

**BIOGRAPHICAL SKETCH**

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NAME Christopher J. Evans	POSITION TITLE Professor		
eRA COMMONS USER NAME EVANSC2			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Westminster University, U.K.	B.Sc.	1976	Life Sciences
MRC/Imperial College, London University, U.K.	Ph.D.	1980	Peptide Chemistry
Stanford University, Palo Alto, Ca., U.S.A.	Post-Doc	1980-1982	Peptide Neurochemistry

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

1982 – 1990 Research Associate, Stanford University  
 1990 – 1994 Assistant Professor, Dept of Psychiatry & Biobehavioral Sciences, UCLA School of Medicine  
 1994 – Present Professor, Dept of Psychiatry and Biobehavioral Sciences, UCLA School of Medicine

**Other Experience and Professional Memberships**

1984 – 1990 Co-organizer/teacher of annual Cold Spring Harbor, "Molecular Probes of the Nervous System"  
 1994 – 1998 Member, Molecular, Cellular & Chemical Neurobiology Research Subcommittee, NIDA IRG, NIH  
 1998 – Present Member of NIDA Center Review Committee  
 1999 – Present Stefan Hatos Chair in Neuropharmacology & Director of the NPI Hatos Research Center  
 2002 – Present Associate Director for Research, Brain Research Institute, UCLA

**B. Selected peer-reviewed publications (in chronological order).**

1. Weber E, **Evans CJ**, Barchas JD. Opioid peptide dynorphin: Predominance of the aminoterminal octapeptide fragment in rat brain regions. *Nature* 1982;299:77-79.
2. **Evans CJ**, Erdelyi E, Weber E, Barchas JD. Identification of pro-opiomelanocortin derived peptides in the human adrenal medulla. *Science* 1983;221:957-960.
3. Weber E, Esch FS, Bohlen P, Paterson S, Corbett AD, McKnight AT, Kosterlitz HW, Barchas JD, **Evans CJ**. Metorphamide: Isolations, structure and biologic activity of a novel amidated opioid octapeptide from bovine brain. *Proc Natl Acad Sci USA* 1983;80:7362-7366.
4. **Evans CJ**, Barchas JD, Esch FS, Bohlen P, Weber E. Isolation and characterization of an endogenous C-terminal fragment of the alpha-neo-endorphin/dynorphin precursor from bovine caudate nucleus. *J Neurosci* 1985;5:1803-1807.
5. **Evans CJ**, Erdelyi E, Hunter J, Barchas JD. Colocalization and characterization of immunoreactive peptides derived from two opioid precursors in guinea pig adrenal glands. *J Neurosci* 1985;5:3423-3427.
6. Seizinger B, Liebisch D, Gramsch C, Herz A, Weber E, **Evans C**, Esch F, Bohlen P. Isolation and structure of a novel C-terminally amidated opioid peptide, amidorphin, from bovine adrenal medulla. *Nature* 1985;313:57-62.
7. Fricker LD, **Evans CJ**, Esch FS, Herbert E. Cloning and sequence analysis of cDNA for bovine carboxypeptidase E (enkephalin convertase). *Nature* 1986;323:461-464.
8. **Evans CJ**, Keith DE Jr., Morrison H, Magendzo K, Edwards RH. Cloning of a delta opioid receptor by functional expression. *Science* 1992;258:1952-1955.
9. von Zastrow M, Keith DE Jr., **Evans CJ**. Agonist-induced state of the delta-opioid receptor that discriminates between opioid peptides and opiate alkaloids. *Molecular Pharmacology* 1993;44:166-172.
10. Kaufman DL, Xia Y-R, Keith DE Jr., Newman D, **Evans CJ**, Lusk AJ. Localization of the delta-opioid receptor gene to mouse chromosome 4 by linkage analysis. *Genomics* 1994;19:405-406.
11. Piros ET, Prather PL, Loh HH, Law PY, **Evans CJ**, Hales TG. Ca<sup>2+</sup> channel and adenylyl cyclase modulation by cloned mu-opioid receptors in GH3 cells. *Molecular Pharmacology* 1995;47:1041-1049.

