BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Winder, Danny G.	Associate Professor
eRA COMMONS USER NAME (credential, e.g., agency login) dannyw	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
North Georgia College	BS	1986-1990	Biology/Chemistry
Emory University	PhD	1990-1995	Neuroscience
Columbia Univ Coll of Physicians & Surgeons	Postdoc	1996-1999	Neuroscience

A. Positions and Honors

Positions and Employment

1999-2005 Assistant Professor, Department of Molecular Physiology and Biophysics and member of the Center for Molecular Neuroscience, Vanderbilt University School of Medicine
2005-pres Associate Professor, Department of Molecular Physiology and Biophysics, Vanderbilt Univ. Sch. of Med.
2007-pres Director of Graduate Studies, Department of Molecular Physiology and Biophyscis, Vanderbilt Univ. Sch. of Med.
2007-pres Scientific Director, Murine Behavioral Core, Vanderbilt University

Honors

1989 Yerkes Primate Research Center Summer Student Assistantship Program
1990 Ben Sanders Award for Academic Achievement in Biology (North Georgia College)
1993-1995 "Regulation of Kainate-Evoked Currents by mGluRs" NIH Predoctoral NRSA (MH10581)
1998-1999 Charles E. Culpeper Biomedical Pilot Initiative, Danny G. Winder, Principal Investigator
2002 Ad Hoc, NIH Study Section MDCN4
2003-2005 Service on NIH Study Section F03B
2004 Ad Hoc, NIH Study Section NAL
2007 Ad Hoc, NIH Study Section ZAA1

B. Selected peer-reviewed Publications (in chronological order)

Chen, S., Desai, M.A., Klann, E., Winder, D.G., Sweatt, J.D. and Conn, P.J. (1992). Amygdala kindling alters protein kinase C activity in dentate gyrus. *J. Neurochem.* 59: 1761-1769.

Winder, D.G. and Conn, P.J. (1992). Activation of metabotropic glutamate receptors in the hippocampus increases cyclic AMP accumulation. *J. Neurochem.* 59: 375-8.

Winder, D.G. and Conn, P.J. (1993). Activation of metabotropic glutamate receptors increases cAMP accumulation in hippocampus by potentiating responses to endogenous adenosine. *J. Neurosci.* 13: 38-44.

Winder, D.G., Smith, T. and Conn, P.J. (1993). Pharmacological differentiation of metabotropic glutamate receptors coupled to potentiation of cyclic adenosine monophosphate responses and phosphoinositide hydrolysis. *J. Pharmacol. Exp. Ther.* 266: 518-25.

Chung, D.S., Winder, D.G. and Conn, P.J. (1994). 4-Bromohomoibotenic acid selectively activates a 1-aminocyclopentane- 1S,3R-dicarboxylic acid-insensitive metabotropic glutamate receptor coupled to phosphoinositide hydrolysis in rat cortical slices. *J. Neurochem.* 63: 133-9.

Gereau, R.W. IV, Winder, D.G., and Conn, P.J. (1995). Pharmacological differentiation of the effects of co-activation of beta- adrenergic and metabotropic glutamate receptors in rat hippocampus. *Neurosci. Lett.* 186: 119-22.

Winder, D.G. and Conn, P.J. (1995). Metabotropic glutamate receptor (mGluR)-mediated potentiation of cyclic AMP responses does not require phosphoinositide hydrolysis: mediation by a group II-like mGluR. *J. Neurochem.* 64: 592-9.

Macek, T. A., Winder, D.G., Owens, C., Gereau, R.W. IV and Conn, P.J. (1996). Differential involvement of group II and group III mGluRs as autoreceptors at lateral and medial perforant path synapses. *J. Neurophysiol.* 76: 3798-806.

Winder, D. G., Ritch, P.S., Gereau, R.W. IV and Conn, P.J. (1996). Novel glial-neuronal signalling by coactivation of metabotropic glutamate and beta-adrenergic receptors in rat hippocampus. *J. Physiol. (London)* 494: 743-55.

Winder, D.G., Mansuy, I.M., Osman, M., Moallem, T.M. and Kandel, E.R. (1998) Genetic and pharmacological evidence for a novel, intermediate phase of long-term potentiation (I-LTP) suppressed by calcineurin. *Cell* 92: 25-37.

