peris, Ralph Dawson, Jr., and Roger L. Papke*. 2004 Taurine-induced long-lasting potentiation in the rat hippocampus shows a partial dissociation from total hippocampal taurine content and independence from activation of known taurine transporters. *Journal of Neurochemistry*, **89**(5):1195-205.

Andon N. Placzek, Francesca Grassi, Thaddeus Papke, Edwin M. Meyer, and Roger L. Papke*. 2004. A single point mutation confers properties of the muscle-type nicotinic acetylcholine receptor to homomeric α7 receptors. *Molecular Pharmacology*, **66**(1):169-177.

Roger L. Papke*, Hillary C. Schiff, Brian A. Jack, and Nicole A. Horenstein. 2005 Molecular dissection of tropisetron, an alpha7 nicotinic acetylcholine receptor-selective partial agonist *Neuroscience Letters,* **378**:140-144.

Roger L. Papke*, Joshua D. Buhr, Michael M. Francis, Kung Il Choi, Jeffrey S. Thinschmidt, Nicole A. Horenstein. The effects of subunit composition on the inhibition of nicotinic receptors by the amphipathic blocker TMPH. *Molecular Pharmacology,* 2005 **67**(6):1977-90.

John H. Graham, Roger L. Papke and Jerry J. Buccafusco. 2005. Functional Central Nicotinic Acetylcholine Receptor Antagonism by Systemic Administration of Tinuvin 770 (BTMPS). *Current Alzheimer Research,* **2**(2)**:**141-147**.**

Ke Ren, Viviana Puig, Roger L. Papke, Yoshihito Itoh, Jeffrey A. Huges and Edwin M. Meyer. 2005. Multiple calcium channels and kinases mediate α7 nicotinic receptor neuroprotection in PC12 cells. *J. Neurochemistry*, **94**(4):926-33**.**

Jeffrey S. Thinschmidt, Charles J. Frazier, Michael A. King, Edwin M. Meyer, and Roger L. Papke*. 2005 Septal innervation regulates the function of α7 nicotinic receptors in CA1 hippocampal interneurons. *Experimental Neurology*, **195**:342-352.

Roger L. Papke*, Guangrong Zheng, Nicole A. Horenstein, Linda Dwoskin, and Peter A. Crooks. 2005. The Characterization of a Novel Rigid Nicotine analog with α7-selective nAChR Agonist Activity and Modulation of Agonist Properties by Boron Inclusion. *Bioorganic & Medicinal Chemistry Letters*, **15**(17):3874-3880.

Jeffrey S. Thinschmidt, Charles J. Frazier, Michael A. King, Edwin M. Meyer, and Roger L. Papke*. 2005 Medial septal/diagonal band cells express multiple functional nicotinic receptor sub-types that are correlated with firing frequency. *Neuroscience letters*, **389(3)**: 163-168.

M. Imad Damaj, Jenny L. Wiley, Billy R. Martin, and Roger L. Papke*. 2005. *In vivo* characterization of a novel inhibitor of CNS nicotinic receptors. *European Journal of Pharmacology,* **521(1-3):**43-48.

Roger L. Papke*, Thomas J. McCormack, Brian A. Jack, Daguang Wang, Bozena Bugaj-Gaweda, Hillary C. Schiff, Joshua D. Buhr, Amanda J. Waber, and Clare Stokes. 2005 Rhesus monkey α7 nicotinic acetylcholine receptors: comparisons to human α7 receptors expressed in *Xenopus* oocytes. *European Journal of Pharmacology,* **524(1-3):**11-18.

Andon N. Placzek, Francesca Grassi, Edwin M. Meyer, and Roger L. Papke*. 2006. An alpha7 nicotinic acetylcholine receptor gain-of-function mutant that retains pharmacological fidelity. *Molecular Pharmacology,* **68(6):**1863-76.

Roger L. Papke*. 2006. Estimation of both the potency and efficacy of α7 nAChR agonists from single concentration responses. *Life Sciences,* **78:**2812-19.

Roger L. Papke*, Linda P. Dwoskin and Peter A. Crooks. 2007. The pharmacological activity of nicotine and nornicotine on nAChRs subtypes: Relevance to nicotine dependence and drug discovery. *Journal of Neurochemistry,* **101:**160-167

Ke Ren, Jeffrey S.Thinschmidt, Ai Lin, Roger L. Papke, Michael A. King, Edwin M. Meyer. 2007. Alpha7 nicotinic receptor gene delivery into mouse hippocampal neurons leads to functional receptor expression, improved spatial memory-related performance, and tau hyperphosphorylation. *Neuroscience,* **145**:314-322.

Fedra M. Leonik, Roger L. Papke, Nicole A. Horenstein. 2007. Quinuclidines as selective agonists for alpha-7 nicotinic acetylcholine receptors. *Bioorganic & Medicinal Chemistry Letters***, 17**:1520-1522.

Nicole A. Horenstein, Thomas J. McCormack, Clare Stokes, Ke Ren, and Roger L. Papke*. 007. Reversal of Agonist Selectivity by Mutations of Conserved Amino Acids in the Binding Site of Nicotinic Acetylcholine Receptors. *Journal of Biological Chemistry*,**282(8)**:5899-5909.

Gretchen Lopez-Hernandez, Andon N. Placzek, Jeffery S. Thinschmidt, Pierre Lestage, Caryn Trocme-Thibierge, Philippe Morain, and Roger L. Papke*. 2007. Partial agonist and neuromodulatory activity of S 24795 for alpha7 nAChR responses of hippocampal interneurons. *Neuropharmacology,* **53(1)**:134-44.

Linda P. Dwoskin, Barry M. Joyce, Guangrong Zheng, Nichole M. Neugebauer, Vamshi K. Manda, Paul Lockman, Roger L. Papke, Michael T. Bardo, and Peter A. Crooks. 2007. Discovery of a novel nicotinic receptor antagonist for the treatment of nicotine addiction: 1-(3-Methylpyridinium)-12-triethylammonium-dodecane dibromide (TMPD). *Biochemical Pharmacology*, **74(8)**:1271-82.

Shafiqur Rahman, Zhenfa Zhang, Roger L. Papke, Peter A. Crooks, Linda P. Dwoskin, and Michael T. Bardo. 2008. Region-specific effects of *N,N'*-dodecane-1,12-diyl-*bis*-3-picolinium dibromide (bPiDDB) on in vivo nicotine-induced increase in extracellular dopamine. *British Journal of Pharmacology*, **153(4)**:792-804

Jeffrey S. Thinschmidt, Ke Ren, Michael A. King, Edwin M. Meyer, and Roger L. Papke*. Modulation of spontaneous hippocampal synaptic events with 5-hydroxyindole, 4OH GTS-21, and rAAV- mediated lpha7 nicotinic receptor gene transfer. 2008. *Brain Research*, **1203**:51-60.

Roger L. Papke*, Linda P. Dwoskin, Peter A. Crooks, Guangrong Zheng, Zhenfa Zhang, J. Michael McIntosh and Clare Stokes. Extending the analysis of nicotinic receptor antagonists with the study of alpha6 nicotinic receptor subunit chimeras. 2008. *Neuropharmacology*, **54(8)**:1189-200.

Fiana Levitin, Mordechai Weiss, Yoonsoo Hahn, Omer Stern, Roger L. Papke, Robert Matusik, Srinivas R. Nandana, Ravit Ziv, Edward Pichinuk, Sharbel Salame, Tapan Bera, James Vincent, Byungkook Lee, Ira Pastan, and Daniel H. Wreschner. Gene Clusters

Code for Multiple, Secreted, TFP/Ly-6/uPAR Proteins That Are Expressed in Reproductive and Neural-Rich Tissues and Possess Neuromodulatory Activity. *Journal of Biological Chemistry*. **283(24)**:16928-39.

Nicole A. Horenstein, Fedra M. Leonik, and Roger L. Papke*. 2008 Multiple pharmacophores for the selective activation of nicotinic α7−type acetylcholine receptors. *Molecular Pharmacology*, **74(6)**:1496-511.

Xiaoqin Huang, Fang Zheng, Clare Stokes, Roger L. Papke, and Chang-Guo Zhan, 2008 Modeling binding modes of α7 nicotinic acetylcholine receptor with ligands: the roles of Gln117 and other residues of the receptor in agonist binding. *Journal of Medicinal Chemistry*, **51(20)**:6293-302.

Jingyi Wang, Roger L. Papke, and Nicole A. Horenstein Synthesis of H-bonding probes of α7 nAChR agonist selectivity. 2008 *Bioorganic and Medicinal Chemistry Letters,* **19(2):**474-6.

Gretchen Y. López-Hernández, Jeffrey S. Thinschmidt, Philippe Morain, Caryn Trocme-Thibierge, William R. Kem, Ferenc Soti, and Roger L. Papke* 2009. Positive modulation of alpha7 nAChR responses in rat hippocampal interneurons to full agonists and the alpha7-selective partial agonists, 4OH-GTS-21 and S 24795. *Neuropharmacology*, **52:**821-830.

Yann S. Mineur, Christoph Eibl, Grace Young, Christopher Kochevar, Roger L. Papke, Daniela Gündisch, Marina R. Picciotto. 2009. Cytisine-based nicotinic partial agonists as novel antidepressant compounds. *Journal of Pharmacology and Experimental Therapeutics*,**329(1)**:377-86.

Roger L. Papke*, William R. Kem, Ferenc Soti, Gretchen Y. López-Hernández, and Nicole A. Horenstein. 2009. Activation and desensitization of nicotinic α7-type acetylcholine receptors by benzylidene anabaseines and nicotine. *Journal of Pharmacology and Experimental Therapeutics*, **329(2)**:791-807.

Dustin K. Williams, Clare Stokes, Nicole A. Horenstein, and Roger L. Papke*. 2009. Differential regulation of receptor activation and agonist selectivity by highly conserved tryptophans in the nicotinic acetylcholine receptor binding site. *Journal of Pharmacology and Experimental Therapeutics*, **330(1):**40-53.

Vladimir P. Grinevich, Roger L. Papke, Patrick M. Lippiello and Merouane Bencherif. 2009. Atypical Antipsychotics as Noncompetitive Inhibitors of α4β2 and α7 Neuronal Nicotinic Receptors. *Neuropharmacology*, 57(2):183-91.

Roger L. Papke*. 2010. Tricks of Perspective: Insights and limitations to the study of macroscopic currents for the analysis of nAChR activation and desensitization. *Molecular Neuroscience*. **40(1-2):77**-86.

Gretchen Y. López-Hernández, Jeffrey S. Thinschmidt, Guangrong Zheng, Zhenfa Zhang, Peter A. Crooks, Linda. P. Dwoskin, and Roger L. Papke*. 2009. Inhibition of acetylcholine-evoked responses of α7 neuronal nicotinic acetylcholine receptors by novel selective *tris*- and *tetrakis*-azaaromatic quaternary ammonium antagonists. *Molecular Pharmacology*. **76(3):**652-66.

Hauser TA, Kucinski A, Jordan KG, Gatto GJ, Wersinger SR, Hesse RA, Stachowiak EK, Stachowiak MK, Papke RL, Lippiello PM, Bencherif M. 2009. TC-5619: An alpha7 neuronal nicotinic receptor-selective agonist that demonstrates efficacy in animal models of the positive and negative symptoms and cognitive dysfunction of schizophrenia. *Biochemical Pharmacology*: **78(7):**803-12.

Reinhard David, Anna Ciuraszkiewicz, Xenia Simeone, Avi Orr-Urtreger, Roger L. Papke, Michael McIntosh, Sigismund Huck, and Petra Scholze. 2010. Biochemical and functional properties of distinct nicotinic acetylcholine receptors in the superior cervical ganglion of mice with targeted deletions of nAChR subunit genes. *European Journal of Neuroscience.* **31(6):**978-93

Roger L. Papke* Lynn Wecker and Jerry A. Stitzel. 2010. Activation and inhibition of mouse muscle and neuronal nicotinic acetylcholine receptors expressed in Xenopus oocytes. *Journal of Pharmacology and Experimental Therapeutics*, **333:**501-18**.**

Youyi Peng, Qiang Zhang, Gretchen Snyder, Hongwen Zhu, Wei Yao, John Tomesch, Roger L. Papke, James P. O'Callaghan, William J. Welsh, and Larry Wennogle. 2010. Discovery of Novel Alpha7 Nicotinic Receptor Antagonists. *Bioorganic & Medicinal Chemistry Letters* **20(16):**4825-30.

