

BIOGRAPHICAL SKETCH

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NAME Konradi, Christine	POSITION TITLE Professor		
eRA COMMONS USER NAME (credential, e.g., agency login) ckonradi			
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
University of Austria, Vienna	PhD	1987	Biology/Neuroscience
University of Wurzburg, Germany	Post-Doc	1986-1988	Neurochemistry
University of Medicine & Dentistry of New Jersey	Post-Doc	1989	Neuroscience
Harvard Medical School, Boston, MA	Post-Doc	1989-1992	Neuroscience

A. Positions and Honors**Positions and Employment**

1984 – 1986 Ludwig Boltzmann Institute of Clinical Neurobiology, Lainz Hospital, Vienna, Austria
 1986 – 1988 Postdoctoral Fellow at the University of Würzburg, Department of Psychiatry, Clinical Neurochemistry Group, Germany
 1989 Postdoctoral Fellow at the University of Medicine and Dentistry of New Jersey, Department of Neurology
 1989 – 1990 Postdoctoral Fellow at Harvard Medical School and Massachusetts General Hospital, Department of Neurogenetics
 1991 – 1992 Postdoctoral Fellow at Harvard Medical School and Massachusetts General Hospital, Department of Neurology
 1992 – 1994 Instructor, Department of Psychiatry, Harvard Medical School, and Assistant, Department of Psychiatry, Massachusetts General Hospital
 1994 – 2002 Assistant Research Scientist, Department of Psychiatry, Massachusetts General Hospital and Harvard Medical School
 1994 – 2001 Assistant Professor, Department of Psychiatry, Harvard Medical School
 2000 – 2006 Associate Molecular Neurobiologist, McLean Hospital and Harvard Medical School
 2000 – 2006 Member, Department of Neurobiology, Harvard Medical School
 2001 – 2006 Associate Professor, Department of Psychiatry, Harvard Medical School
 2006 – pres Professor, Department of Psychiatry, Vanderbilt University

Other Experience and Professional Memberships

1980 – 1982 Steering Committee for the Biology Program; Student representative; University of Vienna
 1998 – 2002 Study section NSF, Developmental Neuroscience
 1999 – pres Various (>=10) NIH study sections, special emphasis panels, NIMH site visit reviews
 1999 – 2004 Program Committee for the Winter Conference on Brain Research
 2000 Organizer and Focus Group leader of the Motivational Neuronal Network Meeting
 2000 Programmatic meeting at NIDA to discuss scientific focus for future funding
 2008 Permanent member of the Molecular Neurogenetics Study Section (MNG)

Honors

1983 Höchstbegabtenstipendium (award for outstanding achievement) from the State Department for Science and Research, Austria
 1996 – 1998 NARSAD Young Investigator Award

B. Selected Peer-Reviewed Publications (in chronological order)

Konradi C, Svoma E, Jellinger K, Riederer P, Denney R. and Thibault J. (1988) Topographic immunocytochemical mapping of monoamine oxidase- A, monoamine oxidase-B and tyrosine hydroxylase in human post mortem brain stem. Neuroscience 26: 791-802.