12. Milligan CE, Webster L, Piros ET, **Evans CJ**, Cunningham TJ, Levitt P. Induction of opioid receptor-mediated macrophage chemotactic activity after neonatal brain injury. *J Immunology* 1995;154:6571-81.
13. Kaufman DL, Keith D, Anton B, Tian J, Magendzo K, Newman D, Tran T, Lee D, Wen C, Xia Y-R, Lulis AJ, **Evans CE**. Characterization of the murine mu opioid receptor gene. *J Biol Chem* 1995;270:15877-15883.
14. Sternini C, Spann M, Anton B, Keith DE, Bunnett NW, von Zastrow M, **Evans C**, Brecha NC. Agonist selective endocytosis of mu opioid receptor by neurons in vivo. *Proc Natl Acad Sci USA* 1996;93:9241-46.
15. Piros ET, Prather PL, Law PY, **Evans CJ**, Hales TG. Voltage-dependent inhibition of L-types  $Ca^{2+}$  channels by cloned  $\mu$ - and  $\delta$ -opioid receptors. *Molecular Pharmacology* 1996;50:947-956.
16. Li X, Keith DE Jr, **Evans CJ**. Multiple opioid receptor-like genes are identified in diverse vertebrate phyla. *FEBS Letts* 1996;397:25-29.
17. Trapaidze M, Keith DE, Cvejic S, **Evans CJ**, Devi LA. Sequestration of the delta opioid receptor: Role of the C-terminus in agonist-mediated internalization. *J Biol Chem* 1996;271:29279-29285.
18. Yu T-P, Fein J, **Evans CJ**, Xie CW. Orphanin FQ inhibits synaptic transmission and long-term potentiation in rat hippocampus. *Hippocampus* 1997;7:88-94.
19. Gylys KH, Tran N, Magendzo K, Zaki P, **Evans CJ**. cAMP decreases steady-state levels of delta-opioid receptor mRNA in NG108-15 cells. *NeuroReport* 1997;8:2369-2372.
20. Olive MF, Anton B, Micevych P, **Evans CJ**, Maidment NT. Presynaptic and postsynaptic localization of mu and delta opioid receptors in dorsal and ventral striatopallidal pathways. *J Neurosci* 1997;17:7471-7479.
21. Keith DE, Anton B, Murray SR, Zaki PA, Chu PC, Lissin DV, Monteillet-Agius G, Stewart PL, **Evans CJ**, von Zastrow M. Mu opioid receptor internalization: Opiate drugs have differential effects on a conserved endocytic mechanism in vitro and in the mammalian brain. *Mol Pharm* 1998;53:377-384.
22. Unterwald EM, Anton B, To T, Lam H, **Evans CJ**. Quantitative immuno-localization of mu opioid receptors: Regulation by naltrexone. *Neuroscience* 1998;85:897-905.
23. Monteillet-Agius G, Fein J, Anton B, **Evans CJ**. ORL-1 and mu opioid receptor antisera label different fibers in areas involved in pain processing. *J Comp Neurol* 1998;399:373-383.
24. Murray SR, **Evans CJ**, von Zastrow M. Phosphorylation is not required for dynamin-dependent endocytosis of a truncated mutant opioid receptor *J Biol Chem* 1998;273:24987-24991.
25. Charles AC, Piros ET, **Evans CJ**, Hales TG. L-type  $Ca^{2+}$  channels and  $K^+$  channels specifically modulate the frequency and amplitude of spontaneous  $Ca^{2+}$  oscillations and have distinct roles in prolactin release in GH3 cells. *J Biol Chem* 1999;274:7508-7515.
26. Zaki PA, Keith DE Jr., Brine GA, Carroll FI, **Evans CJ**. The role of G protein activation in agonist-dependent mu-opioid receptor internalization. *J Pharmacol Exp Ther* 2000;292:1127-1134.
27. Melone M, Brecha NC, Sternini C, **Evans C**, Conti F. Etorphine increases the number of mu opioid receptor-positive cells in the cerebral cortex. *Neuroscience* 2000;100:439-443.
28. Arjomand J, **Evans CJ**. Differential splicing of transcripts encoding the orphanin FQ/nociceptin precursor. *J Neurochem* 2001;77:720-729.
29. Zaki P, Keith D, Thomas J, Carroll F, **Evans C**. Agonist-, antagonist-, and inverse agonist-regulated trafficking of the delta-opioid receptor correlates with, but does not require, G protein activation. *J Pharmacol Exp Ther* 2001;298:1015-1020.
30. Arjomand J, Cole S, **Evans CJ**. Novel orphanin FQ/nociceptin transcripts are expressed in human immune cells. *J Neuroimmunol* 2002;130:100-108.
31. Charles AC, Mostovskaya N, Asas K, **Evans CJ**, Dankovich ML, Hales TG. Coexpression of delta-opioid receptors with micro receptors in GH3 cells changes the functional response to micro agonists from inhibitory to excitatory. *Mol Pharmacol* 2003;63:89-95.
32. Eitan S, Bryant CD, Saliminejad N, Yang YC, Vojdani E, Keith D Jr, Polakiewicz R, **Evans CJ**. Brain region-specific mechanisms for acute morphine-induced mitogen-activated protein kinase modulation and distinct patterns of activation during analgesic tolerance and locomotor sensitization. *J Neurosci* 2003;23:8360-9.
33. Lutfy K, Eitan S, Bryant CD, Yang YC, Saliminejad N, Walwyn W, Kieffer BL, Takeshima H, Carroll FI, Maidment NT, **Evans CJ**. Buprenorphine-induced antinociception is mediated by mu-opioid receptors and compromised by concomitant activation of opioid receptor-like receptors. *J Neurosci* 2003;23:10331-7.
34. Walwyn WM, Keith DE Jr, Wei W, Tan AM, Xie CW, **Evans CJ**, Kieffer BL, Maidment NT. Functional coupling, desensitization and internalization of virally expressed mu opioid receptors in cultured dorsal root ganglion neurons from mu opioid receptor knockout mice. *Neuroscience* 2004;123:111-21.