Roger L. Papke* Clare Stokes, Dustin K. Williams, Jingyi Wang, and Nicole A. Horenstein. 2011. Cysteine accessibility analysis of the human alpha7 nicotinic acetylcholine receptor ligand binding domain identifies L119 as a gatekeeper. *Neuropharmacology* **60(1):**159-71

Jingyi Wang, Nicole A. Horenstein, Clare Stokes, and Roger L. Papke*. 2010. Tethered agonist analogs as site-specific probes for domains of human alpha7 nicotinic acetylcholine receptor that differentially regulate activation and desensitization. *Molecular Pharmacology*. **78(6):** 1012-25

Roger L. Papke*, Caryn Trocme-Thibierge , Daniela Guendisch, Shehd Abdullah Abbas Al Rubaiy, and Stephen A. Bloom. 2011. Electrophysiological perspectives on the therapeutic use of nicotinic acetylcholine receptor partial agonists *Journal of Pharmacology and Experimental Therapeutics.* **337(2):**1-13.

Dustin K. Williams, Clare Stokes, Nicole A. Horenstein, and Roger L. Papke*. 2011. The effective opening of nicotinic acetylcholine receptors with single agonist binding sites. *Journal of General Physiology.* **137(4):**369-84.

Dustin K. Williams, Jingyi Wang, and Roger L. Papke*. 2011. Investigation of the molecular mechanism of the alpha7 nAChR positive allosteric modulator PNU-120596 provides evidence for two distinct desensitized states. *Molecular Pharmacology*. **80(6):**1013-32.

Teresa A. Murray, Daniel Bertrand, Roger L. Papke, Andrew A. George Rigo Pantoja, Rahul Srinivasan, Qiang Liu, Jie Wu, Paul Whiteaker, Henry A. Lester, Ronald J. Lukas. 2012. α7β2 nAChRs assemble and function, and are activated primarily via their α7–α7 interfaces. *Molecular Pharmacology*. **81(2):** 175-88.

Clare Stokes and Roger L. Papke*. 2012. Use of an α3-β4 nicotinic acetylcholine receptor subunit concatamer to characterize ganglionic receptor subtypes with specific subunit composition reveals species-specific pharmacologic properties. *Neuropharmacology*, **63(4):**538-46.

Roger L. Papke*, Fumihito Ono, Clare Stokes, Jason Urban, and R. Thomas Boyd. 2012. The nicotinic acetylcholine receptors of zebrafish and an evaluation of pharmacological tools used for their study. *Biochemical Pharmacology*, **84(3):**352-65**.**

Jingyi Wang, Roger L. Papke, Clare Stokes, Nicole A. Horenstein. 2012. Potential state-selective hydrogen bond formation can modulate the activation and desensitization of the α7 nicotinic acetylcholine receptor. *Journal of Biological Chemistry*, **287(26):**21957-69.

Dustin K. Williams, Can Peng, Matthew R. Kimbrell, Roger L. Papke*. 2012. The intrinsically low open probability of α7 nAChR can be overcome by positive allosteric modulation and serum factors leading to the generation of excitotoxic currents at physiological temperatures. *Molecular Pharmacology*, **82(4):**746-59.

Matthew D. Isaacson, Nicole A. Horenstein, Clare Stokes, William R. Kem, and Roger L. Papke*. 2013. Point-to-point ligand-receptor interactions across the subunit interface modulate the induction and stabilization of conformational states of alpha7 nAChR by benzylidene anabaseines. *Biochemical Pharmacology*, **85(6):**817-28.

Kinga Chojnacka, Roger L Papke, and Nicole A Horenstein. 2013. Synthesis and evaluation of a conditionally-silent agonist for the alpha7 nicotinic acetylcholine receptor *Bioorganic & Medicinal Chemistry Letters*, **23(14):**4145-9.

Can Peng, Matthew R. Kimbrell, Chengju Tian, Thomas F. Pack, Peter A. Crooks, E. Kim Fifer, and Roger L. Papke*. 2013. Multiple modes of α7 nAChR non-competitive antagonism of control agonist-evoked and allosterically enhanced currents. *Molecular Pharmacology*,**84(3):**459-75.

Can Peng, Clare Stokes, Yann S. Mineur, Marina R. Picciotto, Chengju Tian, Christoph Eibl, Isabelle Tomassoli, Daniela Guendisch and Roger L. Papke*. 2013. Differential modulation of brain nicotinic acetylcholine receptor function by cytisine, varenicline and two novel bispidine compounds: Emergent properties of a hybrid molecule. *Journal of Pharmacology and Experimental Therapeutics*, **347(2):**424-37.

Igari M, Alexander J.C., Bauzo R.M., Xiaoli Q., Papke R.L., Bruijnzeel A.W. 2013. Varenicline and cytisine diminish the dysphoria associated with nicotine withdrawal in rats. *Neuropsycopharmacology*. **39(2)**:455-65.

Christoph Eibla, , Isabelle Tomassoli, Clare Stokes, Roger L. Papke, Daniela Gündisch, 2013. The 3,7-diazabicyclo[3.3.1]nonane scaffold for subtype selective nicotinic acetylcholine receptor (nAChR) ligands: Part 1. The influence of different hydrogen bond acceptor systems on alkyl and (hetero)aryl substituents. *Bioorganic & Medicinal Chemistry*, **21(23):**7283-308.

Christoph Eibl, Lenka Muñoz, Isabelle Tomassoli, Clare Stokes, Roger L. Papke, Daniela Gündisch, 2013. The 3,7-Diazabicyclo[3.3.1]nonane scaffold for subtype selective nicotinic acetylcholine receptor ligands. Part 2. Carboxamide derivatives with different spacer motifs. *Bioorganic & Medicinal Chemistry*, **21(23):**7309-29.

Ganesh A. Thakur, Abhijit R. Kulkarni, Jeffrey R. Deschamps, Roger L. Papke. 2013 Expeditious Synthesis, Enantiomeric Resolution and Enantiomer Functional Characterization of (4-(4-bromophenyl)-3a, 4, 5, 9btetrahydro-3H-cyclopenta[c]-quinoline-8-sulfonamide (4BP-TQS): an Allosteric agonist-Positive Allosteric Modulator of α7 Nicotinic Acetylcholine Receptors. *Journal of Medicinal Chemistry*, **56 (21):**8943–8947.

Roger L. Papke*, Clare Stokes, P. Muldoon, M. Imad Damaj. 2013 Similar activity of mecamylamine stereoisomers in vitro and in vivo. *European Journal or Pharmacology*. **720(1-3)**:264-75.

J. Eskildsen, J. P. Redrobe, A. G. Sams, K. Dekermendjian, M. Laursen, J. B. Boll, R. L. Papke, C. Bundgaard, K. Frederiksen, J. F. Bastlund. 2014. Discovery and optimization of Lu AF58801, a novel, selective and brain penetrant positive allosteric modulator of alpha-7 nicotinic acetylcholine receptors: Attenuation of subchronic phencyclidine (PCP)-induced cognitive deficits in rats following oral administration. *Bioorg Med Chem Lett.* **24(1):**288-93.

Roger L. Papke*, Nicole A. Horenstein, A. R. Kulkarni, Clare Stoke, L. W. Corrie, C. Y. Maeng, Ganesh A. Thakur. 2014. The activity of GAT107, an allosteric activator and positive modulator of α7 nAChR, is regulated by aromatic amino acids that span the subunit interface. *Journal of Biochemistry.* **289(7):**4515-31.

T. D. McClure-Begley, R. L. Papke, K. L. Stone, C. Stokes, A. D. Levy, J. Gelernter, P. Xie, J. Lindstrom, M. R. Picciotto, 2013. Rare human nicotinic acetylcholine receptor alpha4 subunit (CHRNA4) variants affect expression and function of high affinity nicotinic acetylcholine receptors. *J. P. E. T.* **348(3):**410-20.

Ponzoni Luisa, Daniela Braida, Luca Pucci, Donzelli Andrea, Francesca Fasoli, Irene Manfredi, Roger L. Papke, Clare Stokes, Cannazza Giuseppe, Francesco Clementi, Cecilia Gotti, and Mariaelvina Sala. The cytisine derivatives, CC4 and CC26, reduce nicotine-induced conditioned place preference in zebrafish by acting on heteromeric neuronal nicotinic acetylcholine receptors. *Psychopharmacology*, **231(24)**:4681-93.

Roger L. Papke*, Kinga Chojnacka, and Nicole A. Horenstein. 2014. The minimal pharmacophore for silent agonism of alpha7 nAChR. *Journal of Pharmacology and Experimental Therapeutics,* **350(3):**665-680.

T. Bordia, M. McGregor, R. L. Papke, M. W. Decker, J. M. McIntosh, and M. Quik. 2015. The α7 nicotinic receptor agonist ABT-107 protects against nigrostriatal damage in rats with unilateral 6-hydroxydopamine lesions. *Exp Neurol.* **263C**:277-284.

Roger L Papke, Deniz Bagdas, Abhijit R Kulkarni, Timothy Gould, Shakir AlSharari, Ganesh A Thakur, and Imad M Damaj. 2015. The analgesic-like properties of the alpha7 nAChR silent agonist NS6740 is associated with nonconducting conformations of the receptor. *Neuropharmacology* **91:**34-42.

Marjolein A. van Maanen, Roger L. Papke, Frieda A. Koopman, Jessica Koepke, Lisette Bevaart, Roger Clark, Diana Lamppu, Daniel Elbaum, Gregory J. LaRosa, Paul P. Tak, and Margriet J. Vervoordeldonk. 2015. Two novel α7 nicotinic acetylcholine receptor ligands: in vitro properties and their efficacy in collagen-induced arthritis in mice. *PLoS One* Jan 24, 2015 **10**(1).

Roger L. Papke*, Nicole A. Horenstein, and Clare Stokes. 2015. Nicotinic activity of arecoline, the psychoactive element of "betel nuts", suggests a basis for habitual use and anti-inflammatory activity. *PLoS One* **Oct 21;10(10):**e0140907.
Press release and video: https://ufhealth.org/news/2015/researcher-finds-key-clues-about-betel-nut-addiction-plagues-millions-worldwide

Marta Quadri, Roger L. Papke, and Nicole A. Horenstein. 2016. Dissection of *N*,*N*-diethyl-*N*'-phenylpiperazines as α7 nicotinic receptor silent agonists. *Bioorganic and Medicinal Chemistry*. **24(2)**:286-93.

Nicole A. Horenstein†, Roger L. Papke†, Abhijit R. Kulkarni, Ganesh U. Chaturbhuj, Clare Stokes, Khan Manther and Ganesh A. Thakur. 2016. Critical Determinants of α7 Nicotinic Acetylcholine Receptor Allosteric Activation: Separation of Direct Allosteric Activation and Positive Allosteric Modulation. *Journal of Biochemistry.* **291(10):**5049-67. †These authors contributed equally.

Deniz Bagdas, Jenny L. Wilkerson, Abhijit Kulkarni, Wisam Toma, Shakir AlSharari, Zulfiye Gul, Aron H. Lichtman, Roger L. Papke, Ganesh A. Thakur, and M. Imad Damaj. 2016. The α7 nicotinic receptor dual allosteric agonist and positive allosteric modulator GAT107 reverses nociception in mouse models of inflammatory and neuropathic pain. *British Journal of Pharmacology.* **173(16):**2506-20.

Hillmer AT, Esterlis I, Gallezot JD, Bois F, Zheng MQ, Nabulsi N, Lin SF, Papke RL, Huang Y, Sabri O, Carson RE, Cosgrove KP. Imaging of Cerebral α4β2* Nicotinic Acetylcholine Receptors with (-)-[()F]Flubatine PET: Implementation of Bolus Plus Constant Infusion and Sensitivity to Acetylcholine in Human Brain. *Neuroimage*. 2016 Jul 14. **141:**71-80.