- Konradi C, Kornhuber J, Frölich L, Fritze J, Heinsen H, Beckmann H, Schulz E. and Riederer P. (1989). Demonstration of monoamine oxidase-A and -B in the human brainstem by a histochemical technique. *Neuroscience* 33: 383-400.
- Konradi C, Ozelius L, Yan W, Gusella J.F. and Breakefield X.O. (1991) Dinucleotide repeat polymorphism (D16S258) on human chromosome 16. *Nucleic Acids Res.* 19: 5449.
- Konradi C, Ozelius L. and Breakefield X.O. (1992) Highly polymorphic (GT)_n repeat sequence in intron II of the human MAOB gene. *Genomics* 12: 176-177.
- Konradi C, Kornhuber J, Sofic E, Heckers S, Riederer P. and Beckmann H. (1992) Variations of monoamines and their metabolites in the human brain putamen. *Brain Res.* 579: 285-290.
- Konradi C, Kobierski L.A, Nguyen T.V, Heckers S. and Hyman S.E. (1993) The cAMP-response element-binding protein interacts, but Fos protein does not interact, with the proenkephalin enhancer in rat striatum. *Proc. Natl. Acad. Sci. USA* 90: 7005-7009.
- Borsook D, Falkowski O, Burstein R, Strassman A, Konradi C, Dauber A, Comb M, Hyman SE. (1994) Stress-induced regulation of a human β -galactosidase fusion gene in the hypothalamus of transgenic mice. *Mol Endocrinol* 8:116-125.
- Borsook D, Konradi C, Falkowski O, Comb M, Hyman SE. (1994) Molecular mechanisms of stress-induced proenkephalin gene-regulation: CREB interacts with the proenkephalin gene in the mouse hypothalamus and is phosphorylated in response to hyperosmolar stress. *Mol Endocrinol* 8:240-248.
- Konradi C, Cole R, Heckers S. and Hyman S.E. (1994) Amphetamine regulates gene expression in rat striatum via transcription factor CREB. *J. Neurosci.* 14: 5623-5634.
- Cole DG, Kobierski L, Konradi C, Hyman SE. (1994) 6-Hydroxydopamine lesions of rat substantia nigra up-regulate dopamine-induced phosphorylation of the cAMP-response element-binding protein in striatal neurons. *Proc Natl Acad Sci USA*: 91:9631-9635.
- Konradi C. and Heckers S. (1995) Haloperidol-induced Fos expression in striatum is dependent upon transcription factor cyclic AMP response element binding protein. *Neuroscience* 65: 1051-1061.
- Cole R.L, Konradi C, Douglass J. and Hyman S.E. (1995) Neuronal adaptation to amphetamine and dopamine: Molecular mechanisms of prodynorphin gene regulation in rat striatum. *Neuron* 14: 813-823.
- Konradi C, Cole R.L, Green D, Senatus P, Leveque J-C, Pollack A, Grossbard S.J. and Hyman S.E. (1995) Analysis of the proenkephalin second messenger-inducible enhancer in rat striatal cultures. *J. Neurochem.* 65: 1007-1015.
- Konradi C, Leveque J.C. and Hyman S.E. (1996) Amphetamine and dopamine-induced immediate early gene expression in striatal neurons depends upon postsynaptic NMDA receptors and calcium. *J. Neurosci.* 16:4231-4239.
- Simonian NA, Getz RL, Leveque JC, Konradi C, Coyle JT. (1996) Kainic acid induces apoptosis in neurons. *Neurosci* 75:1047-55.
- Rajadhyaksha A, Leveque J.C, Macías W, Barczak A, and Konradi C. (1998) Molecular components of striatal plasticity: the various routes of cyclic AMP pathways. *Dev. Neurosci.* 20:204-215.
- Rajadhyaksha A, Barczak A, Macías W, Leveque J.-C, Lewis S.E. and Konradi C. (1999) L-type Ca²⁺ channels are essential for glutamate-mediated CREB phosphorylation and c-fos gene expression in striatal neurons. *J. Neurosci.* 19: 6348-6359.
- Leveque J.-C, Macías W, Rajadhyaksha A, Carlson, R, Barczak, A, Kang S, Li X.-M. Coyle, J.T, Haganir, R.L, Heckers S. and Konradi, C. (2000) Intracellular modulation of NMDA receptor function by antipsychotic drugs. *J Neurosci* 20: 4011-4020.
- Macías W, Carlson R, Rajadhyaksha A, Barczak A. and Konradi C. (2001) Potassium chloride depolarization mediates CREB phosphorylation in striatal neurons in an NMDA receptor-dependent manner. *Brain Res.* 890: 222-232.
- Konradi C. and Heckers S. (2001) Antipsychotic drugs and neuroplasticity: Insights into the treatment and neurobiology of schizophrenia; *Biol Psych*, 50:729-742.
- Pliakas A, Carlson R.R, Neve R.L, Konradi C, Nestler E.J. and Carlezon W.A. Jr. (2001) Altered responsiveness to cocaine and increased immobility in the forced swim test associated with elevated CREB expression in nucleus accumbens; *J. Neurosci.* 21:7397-7403.
- Andersson M, Konradi C. and Cenci M.A. (2001) The cyclic AMP response element binding protein is required for dopamine-dependent gene expression in intact but not dopamine-denervated striatal neurons. *J Neurosci*, 21:9930-9943.
- Heckers S, Konradi C. Hippocampal neurons in schizophrenia. *J Neural Transmission, J Neural Transm* 2002,109:891-905.
- Konradi, C. Quantification of mRNA in neuronal tissue by Northern Analysis. *Methods in Molecular Medicine*, 2003, 79:161-179.
- Konradi, C. Quantification of protein in brain tissue by Western immunoblot analysis. *Methods in Molecular Medicine*, 2003, 79:263-271.
- Konradi, C. Analysis of DNA-binding activity in neuronal tissue with the electrophoretic mobility-shift assay. *Methods in Molecular Medicine*. 2003, 79:315-327.