### **C. Research Support**

#### **Ongoing Research Support**

2 P50 DA05010-16 Evans (PI)

09/30/02 – 05/31/07

NIH/NIDA

Center for Study of Opioid Receptors and Drugs of Abuse (CSORDA)

Using a multidisciplinary and collaborative approach, the Center's research objective is to contribute insights into the mechanisms of action of opioid drugs and their receptors with the ultimate goal of discerning molecular processes that contribute to opiate addiction, tolerance and withdrawal.

Role: PI, Director of the Administrative Core, co-Director of the Tissue Culture/Neurochemistry Core.

RO1DA12609 Marvizón (PI)

09/29/00 – 10/01/05

NIH/NIDA

Spinal Neurokinin and Opioid Release in Nociception

The major goals of this grant are to determine the role of firing frequency and GABA receptors in controlling neurokinin release, and the role of primary afferents and adrenergic receptors in the release of opioid peptides.

Role: Advisor

T32 MH19925 Irwin (Program Director)

07/01/03 – 06/30/08

NIH/NIMH

Postgraduate Training Program in Psychoneuroimmunology

This training grant provides research training in Psychoneuroimmunology for three post-doctoral fellows per year.

Role: Co-Director and Core Faculty

1P20RR020750-01 Bilder (PI)

09/28/04 – 07/31/07

NIH/NCRR

Cognitive Phenotyping For Neuropsychiatric Therapeutics

The exploratory Center for Cognitive Phenomics (CCP) aims to accelerate identification and efficient measurement of cognitive phenotypes across syndromes and across species to advance interdisciplinary research on neuropsychiatric therapeutics. The CCP will coordinate activities of a large group of experts at UCLA and elsewhere to: (1) generate cross-disorder and cross-species catalogs of phenotypes; (2) develop a phenotype selection algorithm to identify the most promising candidates for research; (3) design a phenomics database for empirical data representation, data mining, and hypothesis testing; and (4) support proof-of-concept pilot projects. The long-term goal is establishment of a mature CCP that will provide the international research community with efficient, well validated phenotype assays; a cognitive phenomics data repository linked to genomics, proteomics, and other biological knowledge-bases; and novel strategies for interdisciplinary research on neuropsychiatric therapeutics.

1 R24 AT002681 Mayer (PI)

09/15/04 – 07/31/09

NIH/NCCAM

Mind/Brain/Body Interactions in Stress-Related Disorders

The goal of this infrastructure grant is to develop 4 research cores (Health Outcomes, Neuroimaging, Animal Models, Psychophysiology and Pain Assessment) to provide novel, cutting edge expertise and technologies to UCLA investigators interested in the study of mind brain body interactions. After the full build up of the cores, there will be a Pilot and Feasibility program for years 3-5 of the grant with 4 annual awards. These projects will utilize the resources of the cores as well as the expertise of the involved faculty. In addition, a career development program in form of a Named New Investigator award is included, as well as several developmental and public infrastructure components.

#### **Completed Research Support**

Waschek (PI)

01/01/02 – 12/31/02

Univ. of California Alcohol and Addiction Research Program

Modulation of opiate and ethanol action in the mesolimbic system by the neuropeptide PACAP

This grant seeks to investigate the effects of the PACAP/VIP neuromodulator system on rewarding and physiological responses to morphine and alcohol. The study uses knockout animals developed in Dr. Jim Waschek's laboratory and monies fund the animals and salary support for Dr. Kabir Lutfy, an Associate Researcher in the Hatos Center.

Role: Advisor

Kieffer (PI)

10/01/00 – 09/31/03

Human Frontiers

Chronic Opiates: From Receptor Internalization to Long-term Adaptational Changes In Vivo

This is a collaborative project with four investigators (Dr. Kieffer, Dr. Ueda, Dr. Maldonado, Dr. Evans). The goal of the project is the generation of mouse models to study the effects of internalization and phosphorylation of mu receptors on the function of different opioid drugs.

Role: Co-PI

Chris Evans (PI)

01/01/03 – 12/31/04

UCLA PNI Pilot,

Zebrafish as a potential model for analyzing neuroimmune mechanisms.

This project aims to study developmental processes that lead to the establishment of the neuroimmune network in vertebrates. Transgenic zebrafish lines are generated to label the pituitary, various neurons (catecholaminergic and serotonergic) and immune cells (macrophages, lymphocytes) with fluorescent proteins. Different transgenics are then cross-bred to generate models where neuroimmune cellular interactions can be followed in vivo and in real time throughout development.

Role: PI

Chris Evans (PI)

09/01/03 – 08/31/04

UCLA "Center for Gene-Environment Studies in Parkinson Disease". Pilot,

Applying zebrafish genetics to Parkinson's disease.

The goal of this project is to determine in vivo how mutant alpha-synucleins can lead to the degeneration of dopaminergic neurons. Zebrafish lines with GFP-labeled catecholaminergic neurons are used for this project.

Role: PI