Roger L. Papke*, Clare Stokes, M. Imad Damaj, Ganesh A. Thakur, Khan Manther, Millet Treinin, Deniz Bagdas, Abhijit R. Kulkarni, and Nicole A. Horenstein. 2018. Persistent activation of α7 nAChRs associated with stable induction of different desensitized states. *British Journal of Pharmacology*. **175(11):**1838-1854.

Marta Quadri, C. Matera, A Silnović, M. C. Pismataro, Nicole A. Horenstein, Clare Stokes, Roger L. Papke C. Dallanoce. 2017. Identification of α7 Nicotinic Acetylcholine Receptor Silent Agonists Based on the Spirocyclic Quinuclidine-Δ(2) -Isoxazoline Scaffold: Synthesis and Electrophysiological Evaluation. *ChemMedChem.* **12(16):**1335-1348.

G. Donvito,D. Bagdas, W. Toma, E. Rahimpour, A. Jackson, J. A. Meade, S. AlSharari, A.R. Kulkarni, F. Ivy Carroll, A.H. Lichtman, Roger L. Papke, G. A. Thakur, M. Imad Damaj. 2017. The interaction between alpha 7 nicotinic acetylcholine receptor and nuclearperoxisome proliferator-activated receptor-α represents a new antinociceptive signaling pathway in mice. *Exp Neurol.* **295:**194-201.

Y. Jin, X .Huang, Roger L. Papke, E. M. Jutkiewicz, H. D. Showalter, C. G. Zhan. 2017 Design, synthesis, and biological activity of 5'-phenyl-1,2,5,6-tetrahydro-3,3'-bipyridine analogues as potential antagonists of nicotinic acetylcholine receptors. *Bioorg Med Chem Lett.* **27(18):**4350-4353

M. Abbas, S .Alzarea, Roger L. Papke, S. Rahman. 2017. The α7 nicotinic acetylcholine receptor positive allosteric modulator attenuates lipopolysaccharide-induced activation of hippocampal IκB and CD11b gene expression in mice. *Drug Discov. Ther*. **11(4)**:206-211.

Marta Quadri, Clare Stokes, Alican Gulsevin, Ashley Felts, Khalil Abboud, Roger L. Papke, Nicole A. Horenstein 2017. Sulfonium as a surrogate for Ammonium: A new α7 nicotinic acetylcholine receptor partial agonist with desensitizing activity. *Journal of Medicinal Chemistry.* **24(2)**:286-93.

Nicole A. Horenstein, Marta Quadri, Clare Stokes, Mohammed Shoaib, and Roger L. Papke 2017. Cracking the betel nut: cholinergic activity of Areca alkaloids and related compounds. *Nicotine and Tobacco Research.* **21(6):**805-812**.**

Karsten Hueffer, Shailesh Khatri, Shane Rideout, Michael B. Harris, Roger L. Papke, Clare Stokes, Marvin K. Schulte. 2017. Rabies virus modifies host behaviour through a snake-toxin like region of its glycoprotein that inhibits neurotransmitter receptors in the CNS. *Scientific Reports*. **7(1):**12818.

A. Jackson, Roger L. Papke, M. Imad Damaj. 2018 Pharmacological modulation of the α7 nicotinic acetylcholine receptor in a mouse model of mecamylamine-precipitated nicotine withdrawal. *Psychopharmacology (Berl)*. **235(7):**1897-1905.

Roger L. Papke*, Can Peng, Ashok Kumar, Clare Stokes. 2018. NS6740, an α7 nicotinic acetylcholine receptor silent agonist, disrupts hippocampal synaptic plasticity. *Neuroscience Letters.* **677**:6-13.

Marta Quadri, Deniz Bagdas, Wisam Toma, Clare Stokes, Nicole A. Horenstein, M. Imad Damaj and Roger L. Papke*. 2018. The antinociceptive and anti-inflammatory properties of the α7 nAChR weak partial agonist *p*-CF_3 N,N-diethyl-N'-phenylpiperazine. *Journal of Pharmacology and Experimental Therapeutics,* **367(2):**203-214.

M. Quadri, A. Silnović, C. Matera, N. A. Horenstein, C. Stokes, M. De Amici, Roger L. Papke and C. Dallanoce 2018 Novel 5-(quinuclidin-3-ylmethyl)-1,2,4-oxadiazoles to investigate the activation of the α7 nicotinic acetylcholine receptor subtype: Synthesis and electrophysiological evaluation. *Eur J Med Chem.* 2018 Dec 5;**160:**207-228.

Sumanta Garai, Krishnamohan S. Raja, Roger L. Papke, Jeffrey R. Deschamps, M. Imad Damaj, and Ganesh A. Thakur. 2019. B-973, a Novel α7 nAChR Ago-PAM: Racemic and Asymmetric Synthesis, Electrophysiological Studies, and in Vivo Evaluation. *ACS Med. Chem. Lett.* **9(11)**:1144-1148.

Marta Quadri, Sumanta Garai, Ganesh A. Thakur, Clare Stokes, Alican Gulsevin, Nicole A. Horenstein, and Roger L. Papke* 2019. Macroscopic and microscopic activation of α7 nicotinic acetylcholine receptors by the structurally unrelated ago-PAMs B-973B and GAT107. *Molecular Pharmacology* **95(1):** 1-19.

Prakash C. Gupta, Cecily S. Ray, Roger L. Papke, Irina Stepanov, Samir S. Khariwala, Pankaj Chaturvedi, Himanshu A. Gupte and Mangesh S. Pednekar. 2018. Perspectives on areca nut with some global implications: Symposium report. *Translational Research in Oral Oncology* **3**: 1–8.

Alican Gulsevin, Roger L. Papke*, Clare Stokes, Sumanta Garai, Ganesh A. Thakur, Marta Quadri, and Nicole A. Horenstein*. 2019 Allosteric agonism of α7 nicotinic acetylcholine receptors. *Molecular Pharmacology* **95(6)**:606-614.

Roger L. Papke*, Indraneel Bhattacharyya, Dorothy K. Hatsukami, Ingyin Moe, and Sam Glatman. 2019 Betel nut (areca) and smokeless tobacco use in Myanmar. *Substance Use and Misuse*. **20**:1-10**.**

Clare Stokes, Sumanta Garai, Abhijit R. Kulkarni, Lucas N. Cantwell, Colleen M. Noviello, Ryan E. Hibbs, Nicole A. Horenstein, Khalil A. Abboud, Ganesh A. Thakur, and Roger L. Papke*. 2019 Heteromeric neuronal nicotinic acetylcholine receptors with mutant beta subunits acquire sensitivity to α7-selective positive allosteric modulators. *Journal of Pharmacology and Experimental Therapeutics,* **370(2)**:252-268**.**

Muzaffar Abbas, Sami Alzarea, Roger L Papke, Shafiqur Rahman. The α7 nicotinic acetylcholine receptor positive allosteric modulator prevents lipopolysaccharide-induced allodynia, hyperalgesia and TNF-alpha in the hippocampus in mice. 2019 *Pharmacological Reports* **71(6)**:1168-1176.

A. Jackson, Y. Alkhlaif, R.L. Papke, D.H. Brunzell and M.I. Damaj. Impact of Modulation of the α7 Nicotinic Acetylcholine Receptor on Nicotine reward in the Mouse Conditioned Place Preference Test. 2019 *Psychopharmacology* **236(12)**:3593-3599.

Wisam Toma, S. Lauren Kyte, Deniz Bagdas, Asti Jackson, Julie A. Meade, Faria Rahman, Zhi-Jian Chen, Egidio Del Fabbro, Lucas Cantwell, Abhijit Kulkarni, Ganesh A. Thakur, Roger L. Papke, John W. Bigbee, David A. Gewirtz, and M. I. Damaj The α7 nicotinic receptor silent agonist R-47 prevents and reverses paclitaxel-induced peripheral neuropathy in mice without tolerance or altering nicotine reward and withdrawal. *Experimental Neurology* 2019 Oct;**320:113010**

G. A. Camacho-Hernandez, C. Stokes, B. M. Duggan, K. Kaczanowska, S. Brandao-Araiza, L. Doan, R. L. Papke, P. Taylor. Synthesis, pharmacological characterization, and structure-activity relationships of non-canonical selective agonists for α7 nAChRs. *Journal of Medicinal Chemistry* 2019 **;62(22):**10376-10390

J. R. Godin, P. Roy, M. Quadri, D. Bagdas, W. Toma, R. Narendrula-Kotha, O. A. Kishta, M. I .Damaj, N. A. Horenstein, R. L. Papke, A. R. Simard. A silent agonist of α7 nicotinic acetylcholine receptors modulates inflammation ex vivo and attenuates EAE. *Brain Behav Immun.* 2019 **1591(19):** 31074-8.

Maria Chiara Pismataro, Nicole A. Horenstein, Clare Stokes, Marta Quadri, Marco De Amici, Roger L. Papke, Clelia Dallanoce. Design, synthesis, and electrophysiological evaluation of NS6740 derivatives: Exploration of the structure-activity relationship for alpha7 nicotinic acetylcholine receptor silent activation. European Journal of Medicinal Chemistry 2020 **205**: 1-20.

Muzaffar Abbas, Sami Alzarea, Roger L Papke, Shafiqur Rahman. Effects of α7 Nicotinic Acetylcholine Receptor Positive Allosteric Modulator on BDNF, NKCC1 and KCC2 Expression in the Hippocampus following Lipopolysaccharide-induced Allodynia and Hyperalgesia in a Mouse Model of Inflammatory Pain. CNS Neurol Disord Drug Targets 2020 doi: 10.2174/1871527319666201230102616.

Roger L. Papke*, Sumanta Garai, Clare Stokes, Nicole A. Horenstein, Arthur D. Zimmerman, Khalil A. Abboud, and Ganesh A. Thakur*. Differing Activity Profiles of the Stereoisomers of 2,3,5,6TMP-TQS, a Putative Silent Allosteric Modulator of α7 nAChR. *Molecular Pharmacology*. 2020 **98(4)**:292-302

Lu Wenchi Corrie, Jenny L. Wilkerson, F. Ivy Carroll, Lance R. McMahon, and Roger L. Papke*. Nicotinic Acetylcholine Receptor Accessory Subunits Determine the Activity Profile of Epibatidine Derivatives. *Molecular Pharmacology*. 2020 **98(4)**:328-342.

Douglas R. Miller, Habibeh Khoshbouei, Sumanta Garai, Lucas N. Cantwell, Clare Stokes, Ganesh Thakur, and Roger L. Papke*. Allosterically Potentiated α7 Nicotinic Acetylcholine Receptors: Reduced Calcium Permeability and Current-Independent Control of Intracellular Calcium. *Molecular Pharmacology*. 2020 **98(6):**695-709.

Maria Chiara Pismataro, Nicole A. Horenstein, Clare Stokes, Clelia Dallanoce *, Ganesh A. Thakur, Roger L. Papke. Stable desensitization of α7 nicotinic acetylcholine receptors by NS6740 requires interaction with S36 in the orthosteric agonist binding site. *European Journal of Pharmacology*. Aug 15;905:174179. doi:10.1016 j.ejphar.2021.174179. Epub 2021 May 15

Alican Gulsevin 1, Roger L. Papke, Clare Stokes, Hue N. T. Tran, Aihua H. Jin, Irina Vetter and Jens Meiler. The Allosteric Activation of α7 nAChR by α-Conotoxin MrIC Is Modified by Mutations at the Vestibular Site. *Toxins* (Basel). 2021 Aug 10;**13(8**):555. PMID: 34437426 PMCID: PMC8402416

Nicole A. Horenstein, Clare Stokes, Roger L. Papke. Sulfonium Ligands of the α7 nAChR. Molecules. 2021 Sep 17 **26(18)**:5643. doi: 10.3390/molecules26185643. PMID: 34577114 PMCID: PMC8464850

Roger L. Papke*, Hina Andleeb, Clare Stokes, Marta Quadri, and Nicole A. Horenstein. Selective Agonists and Antagonists of α9 Versus α7 Nicotinic Acetylcholine Receptors. *ACS Chem Neurosci.* 2022, 2022, **13(5):**624-637**.**

Katrin Richter[#], Roger L. Papke[#], Clare Stokes, Danika Roy, Eduardo S. Espinosa, Philipp M. K. Wolf, Andreas Hecker, Juliane Liese, Vijay K. Singh, Winfried Padberg, Klaus-Dieter Schlüter, Marius Rohde, J. Michael McIntosh, Barbara J. Morley, Nicole A. Horenstein, Veronika Grau, Alain R. Simard. Comparison of two unconventional nicotinic acetylcholine receptor ligands, phosphocholine and pCF3-diEPP. *Frontiers in Cellular Neuroscience*. 2022 Mar 31**;16:**779081
[#] These authors share first authorship.