- Konradi C. and Heckers S. (2003) Molecular Aspects of glutamate dysregulation: Implications for schizophrenia and its treatment. *Pharmacology and Therapeutics*, 97:153-179.
- Konradi C, Macias W, Dudman JT and Carlson RR (2003) Striatal proenkephalin gene induction: coordinated regulation by cyclic AMP and calcium pathways. *Molecular Brain Res*, 115(2):157-61.
- Chartoff EH, Papadopoulou M, Konradi C and Carlezon WA Jr. (2003) Dopamine-dependent increases in phosphorylation of cAMP response element binding protein (CREB) during precipitated morphine withdrawal in primary cultures of rat striatum. *J Neurochem*, 87(1):107-18.
- Dudman JT, Eaton ME, Rajadhyaksha A, Macias W, Taher M, Barczak A, Kameyama K, Haganir R and Konradi C (2003) Dopamine D1 receptors mediate CREB phosphorylation via phosphorylation of the NMDA receptor at Ser897-NR1. *J Neurochem*, 87 (4): 922-34.
- Chartoff EH, Papadopoulou M, Konradi C. and Carlezon WA Jr. (2003) Effects of naloxone-precipitated morphine withdrawal on glutamate-mediated signaling in striatal neurons in vitro. *Ann. New York Acad. Sci* 1003:368-71.
- Konradi C, Eaton ME, MacDonald ML, Walsh J, Benes FM and Heckers S. (2004) Molecular evidence for mitochondrial dysfunction in bipolar disorder. *Arch Gen Psychiatry* 61:300-308.
- Konradi C, Westin J, Carta M, Eaton ME, Kuter K, Dekundy A, Lundblad M, Cenci MA. (2004) Transcriptome analysis in a rat model of L-DOPA-induced dyskinesia. *Neurobiol Dis*. 17 (2):219-36. Benes FM, Burke RE, Walsh J, Berretta S, Matzilevich D, Minns M, and Konradi C. (2004) Acute amygdalar activation induces an upregulation of multiple monoamine G protein coupled pathways in rat hippocampus. *Molecular Psychiatry*, 9(10):932-45, and 895.
- Eaton ME, Macias W, Youngs RM, Rajadhyaksha A, Dudman JT. and Konradi, C. (2004) L-type Ca²⁺ channel blockers promote Ca²⁺ influx in dopamine-stimulated striatal neurons. *Brain Res Mol Brain Res*. 131 (1-2):65-72.
- Li J, Guo Y, Schroeder FA, Youngs RM, Schmidt TW, Ferris C, Konradi C. and Akbarian S. (2004) Dopamine D2-like antagonists induce chromatin remodeling in striatal neurons through cAMP-PKA and NMDA receptor signaling. *J Neurochem*. 90 (5):1117-31.
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- MacDonald ML, Eaton ME, Dudman JT and Konradi C. (2005) Antipsychotic drugs elevate mRNA levels of presynaptic proteins in the frontal cortex of the rat. *Biol. Psychiatry*, 57 (9): 1041-1051.
- Konradi, C. (2005) Gene expression microarray studies in polygenic psychiatric disorders: Applications and data analysis. *Brain Res. Rev*. 50:142-155.
- MacDonald ML, Naydenov A, Chu M, Matzilevich D. and Konradi C (2006) Decrease in Creatine Kinase Messenger RNA Expression in the Hippocampus and Dorsolateral Prefrontal Cortex in Bipolar Disorder. *Bipolar Disorders* 8 (3), 252.
- Youngs RM, Chu MS, Meloni EG, Naydenov A, Carlezon WA Jr. and Konradi, C. (2006) Lithium administration to preadolescent rats causes long-lasting increases in anxiety-like behavior and has molecular consequences. *J Neurosci*. 26:6031-39.
- Black YD, Maclaren FR, Naydenov A, Carlezon WA Jr, Baxter MG, and Konradi, C. (2006) Altered attention and prefrontal cortex gene expression in rats after binge-like exposure to cocaine during adolescence. *J Neurosci*. 26: 9656-65.
- Todtenkopf MS, Parsegian A, Naydenov A, Neve RL, Konradi C, and Carlezon, WA Jr. (2006) Brain reward regulated by AMPA receptor subunits in nucleus accumbens shell. *J Neurosci* 26:11665-9.
- Naydenov A, MacDonald ML, Ongur D. and Konradi C. (2007) Differences in electron transport gene expression levels between bipolar subjects and normal controls in response to glucose deprivation stress. *Archives Gen Psychiatry*.
- Westin, JE, Vercammen L, Strome E, Konradi C, and Cenci MA. (2007) Spatio-temporal pattern of striatal ERK1/2 phosphorylation in a rat model of L-dopa-induced dyskinesia and the role of dopamine D1 receptors. *Biol Psych*. 62:800-810.
- Levine JB, Youngs RM, MacDonald ML, Chu MS, Leeder AD, Konradi C. (2007) Isolation rearing and hyperlocomotion are associated with reduced Immediate Early gene expression levels in the medial prefrontal cortex. *Neurosci*. 145:42-55.
- Levine JB, Leeder AD, Parekkadan B, Berdichevsky Y, Rauch SL, Smoller JW, Konradi C, Berthiaume F, Yarmush ML. (2008) Isolation rearing impairs wound healing and is associated with increased locomotion and decreased immediate early gene expression in the medial prefrontal cortex of juvenile rats. *Neuroscience*.
- Schroeder FA, Penta KL, Matevossian A, Jones SR, Konradi C, Tapper AR, Akbarian S. Drug-Induced activation of dopamine D(1) receptor signaling and inhibition of Class I/II histone deacetylase induce chromatin remodeling in reward circuitry and modulate cocaine-related behaviors. *Neuropsychopharmacology*, (in press)