Mansuy, I.M., Winder, D.G., Moallem, T.M., Osman, M., Mayford, M., Hawkins, R.D. and Kandel, E.R. (1998) Inducible and reversible gene expression with the rtTA system for the study of memory. *Neuron* 21: 257-265.

Barad, M., Bourtchouladze, R., Winder, D.G., Golan, H. and Kandel E.R. (1998) Rolipram, a type IV-specific phosphodiesterase inhibitor, facilitates the establishment of long lasting long-term potentiation and improves memory. *Proc. Natl. Acad. Sci. (U.S.A.)* 95:15020-15025.

Winder, D.G., Martin, K.C., Rohrer, D., Chruscinski, A., Kobilka, B., and Kandel, E.R. (1999) ERK plays a novel role in the induction of LTP by theta frequency stimulation and its regulation by β-adrenergic receptors. *Neuron* 24: 715-726.

Malleret, G., Haditsch, U., Genoux, D., Jones, M., Bliss, T.V.P., Vanhoose, A.M., Weitlauf, C., Kandel, E.R., Winder, D.G. and Mansuy, I.M. (2001) Inducible and reversible enhancement of learning, memory storage and long-term potentiation by genetic inhibition of calcineurin. *Cell* 104: 675-686.

Vanhoose, A.M., Emery, M. Jimenez, L. and Winder, D.G. (2002) ERK activation by G-protein coupled receptors in area CA1 of hippocampus is receptor identity-specific. *J. Biol. Chem.* 277:9049-9053.

Schramm, N.L., Egli, R.E. and Winder, D.G. (2002) LTP in mouse nucleus accumbens is developmentally regulated. *Synapse* 45: 213-220.

Egli, R.E. and Winder, D.G. (2003) Dorsal and ventral distribution of excitable and synaptic properties of neurons of the bed nucleus of the stria terminalis. *J. Neurophysiol.* 90: 405-414.

Vanhoose, A.M. and Winder, D.G. (2003) NMDA- and β_1-adrenergic receptors differentially signal phosphorylation of glutamate receptor type 1 in area CA1 of hippocampus. *J. Neuroscience* 23:5827-5834.

Morozov, A., Muzzio, I., Bourtchouladze, R., Van-Strien, N., Lapidus, K., Yin, D., Winder, D.G., Adams, P., Sweatt, D. and Kandel, E.R. (2003) Rap1 couples cAMP signaling to a distinct pool of p42/44 MAPK regulating excitability, synaptic plasticity, learning and memory. *Neuron* 39:309-325.

Schramm, N.L., Pratt, A.R. and Winder, D.G. (2004) Effects of periadolescent versus adult cocaine exposure on cocaine conditioned place preference and motor sensitization in mice. *Psychopharmacology* 173:41-48.

Matthews, R.T., Coker, O. and Winder, D.G. (2004) A novel mouse brain slice preparation of the hippocampo-accumbens pathway. *J. Neuroscience Methods 137:49-60.*

Weitlauf, C.W., Egli, R.E., Grueter, B.A. and Winder, D.G. (2004) High-frequency stimulation elicits ethanol-sensitive NMDA-receptor dependent LTP at excitatory inputs to the bed nucleus of the stria terminalis. *J. Neuroscience 24:5741-5747.*

Vanhoose, A.M., Ritchie, M.D. and Winder, D.G. (2004) Regulation of cAMP responses in area CA1 by $G_{i/o}$-coupled receptors is stimulus dependent. *Neuroscience Letters 370:80-83.*

Norman, E., Egli, R.E., Colbran R. and Winder, D.G. (2005) A potassium channel blocker induces a long-lasting enhancement of corticostriatal responses. *Neuropharmacology 48: 311-321.*

Egli, R.E., Kash, T., Choo, K., Matthews, R.T., Savchenko, V., Blakely, R. and Winder, D.G. (2005) Differential noradrenergic modulation of excitatory synaptic transmission in the bed nucleus of the stria terminalis. *Neuropsychopharmacology 30:657-68.*

Grueter, B.A. and Winder, D.G. (2005) Group II and III metabotropic glutamate receptors suppress excitatory synaptic transmission in the anterolateral bed nucleus of the stria terminalis. *Neuropsychopharmacology 30:1302-1311*.