Roger L. Papke, Madison Karaffa, Nicole A. Horenstein, and Clare Stokes. Coffee and cigarettes: modulation of high and low sensitivity α4β2 nicotinic acetylcholine receptors by n-MP, a biomarker of coffee consumption. *Neuropharmacology*. 2022 Sep 15;**216**:109173.

Clare Stokes, Jose A. Pino, D. Walker Hagan, Gonzalo E. Torres, Edward A. Phelps, Nicole A. Horenstein, and Roger L. Papke. Betel quid: New insights into an ancient addiction. *Addiction Biology*. 2022 Sep;**27(5)**:e13223

Clare Stokes, Gisela Camacho-Hernandez, Ganesh A. Thakur GA, Xiaoxua Wu, Palmer Taylor, and Roger L. Papke*. Differential Activation and Desensitization States Promoted by Noncanonical α7 Nicotinic Acetylcholine Receptor Agonists. *J Pharmacol Exp Ther.* 2022 Nov;**383(2)**:157-171.

Lois S. Akinola, Deniz Bagdas, Yasmin Alkhlaif, Asti Jackson, Cenk O. Gurdap, Elnaz Rahimpour, F. Ivy Carroll, Roger L. Papke, and M. Imad Damaj. Pharmacological characterization of 5-iodo-A-85380, a β2-selective nicotinic receptor agonist, in mice. *Journal of Psychopharmacology* 2022 Nov;**36(11):**1280-1293

Roger L. Papke* and Clare Stokes. Insights into the differential desensitization of alpha4beta2 nicotinic acetylcholine receptor isoforms obtained with positive allosteric modulation of mutant receptors. *Molecular Pharmacology*, 2023. **103(2):**63-76.

Katrin Richter, Sara M. Herz, Clare Stokes, M. Imad Damaj, Veronika Grau, and Roger L. Papke*. Pharmacological profiles and anti-inflammatory activity of *p*CN-diEPP and *m*CN-diEPP, new alpha9alpha10 nicotinic receptor ligands. *Neuropharmacology*. Dec 1;240:109717. doi: 10.1016/j.neuropharm.2023.109717. Epub 2023 Sep 25.

Clelia Dallanoce, Katrin Richter, Clare Stokes, Claudio Papotto, Hina Andleeb, Ganesh A. Thakur, Andrew Kerr, Veronika Grau, and Roger L. Papke*. New alpha9 nAChR ligands based on a 5-(quinuclidin-3-ylmethyl)-1,2,4-oxadiazole scaffold. *ACS Chem Neurosci.* 2024 **21;15(4)**:827-843.

Lois S Akinola, Jada Gonzales, Belle Buzzi, Hunter L Mathews, Roger L Papke, Jerry A Stitzel, M Imad Damaj. Investigating the role of nicotinic acetylcholine receptors in menthol's effects in mice. *Drug Alcohol Depend.* 2024 Apr 1:257:111262. doi: 10.1016/j.drugalcdep.2024.111262. Epub 2024 Mar 8.

Hina Andleeb, Roger L. Papke*, Clare Stokes, Katrin Richter, Sara Herz, Ka Chiang, Siva Kanumuri, Abhisheak Sharma, M. Imad Damaj, Veronika Grau, Nicole A. Horenstein, Ganesh A. Thakur. Explorations of agonist selectivity for the α9* nAChR with novel substituted carbamoyl/amido/heteroaryl dialkylpiperazinium salts and their therapeutic implications in pain and inflammation. *J Med Chem.* **2024 Jun 13;67(11):8642-8666**. doi: 10.1021/acs.jmedchem.3c02429. Epub 2024 May 15. PMID: 38748608; PMCID: PMC11181317

Roger L. Papke*. Functions and pharmacology of α2β2 nicotinic acetylcholine receptors; in and out of the shadow of α4β2 nicotinic acetylcholine receptors. *Biochem Pharmacol.* **2024 Jul;225:116263**. doi: 10.1016/j.bcp.2024.116263. Epub 2024 May 10. PMID: 38735444; PMCID: PMC11335000.

Claudio Papotto, Clare Stokes, Carlo Matera, Sara M Herz, Ka Chiang, Rebecca Ferrisi, Marco De Amici, M Imad Damaj, Roger L Papke, Clelia Dallanoce. Sulfonium Moieties as Ammonium Bioisosteres: Novel Ligands for the Alpha7 Nicotinic Acetylcholine Receptor *J Med Chem.* 2025 Jan 20. doi: 10.1021/acs.jmedchem.4c02399.

Hina Andleeb#, Roger L. Papke#, K. Richter, V. Grau V, A. J. Hone, A. Kerr A, J. M. McIntosh JM, C. Stokes, G. A.Thakur. Stereoisomers of Chiral Methyl-Substituted Symmetric and Asymmetric Aryl Piperazinium Compounds Exhibit Distinct Selectivity for α7 and α9 Nicotinic Acetylcholine Receptors. *ACS Chem Neurosci*. 2025 Jun 30. doi: 10.1021/acschemneuro.5c00204. Online ahead of print. PMID: 40587620
[#] These authors share first authorship.

Hina Andleeb, Alican Gulsevin A, Roger L. Papke. The Functional Topology of Phenylpiperazinium Agonists and Antagonists on the Nicotinic Acetylcholine Receptor Landscape: Pointing the Way for Future Therapeutic Management of Inflammation and Neuropathic Pain. ACS Chem Neurosci. 2025 Jul 8. doi: 10.1021/acschemneuro.5c00216. Online ahead of print. PMID: 40627769

* corresponding author

Abstracts:

Patrick W. Concannon, Tom Pilbeam, Roger L. Papke, Hugh Travis. 1978. Annual reproductive cycle of the mink (*Mustela vison*). *Program of the Annual Conference of the Society for the Study of Fertility.* Page 20, Cambridge.

Roger L. Papke and Robert E. Oswald. 1986. Effects of tetracaine on the burst durations and voltage dependence of nicotinic acetylcholine receptors from BC3H-1 cells. *16th Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Glenn Millhauser, Zorba Lieberman and Robert Oswald. 1987. The relationship of agonist properties to the activation kinetics of the nicotinic acetylcholine receptor. *17th Annual Meeting of the Society for Neuroscience.*

R.E. Oswald, R.L. Papke and R.J. Lukas. 1988. Characterization of nicotinic acetylcholine receptor channels of the TE671 human medulloblastoma cell line. *32nd Annual Meeting of the Biophysical Society.*

Steve Heinemann, Jim Boulter, Evan Deneris, John Connelly, Roger Papke, Etsuko Wada, Keiji Wada, Marc Ballivet, Larry Swanson, and Jim Patrick. 1988. The nicotinic acetylcholine receptor gene family. *N.A.T.O. Advanced Research Workshop on Nicotinic Acetylcholine Receptors in the Nervous System.* Venice, Italy, April 1988.

R. L. Papke, R. Duvoisin, J. Boulter, and S. Heinemann. 1989. The possible importance of the neuronal nicotinic subunit β_4 to the kinetic properties of the adrenal chromaffin cell AChR. *19th Annual Meeting of the Society for Neuroscience.* 333.12

Jim Boulter, John Connelly, Evan Deneris, Robert Duvoisin, Roger Papke, Jim Patrick and Steve Heinemann 1989. Molecular biology of neuronal nicotinic acetylcholine receptors. *International Brain Research Organization and The Israel Academy of Sciences and Humanities Symposium on Cellular Neurobiology: Ions, Molecules, and Genes.* Jerusalem, Israel. October 23-25, 1989

S. Heinemann, J. Boulter, J. Connelly, E. Deneris, R. Duvoisin, M. Hartley, I. Hermans-Borgmeyer, M. Hollmann, D. Johnson, A. O'Shea-Greenfield, R. Papke, and S. Rogers 1990. THe glutamate and nicotinic receptor genes. *The 34th annual meeting of The Biophysical Society.* Baltimore. MD February 18 -22 1990. *Biophysical J.* **57**:Tu-AM-Sym I-1.

S. Heinemann, B.Bettler, J. Boulter, E. Deneris, R. Duvoisin, G. Gasic, M. Hartley, I. Hermans-Borgmeyer, M. Hollmann, D. Johnson, A. O'Shea-Greenfield, R. Papke, and S. Rogers 1990. The glutamate receptor gene family. *The Cold Springs Harbor 55th Symposium on Quantitative Biology: The Brain.* Cold Springs Harbor, N.Y. May 30 - June 6, 1990.

B. Bettler, J. Boulter, E. Deneris, I. Hermans-Borgmeyer, A. O'Shea-Greenfield, M. Hartley, C. Moll, R. Papke, and S. Heinemann. 1990. Molecular structure and expression of rat glutamate receptors. *20th Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Robert Duvoisin, and Stephen F. Heinemann. 1991. The extracellular domain of the neuronal nicotinic subunit β4 determines the pharmacology of receptors formed with α3. *21th Annual Meeting of the Society for Neuroscience.* 534.12

W. R. Kem and R. L. Papke. 1992. Action of anabaseine and DMAB-anabaseine upon the α4β2 and PC12 cell nicotinic receptors. *22th Annual Meeting of the Society for Neuroscience.* 569.19

Roger L. Papke. 1993. Use-dependent inhibition of neuronal nicotinic AChR by Tinuvin® 770 (bis (2, 2, 6, 6, - tetramethyl-4-piperidinyl) sebacate), A possible additive to laboratory plastics. *37th Annual Meeting of the Biophysical Society.* **64**: WED P-421

Roger L. Papke, Christopher M. de Fiebre, Bruce E. Hunter, William R. Kem, and Edwin M. Meyer. 1993. DMXB, a novel nicotinic ligand which modulates hippocampal LTP, has agonist and antagonist effects on nicotinic α7 receptors. *23th Annual Meeting of the Society for Neuroscience.* 120.8

Roger L. Papke, Wayne Gottlieb, Ben Horenstein, and Michael Francis. 1994. Bridging the nicotinic acetylcholine receptor channel: prolonged inhibition associated with use-dependent binding of a bi-functional inhibitor. *24th Annual Meeting of the Society for Neuroscience.* 463.12

C.M. de Fiebre, R.L. Papke and E.M. Meyer. 1995. Effects of ethanol on neuronal nicotinic receptors expressed in *Xenopus* oocytes. *25th Annual Meeting of the Society for Neuroscience.* 206.8

D.H. Feldman, J.S. Thinschmidt, A.L. Peel, R.L. Papke, and P.J. Reier. 1995. Differentiation of ionic currents in CNS progenitor cells. *25th Annual Meeting of the Society for Neuroscience.* 122.5

R.L. Papke, C.M. de Fiebre, B.A. Moulton, J.S. Thinschmidt, R. Quintana[1], and E.M. Meyer. 1995. Activation and inhibition of neuronal nAChRs by potential therapeutic agents. *25th Annual Meeting of the Society for Neuroscience.* 247.14

M. M. Francis, R. Quintana, and R.L. Papke 1995. Common structural determinants of physiological and pharmacological properties in nAChR. *25th Annual Meeting of the Society for Neuroscience.* 36.2

N.B. Karkanias, R.H. Lenox, and R.L. Papke. 1995. Interactions between lithium and neuronal nicotinic receptors: Potential significance for the clinical use of lithium. *25th Annual Meeting of the Society for Neuroscience.* 33.19

J. Watterson, P. Lippiello, M. Bencherif, and R. L. Papke. 1996 In vitro activation of $\alpha 4\beta 2$ nAChR by RJR-2403 suggests differential desensitization by nicotine. *26th Annual Meeting of the Society for Neuroscience.* 503.23

M. M. Francis, Kyung Choi, Ben Horenstein and R.L. Papke. 1996 The disposition of use-dependent binding sites in nAChR. *26th Annual Meeting of the Society for Neuroscience.* 602.4

R.L. Papke, E. M. Meyer, and C.M. de Fiebre Differential discrimination between human and rat $\alpha 7$ nAChR by GTS-21 and its primary metabolite, 4-OH,2 methoxybenzylidene anabaseine. *26th Annual Meeting of the Society for Neuroscience.* 602.3

Anatolii Y. Kabakov, Nikolas B. Karkanias and Roger L. Papke. Estimation of lithium diffusion in dendritic spines during activation of glutamate receptors. 1997 *Biophysical Journal* **72 (2)** A118.