C. Research Support

Ongoing Research Support

1R01 NS048235 Konradi (PI) 06/07/04 – 05/31/09
NIH/NINDS
Levodopa dyskinesia and striatal neuroplasticity
A study of gene regulation in the dopamine-denervated striatum to elucidate the molecular profile of dyskinesia in Parkinson's disease. A rodent model of dyskinesia combined with human studies.

5R01MH067999 Heckers (PI) 01/01/04 – 12/31/08
NIMH
Hippocampus in Schizophrenia and Bipolar Disorder
A study of the cellular and molecular basis of hippocampal pathology in schizophrenia and bipolar disorder.

1R01MH07400 Konradi (PI) 12/01/05 – 12/31/09
NIH/NIMH
Antipsychotic drug effects in limbic structures
A study of gene expression changes in hippocampus and amygdala in response to treatment with haloperidol and clozapine.

Completed Research Support

R21 DA19152 Konradi (PI) 10/01/04 – 07/31/07
NIDA
Adolescent drug exposure and adult PFC function
A study of the long-term consequences of adolescent cocaine exposure on gene expression and behavioral function of the rodent PFC.

1R01 MH63266-02 Carlezon (PI) 07/01/01 – 06/30/06
NIH/NIMH
Role of Nucleus Accumbens CREB in Depression
The goal of this project is to study the role of the transcription factor CREB in depression.

Poitras Foundation Konradi (PI) 09/01/03 – 08/31/06
A Molecular study of energy dysregulation in Bipolar Disorder.
The goal of this project is to establish molecular markers for Bipolar Disorder in lymphocytes.