Weitlauf, C.W., Honse, Y., Auberson, Y., Mishina, M., Lovinger, D.M. and Winder, D.G. (2005) Activation of NR2A-containing NMDA receptors is not obligatory for NMDA-receptor dependent LTP. *Journal of Neuroscience* 25:8386-8390.

Vanhoose, A.M., Clements, J.M., and Winder, D.G. (2006) Novel blockade of PKA-mediated phosphorylation of AMPA receptors. *Journal of Neuroscience* 26:1138-1145.

Schramm-Sapyta, N.L., Olsen, C.M, and Winder, D.G. (2006) Cocaine self-administration reduces excitatory responses in the mouse nucleus accumbens shell. *Neuropsychopharmacology* 31:1444-1451.
Grueter, B.A., Gosnell, H.B., Olsen, C.M., Schramm-Sapyta, N.L., Nekrasova, T., Landreth, G.E. and Winder, D.G. (2006) Extracellular-signal regulated kinase 1-dependent metabotropic glutamate receptor 5-induced long-term depression in the bed nucleus of the stria terminalis is disrupted by cocaine administration. *Journal of Neuroscience* 26:3210-3219.
Olsen, C.M. and Winder, D.G. (2006) A method for single binge cocaine self-administration in the mouse. *Psychopharmacology* 187:13-21.
Kash, T.L. and Winder, D.G. (2006) CRF and NPY play opposing roles in regulating GABAergic transmission in the bed nucleus of the stria terminalis. *Neuropharmacology* 51: 1013-22.
Robison, A.J., Winder, D.G., Colbran, R.J. and Bartlett, R.K. (2007) Oxidation of calmodulin prevents binding and activation of CaMKII. *BBRC* 356: 97-101.
Kash, T.L., Matthews, R.T. and Winder, D.G. (2008) Alcohol inhibits NR2B-containing NMDA receptors in the ventral bed nucleus of the stria terminalis. *Neuropsychopharmacology* 33(6):1379-1390.
Olsen, C.M., Huang, Y., Goodwin, S., Ciobanu, D., Lu, L., Sutter, T.R., and Winder, D.G. (2008) Microarray analysis reveals distinctive signaling mechanisms between the bed nucleus of the stria terminalis, nucleus accumbens, and dorsal striatum. *Physiological Genomics* 32(3): 283-298.
McElligott, Z.A. and Winder, D.G. (2008) α1-adrenergic receptor activation recruits a long-term depression of excitatory transmission in the bed nucleus of the stria terminalis that is disrupted in mouse models of depression. *Neuropsychopharmacology* 33:2313-2323.
Davis, A.R., Shields, A.D., Brigman, J., Norcross, M., McElligott, Z.A., Holmes, A., and Winder, D.G. (2008) Yohimbine impairs extinction of cocaine-conditioned place preference in an alpha2-adrenergic receptor independent process. *Learning & Memory* 15:667-676.
Grueter, B.A., McElligott, Z.A., robinson, A.J., Mathews, G.C, and Winder, D.G. (2008) *In vivo* mGluR5 antagonism prevents cocaine-induced disruption of postsynaptically maintained mGluR5-dependent long-term depresseion. *Journal of Neuroscience* 28:9261-9270.