R.L. Papke, M.M. Francis and J.S. Thinschmidt, Techniques for improved resolution of kinetic data from macroscopic currents. 1997 *Biophysical Journal* **72 (2)** A41.

M.M. Francis, K.S. Clark and R.L. Papke, 1997 Role of $\alpha 5$ subunit in determining relationship of peak to late-phase current in human $\alpha 3\beta 2\alpha 5$ neuronal nicotinic acetylcholine receptors. *27th Annual Meeting of the Society for Neuroscience.*

K. Sawh and R. L. Papke, 1997. Effects of subunit composition on nicotinic AChR inhibition by hexamethonium and decamethonium: dissociation of sensitivity and mechanism. *27th Annual Meeting of the Society for Neuroscience.*

N.B. Karkanias, A.Y. Kabakov and R.L. Papke, 1997. Lithium differentially affects glutamate receptors. *27th Annual Meeting of the Society for Neuroscience.*

Anatolii Y. Kabakov and Roger L. Papke, 1998. Kinetics Of BTMPS Block Of Expressed Muscle nAChR in Outside-Out Patches: High Resolution Analysis Of A Slow Process. *Biophysical Journal* **73 (2)**

R.L. Papke, J. C. Webster, P. M. Lippiello, M. Bencherif, and M. M. Francis, 1998. RJR-2403 is an efficacious agonist for human $\alpha 4\beta 2$ neuronal nicotinic acetylcholine receptors with lower efficacy for other human receptor subtypes. *28th Annual Meeting of the Society for Neuroscience.* **39.26**

J.C. Webster, M.M. Francis, and R.L. Papke, 1998. Differential sensitivity to the antagonist effects of mecamylamine and nicotine regulated by the AChR beta subunit TM2 domain. *28th Annual Meeting of the Society for Neuroscience* **332.19**.

N.B Karkanias and R.L. Papke, 1998. Potential mechanism for the effect of lithium on AMPA receptors. *28th Annual Meeting of the Society for Neuroscience.***44.17**
E.M. Meyer, Y. Li, W.J. Millard, Y.J. He, and R.L. Papke, 1998. Neuroprotection, neurotoxicity and selective alpha7 nicotinic receptor activation. *28th Annual Meeting of the Society for Neuroscience.* **331.7**

Ed Meyer, Viviana Puig, Craig Meyers, Valdimir Uteshev, Tom Nutter and Roger L. Papke, 1999. Selective alpha7 nicotinic receptor agonists DMXB and 4OH DMXB protect against amyloid toxicity and increase bcl-2 immunoreactivity: role of PKC. *29th Annual Meeting of the Society for Neuroscience.* **394.18.**

Michael M. Francis, Raymond Vazquez, Roger L. Papke and Robert E. Oswald, 1999. Subtype-selective inhibition of neuronal nicotinic acetylcholine receptors by cocaine. *29th Annual Meeting of the Society for Neuroscience.***497.13.**

R.L. Papke, and J. K. Porter, 1999. Potential control of steric and allosteric inhibition by residues in the AChR beta subunit TM2 domain. *29th Annual Meeting of the Society for Neuroscience.* **497.12**

V. V. Uteshev, E. Meyer and R. L. Papke, 2000. Desensitization kinetics of $\alpha 7$ neuronal nicotinic receptors of the histamine neurons of the rat hypothalamus. *Biophysical Journal* **75**(2): 2116

V. V. Uteshev, E. Meyer and R. L. Papke, 2000. Kinetic analysis of $\alpha 7$ nAChR fast desensitization in acutely dissociated neurons: Implications for therapeutics. *30th Annual Meeting of the Society for Neuroscience.* **716.2**

V. V. Uteshev, E. Meyer, and R. L. Papke, 2000 Kinetic analysis of $\alpha 7$ nAChR fast desensitization in acutely dissociated hypothalamic neurons: implications for therapeutics. *Benzon Symposium No. 47, Molecular Pharmacology of Ion Channels*. August 13-17, 2000 Copenhagen, Denmark

R. L. Papke, P. R. Sanberg, R. D. Shytle, 2000 Analysis of Mecamylamine Stereoisomers on Human Nicotinic Receptor Subtypes *Neuronal Nicotinic Receptors - The 10th Neuropharmacology Conference* - November 2-4, 2000 New Orleans, USA

A. Placzek and R. L. Papke, 2001. Modulatory Sites In The Second Transmembrane Domain Of The α7 nAChR Subunit. *31st Annual Meeting of the Society for Neuroscience.* **144.5**

V.V. Uteshev E.M. Meyer, L. Prokai and R.L. Papke, 2001. Choline Regulates α-Bungarotoxin Sensitive α7-Type Nicotinic Receptor Functioning In A Dynamic Manner In The Hypothalamic Slices. *31st Annual Meeting of the Society for Neuroscience.* **255.2**

M. Nelson, R. Papke, E. Costa, J.I. Javaid, 2001. 3-(4-Hydroxy, 2-Methoxybenzylidene) Anabaseine, A Specific Agonist Of Alpha-7 Homomeric Nicotinic Acetylcholine Receptors, Releases Striatal Dopamine Without Causing A Long Term Inhibition Of DA Release. *31st Annual Meeting of the Society for Neuroscience.* **240.5**

J.H. Graham, R.L. Papke, and J.J. Buccafusco, 2001. Potential Central Activity Of Tinuvin, A Novel Nicotinic Receptor Antagonist. *31st Annual Meeting of the Society for Neuroscience.* **488.9**

R. L. Papke and V. V. Uteshev. Choline regulates the function of CNS neurons via alpha7 receptor activation/desensitization. *Third Forum of European Neuroscience 2002 Paris France.* **P114**

R. L. Papke and C. Stokes. Connecting animal studies to therapeutics: defining the structural basis for drug selectivity between human and rat nicotinic receptors. *8th International Conference on Alzheimer's Disease and Related Disorders. 2002, Stockholm, Sweden.* **P1:435**

W. Kem, V. Mahnir, L. Prokai, X. Cao, R. L. Papke, J. Porter-Papke, S. Michalski, K. Wildeboer, K. Prokai-Tatrai, F. Soti 2002 Hydroxy metabolites of the Alzheimer's drug candidate DMXBA (GTS-21): A comparison of their chemical properties, brain penetration and interactions with brain nicotinic receptors. *8th International Conference on Alzheimer's Disease and Related Disorders. 2002, Stockholm, Sweden.* **P1:455**

C.J. Frazier, B.W. Strowbridge, and R.L. Papke 2002 Characterization Of Neuronal Nicotinic Acetylcholine Receptors In Rat Dentate Gyrus. *32nd Annual Meeting of the Society for Neuroscience.* **242.3**

R. L. Papke J. K. Papke and C. Stokes. 2002 The structural basis for drug selectivity between human and rat nicotinic alpha7 receptors. *32nd Annual Meeting of the Society for Neuroscience.* **617.4**

A Placzek and R. L. Papke 2002 Single TM2 domain point mutations confer properties of beta subunit-containing receptors to mutant α7 nAChRs *32nd Annual Meeting of the Society for Neuroscience.* **537.9**

R. L. Papke, J. K. Porter-Papke, T. J. McCormack, W.l Kem and C. Stokes. 2003. Alpha7 selective agonists and the structural basis for drug selectivity between human and rat nicotinic alpha7 receptors. *Neuronal Nicotinic Receptors and Ligands: Targets for Medications* NIDA conference CPDD Bal Harbor, Florida

K.M. Wildeboer; S.E. LeFrancois; R.L. Papke; F. Soti; W.R. Kem 2003 Nicotine analogs as selective ligands for β2-containing nicotinic acetylcholine receptors *33rd Annual Meeting of the Society for Neuroscience.* **158.6**

V. V. Uteshev and R. L. Papke 2003 Analysis of α7 nicotinic AChR kinetics in the histaminergic nucleus of the posterior hypothalamus. *33rd Annual Meeting of the Society for Neuroscience.* **248.7**

R. L. Papke, M. M. Francis, K. Il Choi, B. A. Horenstein and M. I. Damaj 2003 *In vitro* and *in vivo* characterization of a novel and selective inhibitor of CNS nicotinic receptors . *33rd Annual Meeting of the Society for Neuroscience.* **158.11**

J.S. Thinschmidt C.J. Frazier M.A. King' E.M. Meyer K. WU R.L. Papke. 2003. Hippocampal α7 nicotinic receptor expression is regulated by septal innervation. *33rd Annual Meeting of the Society for Neuroscience* **842.15**

K. Ren, CA Meyers, C. Stokes, V . Uteshev, R.L. Papke, J.A. Hughes, E.M. Meyer. 2003 Genetic and pharmacological modulation of nicotinic alpha7 receptor function. *33rd Annual Meeting of the Society for Neuroscience* **465.9**

M.B. Marrero, R.L. Papke, B.S. Bhatti, S. Shaw, and M. Bencherif. 2003 The neuroprotective effect of tc-1698, a novel alpha7 ligand, is prevented through angiotensin II activation of a tyrosine phosphatase. *33rd Annual Meeting of the Society for Neuroscience.* **296.8**

C.J. Frazier, and R.L. Papke 2003. Activation Of α7 Nicotinic Receptors Can Contribute To Induction Of A Muscarinic Afterdepolarization In Dentate Mossy Cells. *33rd Annual Meeting of the Society for Neuroscience* **248.8**

A.N. Placzek, E. M. Meyer, T.A.S. Papke, & R.L. Papke. 2003. A single residue in the α7 nicotinic acetylcholine receptor tm2 domain is required for potentiation by 5-hydroxyindole. *33rd Annual Meeting of the Society for Neuroscience* **45.4**

J. Dominy, J. Thinschmidt, J. Peris, R. Dawson, R. L. Papke 2003. An Apparent Dissociation Between Intracellular Taurine Content and Long-Lasting Potentiation in the Rat Hippocampus *33rd Annual Meeting of the Society for Neuroscience* **904.1**

S.P. Sumithran, P.A. Crooks, J. Zhu, G. Zheng, R.L. Papke and L.P. Dwoskin Nicotine-boron: a novel potent antagonist at alpha6beta2* and alpha4beta2* nicotinic receptors in rat striatum. *College of Problems of Drug Dependence (CPDD Meeting). San Juan, Puerto Rico. June 11-18, 2004*

R. L. Papke, H. C. Schiff, C. Stokes, and N. A. Horenstein. 2004. Molecular dissection of the α7 nAChR partial agonist, 5HT3 antagonist, tropisetron. *34th Annual Meeting of the Society for Neuroscience* **956.20**

T.A. Hauser, G.J. Gatto, K.G. Jordan, S.R. Letchworth, R.L. Papke and M. Bencherif 2004. TC-5280, a Full α7 Nicotinic Acetylcholine Receptor Agonist, Attenuates Deficits in Step-through Passive Avoidance and Prepulse Inhibition in Rats. *34th Annual Meeting of the Society for Neuroscience* **435.13**

A.N. Placzek, A.J. Waber, E. M. Meyer & R.L. Papke. 2004. Alpha7 Nicotinic Acetylcholine Receptor-Mediated Changes in Intracellular Calcium in Stably Transfected GH4C1 Cells. *34th Annual Meeting of the Society for Neuroscience* **624.3**

J.S. Thinschmidt, M.A. King, C.J. Frazier, E.M. Meyer, R.L. Papke 2004. Medial Septum/Diagonal Band Cells Express Multiple Functional Nicotinic Receptor Sub-Types That Are Correlated With Firing Frequency. *34th Annual Meeting of the Society for Neuroscience* **842.15**

K. Ren, C.A. Meyers, Y. Gong, R.L. Papke, J.A. Hughes, and E.M. Meyer 2004. α7 Nicotinic Receptor. Mediated Neuroprotection And Effects In Amyloid. Expressing Mice. *34th Annual Meeting of the Society for Neuroscience* **674.13**

A. N. Placzek, E. M. Meyer, and R. L. Papke. 2005 Single channel properties of the α7 nAChR TM2 T6'S mutant: a gain-of-function mutant with high pharmacological fidelity. *35th Annual Meeting of the Society for Neuroscience.* **722.10**

R. L. Papke. 2005. Estimation of both the potency and efficacy of α7 nAChR agonists from single concentration responses. *35th Annual Meeting of the Society for Neuroscience.* **952.4**

K. Ren, R. L. Papke, J.A. Hughes, Y. Itoh, t and E. M. Meyer. 2005 Mechanisms underlying α7 nicotinic receptor mediated cytoprotection with transgenic α7 expression. *35th Annual Meeting of the Society for Neuroscience.* **952.14**

J. S. Thinschmidt, K. Ren, E. M. Meyer, and R. L. Papke. 2005. Hippocampal rAAV8/2- α7 mediated gene transfer produces functional α7 nicotinic acetylcholine receptor responses in α7 knock-out and wild type mice. *35th Annual Meeting of the Society for Neuroscience.* **954.18**

M. Bencherif, A. N. Placzek, R. L. Papke, P. M. Lippiello, and T. M. Hauser. 2005. Activation of the T6 S mutant rat α7 nicotinic acetylcholine receptor: correlation to activity at the wild-type receptor. *35th Annual Meeting of the Society for Neuroscience.* **954.17**

Linda P. Dwoskin, Peter A. Crooks, Michael T. Bardo, Roger L. Papke, David D. Allen, Paul R. Lockman. Development of novel nicotinic receptor antagonists as treatments for

nicotine addiction. *National Cooperative Drug Discovery Groups for Nicotine Addiction - a NIDA Synthesis Meeting* Wednesday , February 15, 2006Disney Coronado Springs Resort, Orlando FL

Roger L. Papke, Linda P. Dwoskin, and Peter A. Crooks. Differing activity profiles of nicotine and its CNS metabolite and tobacco alkaloid, nornicotine. *Society for Research on Nicotine and Tobacco's 12th Annual Meeting* February 15-18, 2006 Coronado Springs Resort, Orlando, Florida.

R. L. Papke, G. Zheng, C. J. Burkle, P. A. Crooks and L. P. Dwoskin. Novel trivalent antagonists with selectivity for alpha7 nicotinic acetylcholine receptors. *68th Annual Meeting College on Problems of Drug Dependence* June 17-22, 2006, Scottsdale, AZ

Roger L. Papke, Thomas J. McCormack, Clare Stokes and Nicole A. Horenstein. Essential factors for the selective activation of nicotinic alpha7-type receptors, potential therapeutic targets for Alzheimer's disease. *10th International Conference on Alzheimer's disease and related disorders*, July 15-20, 2006, Madrid Spain

G. Lopez, J.S. Thinschmidt, K. Ren, E.M. Meyer, R.L. Papke. Gene delivery approaches for improving the neural substrates for cholinergic-based cognitive therapies. *10th International Conference on Alzheimer's disease and related disorders*, July 15-20, 2006, Madrid Spain

J. S. Thinschmidt, G. Y. López-Hernández, and R. L. Papke. Non-nicotinic effects of the alpha-7 receptor allosteric modulator 5-hydroxyindole in hippocampal brain slices. 2006. *36th Annual Meeting of the Society for Neuroscience.*

G. Y. López-Hernández, J. S. Thinschmidt, W. R. Kem, and R. L. Papke. Effects of positive modulators on alpha7 nAChR responses in rat hippocampal interneurons to full and partial agonists. 2006. *36th Annual Meeting of the Society for Neuroscience.*

N. A. Horenstein, T. J. McCormack, C. Stokes and R. L. Papke. Reversal of Nicotinic Acetylcholine Receptor Subtype Selectivity by Mutations of Conserved Amino Acids. 2006. *36th Annual Meeting of the Society for Neuroscience.*

R. L. Papke, L. P. Dwoskin, and P. A. Crooks. Nornicotine, the tobacco alkaloid and CNS metabolite of nicotine, differentially activates brain nicotine receptors. 2006. *36th Annual Meeting of the Society for Neuroscience.*

K. Ren, J.S.Thinschmidt, A. Lin; R.L. Papke, M. A. King, E. M Meyer. Transgenic alpha7 nicotinic receptor expression in hippocampus increases tau phosphorylation and improves spatial memory related behavior 2006. *36th Annual Meeting of the Society for Neuroscience.*

C. Stokes, L. P. Dwoskin, P. A. Crooks, L. B. Jacobs, J. M. McIntosh and R. L. Papke. The identification of selective competitive and noncompetitive nAChR antagonists using

alpha6 nicotinic acetylcholine receptor chimeras. 2007. *37th Annual Meeting of the Society for Neuroscience.*

B. M. Joyce, J. T. Ross, M. Pivavarchyk, A. Smith, G. Zheng, M. A. Bardo, R. L. Papke, P. A. Crooks and L. P. Dwoskin. Discovery of novel nicotinic receptor antagonists with for the treatment of nicotine addiction: trimethylammonium-3-picolinium decane (TMPD) inhibits nicotine-evoked dopamine release from rat striatal slices and decreases in nicotine self-administration. 2007. *37th Annual Meeting of the Society for Neuroscience.*

R. L. Papke, L. B. Jacobs, C. Stokes. Activation of alpha7 nAChR occurs with low fractional occupancy of the agonist binding sites. 2007. *37th Annual Meeting of the Society for Neuroscience.*

G. Lopez Hernández, A. N. Placzek, J. S. Thinschmidt, P. Morain, C. Trocme-Thibierge, and R. L. Papke. Partial agonist activity of S 24795 for alpha7 nAChR responses of hippocampal interneurons and the calibration of pico-spritzer drug applications. 2007. *37th Annual Meeting of the Society for Neuroscience.*

Clare Stokes, Nicole Horenstein, Lisa Jacobs, Chang-Guo Zhan, and Roger L. Papke Mutations in a7 nAChR • Subunit-like Extracellular Domains Regulate Activation by Both Selective and Nonselective Agonists. SFN Satellite Symposium on *Nicotinic Acetylcholine Receptors as Therapeutic Targets - Emerging Frontiers in Basic Research and Clinical Science* San Diego Oct. 30 - Nov. 2, 2007:1.17

Gretchen Y. López, Jeffrey S. Thinschmidt, Guangrong Zheng, Zhenfa Zhang, Peter A. Crooks, Linda P. Dwoskin, and Roger L. Papke. Differential Inhibition of ACh-evoked Responses of Neuronal Nicotinic Receptors in Rat Brain Slices by Selective nAChR Antagonists. SFN Satellite Symposium on *Nicotinic Acetylcholine Receptors as Therapeutic Targets - Emerging Frontiers in Basic Research and Clinical Science* San Diego Oct. 30 - Nov. 2, 2007:1.31

B. M. Joyce, G. Zheng, J. T. Ross, M. T. Bardo, R. L. Papke, P. A. Crooks, and L. P. Dwoskin. Discovery of a Novel Nicotinic Receptor Antagonist for the Treatment of NicotineAddiction: 1-(3-picolinium)-12-triethylammonium-dodecane dibromide (TMPD). SFN Satellite Symposium on *Nicotinic Acetylcholine Receptors as Therapeutic Targets - Emerging Frontiers in Basic Research and Clinical Science* San Diego Oct. 30 - Nov. 2, 2007:4.10

Roger L. Papke, Nicole Horenstein, and Clare Stokes. Effective opening of nicotinic acetylcholine receptors with single agonist binding sites: implications for the therapeutic targeting of homomeric α7 nAChR. *Nicotinic Acetylcholine Receptors 2008, Wellcome Trust Conference, Hinxton, England April 23rd-26th 2008.*

Clare Stokes, Nicole A. Horenstein, and Roger L. Papke. Channel activation by structurally diverse agonists is differentially regulated by a conserved tryptophan in the ACh binding site of α7 and α4β2 receptors. *Nicotinic Acetylcholine Receptors 2008, Wellcome Trust Conference, Hinxton, England April 23rd-26th 2008.*

Gretchen Y Lopez-Hernandez, Jeffrey S. Thinschmidt, Lynda Cortez, Clare Stokes, Peter A. Crooks, Linda P. Dwoskin, and Roger L. Papke. Differential inhibition of nicotinic responses in the ventral tegmental area by nAChR subtype-selective antagonists. *XIII International Symposium on Cholinergic Mechanisms: Neuronal and Non-Neuronal Cholinergic Systems: Molecular and Translational Significance*. Foz do IguaŸu, Brazil August 16-20, 2008

Roger L. Papke, Clare Stokes, and Nicole A. Horenstein. Therapeutic targeting of α7 receptors. *XIII International Symposium on Cholinergic Mechanisms: Neuronal and Non-Neuronal Cholinergic Systems: Molecular and Translational Significance.* Foz do IguaŸu , Brazil August 16-20, 2008

Clare Stokes, Marina R. Picciotto, Daniela Guendisch and Roger L. Papke. The activation and inhibition of neuronal nicotinic acetylcholine receptors (nAChR) subtypes by novel cytisine analogs. 2008 *38th Annual Meeting of the Society for Neuroscience.*

Gretchen Y Lopez-Hernandez, Lynda Cortez, Clare Stokes, Peter A. Crooks, Linda P. Dwoskin, and Roger L. Papke. Differential inhibition of nicotinic responses in the ventral tegmental area by nAChR subtype-selective antagonists. 2008 *38th Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Fedra Leonik, and Nicole A. Horenstein. Multiple pharmacophores for the selective activation of nicotinic alpha7-type acetylcholine receptors. 2008 *38th Annual Meeting of the Society for Neuroscience.*

Jingyi Wang, Adolph Chiu, Roger L. Papke, Nicole Horenstein. Molecular tools to study the structure of the alpha 7 nicotinic acetylcholine receptor. 2009 *Florida American Chemical Society Annual Meeting*, Orlando, Fl, May 14-16, 2009.

Adolph Chiu, Jingyi Wang, Roger L. Papke, Nicole A. Horenstein. New models for the alpha-7 human nicotinic acetylcholine receptor designed for experimental calibration. 2009 *Florida American Chemical Society Annual Meeting*, Orlando, Fl, May 14-16, 2009.

Roger L. Papke, Gretchen Y. López-Hernández, and Nicole A. Horenstein. Optimizing the therapeutic targeting of alpha7 nAChR for the treatment of Alzheimer's disease. 2009 *12th International Conference on Alzheimer's disease and related disorders*, July 10-16, Vienna, Austria.