Reviews/Book Chapters

Conn, P.J., Chung, D., Winder, D.G., Gereau IV, R. and Boss, V. (1995). Biochemical transduction systems operated by excitatory amino acids. In: T.W. Stone (ed.) *CNS Neurotransmitters and Neuromodulators: Glutamate*, CRC Press, Boca Raton, FL. pp. 181-199.
Conn, P.J., Gereau, R.W. IV and Winder, D.G. (1995). Roles of metabotropic glutamate receptors in regulating neural circuits and animal behavior. In: P.J. Conn and J. Patel (eds.) *The Metabotropic Glutamate Receptors*, Humana Press, Totowa, NJ pp. 195-229.
Winder, D. G. and Conn, P.J. (1996). Roles of metabotropic glutamate receptors in glial function and glial-neuronal communication. *J. Neurosci. Res.* 46: 131-7.
Conn, P.J., Bradley, S.R., Macek, T.A., Winder, D.G. and Gereau, R.W. (1997) Physiological roles of multiple metabotropic glutamate receptor subtypes in the hippocampus. In: F. Moroni, F. Nicoletti, and D.E. Pellegrini-Giampietro (Eds.) *Metabotropic Glutamate receptors and Brain Function.* Portland Press Ltd. London pp: 87-98.
Winder, D.G. and Kandel, E.R. (2000) Genetic strategies for the study of hippocampal-based memory storage. In: J.J. Bolhuis (Ed.) *Brain Mechanisms of Perception, Learning and Memory* pp 163-184, Oxford University Press. Oxford.
Winder,D.G. and Sweatt, J.D. (2001) Roles of serine/threonine phosphatases in hippocampal synaptic plasticity. *Nature Reviews, Neuroscience* 2: 461-474.
Winder, D.G. and Schramm, N. (2001) Plasticity and behavior: New genetic techniques to address multiple forms and functions. *Physiology and Behavior* 73: 763-780.
Weitlauf, C. and Winder, D.G. (2001) Calcineurin, synaptic plasticity, and memory. *The Scientific World* 1: 530-533.
Winder, D.G., Egli, R.E., Schramm, N.L. and Matthews R.T. (2002) Synaptic plasticity in drug reward circuitry. *Current Molecular Medicine* 2: 667-676.
Deutch, A.Y. and Winder, D.G. (2006) A channel to neurodegeneration. *Nature Medicine* 12: 17-18.
Woodward, J., Ron, D., Winder, D., Roberto, M. (2006) From blues states to upstates: ethanol regulation of NMDA receptor function. *Alcoholism: Clinical and Experimental Research* 30:359-367.
Grueter, B.A. and Winder, D.G. Metabotropic glutamate receptors. *Encyclopedia of Neuroscience, 3rd Edition (In Press).*
Grueter, B.A., McElligott, Z. and Winder, D.G. (2007) Group I mGluRs and long-term depression: gatekeepers to addiction? *Molecular Neurobiology (In Press)*
Kash, T.L. and Winder, D.G. (2007) NMDAR LTP and LTD Induction: 2B or Not 2B…is that the question? *Debates in Neuroscience (In Press*).

C. Research Support

Ongoing Research Support

5R01 DA19112 Winder (PI) 09/30/04-07/31/09
NIH
Periadolescent Noradrenergic Regulation in the BNST
The project examines the means by which norepinephrine regulates synaptic function in the BNST in adult and periadolescent animals.
Role: PI

5U01 AA015635 Winder (PI) 04/01/05-03/31/10
NIH
Regulation of Synaptic Transmission in BNST by Alcohol
This project examines the effects of acute and chronic ethanol exposure on synaptic physiology in the BNST
Role: PI

5R01 MH077647 Raber (PI), OHSU 04/01/07-03/31/12
NIH
The Role of mGluR8 in Anxiety
Subcontract VUMC33668-R
This project examines to role of mGluR8 in synaptic physiology in the extended amygdala
Role: Co-investigator

5U01 AA013499 Williams (PI), UT Memphis 02/05/07-01/31/12
INIA: Robust Systems Genetics of Alcohol and Stress Effects on CNS
Subcontract
This project attempts to validate the variation in observed mRNA expression across recombinant inbred strains by electrophysiological approaches
Role: Co-investigator

Completed Research Support

5P01 NS44242 Deutch (PI) 07/01/02-06/30/08
NIH
Dendritic Plasticity in Parkinson's Disease
The Winder subproject on this PPG examines the regulation of striatal calcineurin in normal tissue and after dopamine depletion by 6-hydroxydopamine lesion of the Substantia Nigra.
Role: PI on a project.

U01 MH51971 Blakely (PI) 09/25/00-01/01/06
Subcontract to UT Memphis
Targeted Mutagenesis of the Mouse Genome and Neural Phenotypes
Tennessee Mouse Consortium
Role: Collaborator

R01 AA08986 Winder (PI) 09/27/91-03/31/06
NIH
Ethanol Inhibition of NMDA Receptor mediated Responses
Role: PI

R01 DA13699 Winder (PI) 07/01/01-04/30/06
NIH
Regulation of LTP by Gi-Linked Receptors
Role: PI