Roger L. Papke and Jeffrey S. Thinschmidt The pharmacological modulation of acetylcholine-evoked responses of nicotinic receptors in the lateral geniculate nucleus. *2009, 39th Annual Meeting of the Society for Neuroscience.*

Jeffrey S. Thinschmidt and Roger L. Papke. Functional somatic nicotinic receptors of the median and dorsal raphe nuclei. *2009, 39th Annual Meeting of the Society for Neuroscience.*

Dustin K. Williams and Roger L. Papke. Investigation of a nicotinic acetylcholine receptor with only one putatively functional agonist binding site at the single channel level. *2009, 39th Annual Meeting of the Society for Neuroscience.*

Jingyi Wang, Roger L. Papke, Nicole Horenstein. Molecular tools to study the structure of the α7 nicotinic acetylcholine receptor. *Florida Annual Meeting and Exposition.* May 14-16, 2009, Orlando, FL

Jingyi Wang, Yeung Chiu, Clare Stokes, Roger L. Papke, Nicole A. Horenstein. Investigation of the alpha-7 nicotinic acetylcholine receptor's ligand binding modes and hydrogen bonding patterns. *239th American Chemical Society National Meeting & Exposition*, March 21-25, 2010, San Francisco, CA

Roger L. Papke, Caryn Trocme-Thibierge, Daniela Guendisch, Shehd Abdullah Abbas Al Rubaiy and Stephen A. Bloom. Electrophysiological perspectives on the therapeutic use of nicotinic partial agonists demonstrate multiple effects ranging from predesensitization to steady-state activation and potentiation of ACh-evoked responses. *2010, 40th Annual Meeting of the Society for Neuroscience.*

Jingyi Wang, Clare Stokes, Roger L. Papke and Nicole A. Horenstein. Emerging evidence for multiple binding modes leading to different functional states for human alpha7 nAChR. *241st American Chemical Society national meeting & exposition.* March 27-31, 2011, Anaheim, CA

Dustin K. Williams and Roger L. Papke. Perspectives on alpha7 nicotinic acetylcholine receptor activation and desensitization through single-channel currents recorded in the absence and presence of the positive allosteric modulator PNU-120596. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Clare Stokes and Roger L. Papke. An alpha3-beta4 concatamer provides a new tool for investigating the functional significance of alpha5 and a naturally occurring variant associated with cancer and nicotine dependence. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Nicole Horenstein, Jingyi Wang, Clare Stokes, Roger L. Papke. Anchored agonists as tools to correlate molecular pose and receptor state in the human alpha-7 nicotinic acetylcholine receptor. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Roger L. Papke, Dustin K. Williams, Jingyi Wang, Clare Stokes, and Nicole A. Horenstein. Molecular perspectives on the activation, desensitization and modulation of alpha7 nAChR. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Jingyi Wang, Robin Rogers, Clare Stokes, Roger L. Papke, Nicole A. Horenstein. Hydrogen bonding in the selectivity pocket regulating the human alpha7 nicotinic acetylcholine receptor's activation and desensitization. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Daniela Gündisch, Christoph Eibl, Marina R. Picciotto, Roger L. Papke. 3,7-Diazabicyclo[3.3.1]nonane based hybrids: Synthesis and *in vitro* evaluation. *Wellcome Trust Scientific Conference Nicotinic Acetylcholine Receptors* 18th - 22nd May 2011 Hinxton, Great Britain.

Roger L. Papke, Dustin K. Williams, Jingyi Wang, and Nicole A. Horenstein. Positive and negative cooperativity of agonist and allosteric modulator binding in alpha7 nAChR: looking for the therapeutic window. *Nicotinic Receptor-Based Therapeutics: Emerging Frontiers in Basic Research & Clinical Science,* November 9-11th, 2011 Washington DC

Dustin K. Williams and Roger L. Papke Probing alpha7 nAChR with the positive allosteric modulator PNU-120596 provides insights on single-channel mechanisms. *2011, 41st Annual Meeting of the Society for Neuroscience.*

I. Tomassoli, C. Eibl, M. Wulff, R. L. Papke, M. R. Picciotto, D. Gündisch The twin drug approach for novel nicotinic acetylcholine receptor (nAChR) ligands: synthesis and structure-affinity relationships. 2011, *41st Annual Meeting of the Society for Neuroscience.*

Teresa A. Murray, Daniel Bertrand, Roger L. Papke, Andrew A George, Rigo Pantoja, Rahul Srinivasan, Qiang Liu, Jie Wu, Paul Whiteaker, Henry A. Lester, Ronald J. Lukas. $\alpha 7\beta 2$ nAChRs assemble and function, but can be activated only via their alpha7-alpha7 interfaces. *2011, 41st Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Clare Stokes, Jingyi Wang, and Nicole A. Horenstein. Factors regulating the constitutive activation of alpha7 nAChR produced with tethered agonist analogs and PNU-120596. *2011, 41st Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Fumihito Ono, and R. Thomas Boyd, Smoke in the water: evaluation of pharmacological tools used for the study of nicotine's effects on zebrafish behavior. *2012 Annual Internation meeting of the Society for Research on Nicotine and Tobacco.*

T. D. McClure-Begley, R. L. Papke, M. D. Isaacson and M. R. Kimbrell, M. R. Picciotto. Chrna4 polymorphisms negatively associated with nicotine dependence show altered nicotinic receptor expression and function measured in vitro. *2012 Meeting of the International Behavioural and Neural Genetics Society.*

Daniela Guendisch, Christoph Eibl, Isabelle Tomassoli, Marina R. Picciotto, Roger L. Papke. Toward the development of novel central nervous system therapeutics: Hybrid compounds for nicotinic acetylcholine receptors. *NIH, NIGMS Fourth Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE), June 25 - 27, 2012, Washington, DC*

Kinga Chojnacka, Roger L. Papke, and Nicole Horenstein. Synthesis of new fluorinated pyridinylmethylene anabaseines to study interactions leading to desensitized states of the human α7 nicotinic acetylcholine receptor. *2012 The Florida Annual Meeting and Exposition, American Chemical Society Florida Section.*

Moe Igari, Jon C Alexander, Rayna B Rodriguez, Xiaoli Qi, Roger L. Papke, Adriaan W. Bruijnzeel The α4β2 nicotinic acetylcholine receptor partial agonist varenicline attenuates the elevation in brain reward threshold associated with nicotine withdrawal in rats. *2012, 42nd Annual Meeting of the Society for Neuroscience.*

Can Peng, Dustin K. Williams, Matthew Kimbrell, Tom Pack, and Roger L. Papke. Macroscopic and microscopic perspectives on the activation, potentiation, and antagonism of α7-mediated currents in oocytes and stably transfected HEK cells. *2012, 42nd Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Can Peng, Matthew Kimbrell, Ralph H. Loring, Nikhil Soni, Dustin K. Williams. Matters of life and death for cells-expressing alpha7 nAChR: effects of agonists, antagonists, positive allosteric modulators and temperature. *2012, 42nd Annual Meeting of the Society for Neuroscience.*

Clare Stokes, Daniela Guendisch, Isabelle Tomassoli, Christoph Eibl, Jon Lindstrom, Alexander Kuryatov, Yann S. Mineur, Marina R. Picciotto, and Roger L. Papke. Pharmacological characterization of a novel hybrid ligand for the modulation of neuronal nAChR function. *2012, 42nd Annual Meeting of the Society for Neuroscience.*

Nicole Horenstein, Kinga Chojnacka, Jingyi Wang, Roger L. Papke, Pyridinylmethylene anabaseines modulate activation and desensitization of the human alpha-7 nicotinic acetylcholine receptor. *2012, 42nd Annual Meeting of the Society for Neuroscience.*

C. Abrial, S. Grassin Delyle, A. Buenestado, E. Naline, R.L. Papke, P. Devillier. Nicotinic receptors regulate the production of M1/M2 cytokines by human lung macrophages. *2012 Congress of the American Thoracic Society*, San Francisco CA

Kinga Chojnacka, Roger L. Papke, Nicole A. Horenstein. Silent agonists for alpha7 nicotinic acetylcholine receptor. 2013 *246th ACS National Meeting*, Indianapolis, IN

R. L. Papke, N. A. Horenstein, C. Stokes, Cheol-Young Maeng, A. R. Kulkarni, and G. A. Thakur. Mutations Of α7 nAChR W55 Enhance The Allosteric Agonism Of GAT107, The Active Isomer Of 4BP-TQS, and Decouple Interactions Between Orthosteric And Allosteric Sites. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

R. H. Loring, Y. Szeto, L. Guo, M. Pires, and R. L. Papke. Biphasic Effects Of Anatabine On Nicotinic Receptors and Nfkb Signaling. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

C. Stokes, E. Israël-Assayag, and R. L. Papke. A Minimal Pharmacophore For A Nicotinic Alpha7 Silent Agonist, Relevance For The Therapeutic Development Of Treatments For Asthma. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

K. Chojnacka, R.L. Papke, and N.A. Horenstein. Silent Agonists Of Alpha7 Nicotinic Acetylcholine Receptors Require Positive Allosteric Modulators For Channel Activation. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

C. Peng, I. Tomassoli, C. Eibl, D. Guendisch, and R. L. Papke. Differential Modulation Of Brain NAChR Function By Cytisine And Bispidine Compounds And Emergent Properties Of A Hybrid Molecule. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

Isabelle Tomassoli, Christoph Eibl, Elena Valdambrini, Marina R. Picciotto, Roger L. Papke, PalmerT aylor, Todd T. Talley, Daniela Guendisch. Nicotinic Acetylcholine Receptor Modulators Based On The Scaffold 3,7-Diazabicyclo[3.3.1]Nonane. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

Jesper F. Bastlund, Jørgen Eskildsen, Christoffer Bundgaard, Kristen Frederiksen, Kim Dekermendjian, Roger L. Papke, John P. Redrobe. Discovery of Lu AF58801, a novel, selective and brain penetrant positive allosteric modulator of alpha-7 nicotinic acetylcholine receptors: Attenuation of subchronic phencyclidine (PCP)-induced cognitive deficits in rats following oral administration. *2013, 43nd Annual Meeting of the Society for Neuroscience.*

I. Tomassoli, C. Eibl, R.L. Papke, M.R. Picciotto, T.T. Talley, D. Guendisch. "Hybrid design for nicotinic acetylcholine receptor (nAChR) ligands" *5th Tetrahedron Symposium, Challenges in bioorganic and organic medicinal chemistry, 24-27 June 2014, London, UK*

Daniela Gündisch, Isabelle Tomassoli, Todd T. Talley, Marina R. Picciotto, Roger L. Papke. Designed multiple ligand (DML) approach: Analogs of the hybrid compound BPC. *2014 Wellcome Trust Scientific Conference: Nicotinic Acetylcholine Receptors July 23-26, Cambridge, Great Britain.*

Nicole Horenstein, Kinga Chojnacka, Roger L. Papke. Control of The Alpha-7 nAChR State Distribution By Quaternary Ammonium Ligands. *2014 Wellcome Trust Scientific Conference: Nicotinic Acetylcholine Receptors July 23-26, Cambridge, Great Britain.*

Clare Stokes, Nadine Kabbani, Nicole A. Horenstein, and Roger L. Papke. What Are The Purpose And Functions of nAChR Intracellular Domains? *2014 Wellcome Trust Scientific Conference: Nicotinic Acetylcholine Receptors July 23-26, Cambridge, Great Britain.*

Abhijit R. Kulkarni, Deniz Bagdas, Roger L. Papke, M. Imad Damaj and Ganesh Thakur. Novel Allosteric Agonist-Positive Allosteric Modulators(Ago-Pams) of the α7 nAChR for Treating Inflammation And Neuropathic Pain. *2014 Wellcome Trust Scientific Conference: Nicotinic Acetylcholine Receptors July 23-26, Cambridge, Great Britain.*

N. A. Horenstein, K.Chojnacka, and R. L. Papke. The modular character of nicotinic agonists; minimal pharmacophores and transposable motifs for selectivity and silent agonism. *2014, 44nd Annual Meeting of the Society for Neuroscience.*

T. Gould, C. Kinter, N. A. Horenstein, R. L. Papke. Nicotinic receptors regulate inflammatory and apoptotic signaling through nonconductive states. *2014, 44nd Annual Meeting of the Society for Neuroscience.*

Isabelle Tomassoli, Andrew J. Reinhart, Marina R. Picciotto, Todd T. Talley, Roger L. Papke, Daniela Gündisch. Nicotinic acetylcholine receptors and the designed multiple ligand (DML) approach. *2014, 44nd Annual Meeting of the Society for Neuroscience.*

Tanuja Bordia, Matthew McGregor, Roger L. Papke, Michael W. Decker, J. Michael McIntosh and Maryka Quik. The α7 nicotinic receptor agonist ABT-107 protects against nigrostriatal damage in parkinsonian rats. *2014, 44nd Annual Meeting of the Society for Neuroscience.*

C. Peng and R. L. Papke. The molecular mechanism of the α7 nAChR silent agonist NS6740 is associated with nonconducting conformations of the receptor. *2014, 44nd Annual Meeting of the Society for Neuroscience.*

Tanuja Bordia, Matthew McGregor, Roger L. Papke, Michael W. Decker, J. Michael McIntosh and Maryka Quik. The α7 nicotinic receptor agonist ABT-107 protects against nigrostriatal damage in parkinsonian rats. 2014, *Grand Challenges in Parkinson's Disease Van Andel Institute, Grand Rapids, Michigan.*

Roger L. Papke, Nicole A. Horenstein, Clare Stokes. Nicotinic activity of arecoline, the psychoactive element of "betel nuts", suggests a basis for habitual use and anti-inflammatory activity. *2015, 45th Annual Meeting of the Society for Neuroscience.*

Nicole A. Horenstein, Marta Quadri, Clare Stokes, Roger L. Papke. Synthesis and structure activity relationships for α7 nAChR silent agonism in N-phenylpiperazinium salts. *2015, 45th Annual Meeting of the Society for Neuroscience.*

Nicole A. Horenstein, Deniz Bagdas, Marta Quadri, M. Imad Damaj, and Roger L. Papke. Antiallodynic effects of substituted N-aryl piperidinium salts: α7nAChR silent agonists. *2015, 45th Annual Meeting of the Society for Neuroscience.*

Timothy M. Gould, Marta Quadri, Roger L. Papke, Nicole A. Horenstein. Insights into an emerging class of α7 nAChR silent agonists and NF-κB signaling mechanisms in immune cells. *2015, 45th Annual Meeting of the Society for Neuroscience.*

Ganesh A. Thakur, Roger L. Papke, Abhijit R. Kulkarni, and Nicole A. Horenstein. Critical determinants of α7 nAChR allosteric activation and modulation: pharmacological agents and structural epitopes that separate those activities. *2015, 45th Annual Meeting of the Society for Neuroscience.*

Roger L. Papke, Khan Manther, Ganesh A. Thakur, M. Imad Damaj, Abhijit R. Kulkarni, Deniz Bagdas, and Clare Stokes. Paradoxical interactions of alpha7 nAChR silent agonists and allosteric modulators; equilibration between desensitized states and persistent currents. *2016, 46th Annual Meeting of the Society for Neuroscience.*

Nicole A. Horenstein, and Roger L. Papke. Areca nut alkaloids as selective nicotinic acetylcholine receptor partial agonists. *2016, 46th Annual Meeting of the Society for Neuroscience.*

M. Damaj, D. Bagdas, J. Wilkerson, A. Kulkarni, S. Alsharari, A. Lichtman, R. L. Papke, and G. Thakur. The antiallodynic and antihyperalgesic effects of alpha7 nicotinic receptor dual allosteric agonist and positive allosteric modulator GAT107 in inflammatory pain. *2016, 46th Annual Meeting of the Society for Neuroscience.*

M. Quadri, C. Matera, A. Silnović, M. C. Pismataro, N. A. Horenstein, R. L. Papke, and C. Dallanoce. Novel Quinuclidine Derivatives To Investigate The Alpha-7 Nicotinic Acetylcholine Receptor Activation: New Insights And Perspectives 2016 *XXIV National Meeting in Medicinal Chemistry,* Perugia, Italy.

Clare Stokes, Nicole A. Horenstein, and Roger L. Papke. "Betel nut" the orphaned addiction of 300 million people and its relationship to brain nicotine receptors. 2016 *XV International Symposium on Cholinergic Mechanisms*, Marseille, France.

Marta Quadri, Clare Stokes, Roger L. Papke, Ciara Sanon, and Nicole Horenstein. 2017 Structure function studies of silent agonists of the alpha7 nicotinic acetylcholine receptor. *253rd ACS National Meeting & Exposition,* April 2-6, 2017 San Francisco.

Nicole A. Horenstein, Clare Stokes, and Roger L. Papke. 2017 Selective nicotinic acetylcholine receptor activities from the Areca nut. *253rd ACS National Meeting & Exposition,* April 2-6, 2017 San Francisco.

Roger L. Papke, Clare Stokes, M. Imad Damaj, Alain Simard, Marta Quadri, and Nicole A. Horenstein. 2017, Orthosteric, allosteric, and metabotropic activity of alpha7 nAChR. *Nicotinic Acetylcholine Receptors 2017 Meeting*, Chania, Crete, 7-11 May 2017

Alain R. Simard, Patrick Roy, Jean-Rémi Godin, Marta Quadri, Nicole A. Horenstein, Roger L. Papke. 2017, Nicotinic acetylcholine receptors modulate CNS immune cell numbers and inflammation via receptor desensitization. *Nicotinic Acetylcholine Receptors 2017 Meeting*, Chania, Crete, 7-11 May 2017

Clare Stokes, Roger L. Papke, Marta Quadri1, Mohammed Shoaib,and Nicole A. Horenstein. 2017, Cracking the betel nut: cholinergic activity of Areca alkaloids and related compounds. *Nicotinic Acetylcholine Receptors 2017 Meeting*, Chania, Crete, 7-11 May 2017

Nicole Horenstein, Marta Quadri, Clare Stokes, Khalil Abboud, and Roger L. Papke 2017. Bigger and better: Sulfur replaces ammonium nitrogen for a new sulfonium-containing silent agonist. *Nicotinic Acetylcholine Receptors 2017 Meeting,* Chania, Crete, 7-11 May 2017

K. Hueffer, S. Khatri, S. Rideout, M.B. Harris, R.L. Papke, C. Stokes, M. Schulte. Rabies derived peptides interact with neuronal nicotinic receptors and alter animal behavior. *International Conference on Diseases in Nature Communicable to Man*. Fort Collins, CO, July 2017

Maria Chiara Pismataro, Clare Stokes, Roger L. Papke, Nicole A. Horenstein, Clelia M. Dallanoce. Alpha7 nicotinic acetylcholine receptor silent agonists: exploration of the SAR for NS6740. *254rd ACS National Meeting & Exposition*, March 18-22, 2018, New Orleans, LA.

Marta Quadri, Clare Stokes, Alican Gulsevin, Ashley Felts, Khalil A. Abboud, Roger L. Papke, Nicole A. Horenstein. Synthesis and characterization of sulfonium silent agonists of the alpha7 nicotinic receptor. *254th ACS National Meeting & Exposition*, March 18-22, 2018, New Orleans, LA.

M.C. Pismataro, C. Stokes, R.L. Papke, N.A. Horenstein, C. Dallanoce. Fragmentation of NS6740 molecular skeleton to investigate the alpha7 nicotinic acetylcholine receptor silent activation, MedChemSicily2018, *Italian-Spanish-Portuguese Joint Meeting in Medicinal Chemistry*, Palermo, Italy, 17-20 July 2018.

M.C. Pismataro, C. Stokes, R.L. Papke, N.A. Horenstein, C. Dallanoce. Silent agonism mediated by the α7 nicotinic acetylcholine receptor: the role of trifluoromethyl group in the NS6740 molecular skeleton, EFMC-ISMC 2018, *XXV EFMC International Symposium on Medicinal Chemistry*, Ljubljana, Slovenia, 2-6 September 2018.

Marta Quadri1, Sumanta Garai, Ganesh A. Thakur, Clare Stokes, Alican Gulsevin, Nicole A. Horenstein, and Roger L. Papke. Macroscopic and microscopic activation of α7 nicotinic acetylcholine receptors by the structurally unrelated ago-PAMs B-973B and GAT107. *2018, 48th Annual Meeting of the Society for Neuroscience.*

Marta Quadri, Alican Gülsevin, Clare Stokes, Roger L. Papke, Nicole A. Horenstein. 2NDEP highlights selective allosteric activation of the α7 nicotinic acetylcholine receptor. *256rd ACS National Meeting & Exposition.* March 31 - April 4, 2019 | Orlando, FL.

Gisela Andrea Camacho-Hernandez, Katarzyna Kaczanowska, Stefania Brandao, Clare Stokes, Roger L. Papke, Palmer Taylor. Structure-Activity Relationships of Selective Pyrimidine Agonists on α7-nAChRs. *Experimental Biology* 2019 Orange County Convention Center Orlando, Florida, USA April 6-9, 2019.

Roger L. Papke, Gisela Andrea Camacho Hernandez, Clare Stokes, Marta Quadri, Lu Wenchi Corrie, Nicole A. Horenstein, and Palmer Taylor. Allosteric and orthosteric activation of alpha7-nicotinic acetylcholine receptors by tri-substituted 2-aminopyrimidines. *2019, 49th Annual Meeting of the Society for Neuroscience.*

Clare Stokes, Sumanta Garai, Abhijit R. Kulkarni, Lucas N. Cantwell, Colleen M. Noviello, Ryan E. Hibbs, Nicole A. Horenstein, Khalil A. Abboud, Ganesh A. Thakur, and Roger L. Papke. Heteromeric neuronal nicotinic acetylcholine receptors with mutant beta subunits acquire sensitivity to alpha7-selective positive allosteric modulators. *2019, 49th Annual Meeting of the Society for Neuroscience.*

C. Dallanoce, C. Papotto, C. Stokes, M.C. Pismataro, M. Quadri, C. Matera, M. De Amici, and R.L. Papke. Novel molecular probes to investigate the alpha7 nicotinic acetylcholine receptor silent activation: new insights and perspectives, *16th World Congress on Chemistry and Medicinal Chemistry*, London, UK, March, 27-29, 2023

C. Papotto, C. Stokes, C. Matera, M. De Amici, R.L. Papke, C. Dallanoce. Sulfonium analogs of the silent agonist NS6740 to target the alpha7 nicotinic acetylcholine receptor, XXVIII National Meeting on Medicinal Chemistry, Chieti, Italy, September 17-20, 2023.

C. Dallanoce, C. Papotto, C. Stokes, C. Matera, M. De Amici, and R.L. Papke. Sulfoniums as Ammonium Bioisosteres Towards New Ligands for the Alpha7 Nicotinic Acetylcholine Receptor, Global Summit on Pharmaceutical and Medicinal Chemistry (PMC2023) Webinar, September 23, 2023.

Hina Andleeb, Roger L. Papke, Clare Stokes, Nicole A. Horenstein, Katrin Richter, Veronika Grau, Abhisheak Sharma, Imad Damaj, Ganesh A. Thakur. Explorations of Agonist Selectivity for the α9* nAChR with Novel Substituted Carboxamido/heteroaryl Dialkylpiperazinium Salts and their Therapeutic Implications in Pain and Inflammation. CPDA 2023, Northeastern University.

Richter K., Herz S.M., Stokes C., Hecker A., Damaj M.I., Grau V., Papke R.L. (2024). Anti-inflammatory and analgesic effects of a novel α9α10 nicotinic acetylcholine receptor agonist, pCN-N,N-diethyl-N′-phenyl-piperazine. 141st Congress of the German Society of Surgery – Leipzig, April 24–26 • DOI 10.1515/iss-2024-2008 Innov Surg Sci 2024; 9 (Special Suppl 1): s303–s385.

Simard A., Richter K., Roy D., Espinosa E.S., Ray P., Godin J.-R., Grau V., Quadri M., Horenstein N., Papke R. (2019). Nicotinic acetylcholine receptor silent agonists modulate inflammation. FASEB J.; 33(suppl 1):236.

Richter K., Herz S.M., Stokes C., Hecker A., Liese J. , Singh V.K., Rohde M., McIntosh J.M., Morley B.M., Horenstein N.A., Simard A.R., Damaj M.I., Grau V., Papke R.L. (2024). Control of the ATP-mediated release of interleukin-1β by selective α9* nicotinic acetylcholine receptor agonists. 2nd European Purine Meeting 2024, September 4-6, 2024, Ferrara, Italy.

Richter K., Herz S.M., Stokes C., Hecker A., Liese J. , Singh V.K., Rohde M., McIntosh J.M., Morley B.M., Horenstein N.A., Simard A.R., Damaj M.I., Grau V., Papke R.L. (2024). Anti-inflammatory and analgesic effects of novel α9α10 nicotinic acetylcholine receptor agonists. Annual Meeting of the German Physiological Society (103rd), Austrian Physiological Society and Life Sciences Switzerland (LS^2) Physiology, DPG 2024 // 19. - 21.09.2024, Vienna, Austria. Awarded Best Poster Prize