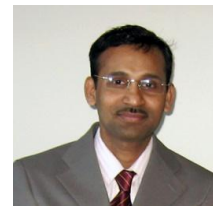


## Amul J. Sakharkar (Ph.D.)

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### **Current Research in Laboratory:**

1. Role of neuroepigenetic factors in oxidative homeostasis in brain.
2. Mitoepigenetics of stress or trauma induced OXPHOS dysregulation in the brain.
3. DNA methylation pattern in brain tumors as a result of chromosomal translocations.

**Students interested in pursuing research in the field of neuroscience are welcome to contact for research opportunities.**

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### **ACADEMIC/RESEARCH EXPERIENCE**

#### **Current Position**

**Assistant Professor**

**From Feb 2015**

Department of Biotechnology, Savitribai Phule Pune University, Pune 411 007

#### **Previous Positions**

**Research Assistant Professor**

**Dec 2010 to Jan 2015**

Department of Psychiatry, College of Medicine, University of Illinois at Chicago, USA

**Postdoctoral Research Associate**

**June 2007 to Nov 2010**

Department of Psychiatry, College of Medicine, University of Illinois at Chicago, USA

**Postdoctoral fellow**

**Sept 2006 to May 2007**

Pennington Biomedical Research Center, Baton Rouge, USA

**Senior Research Fellow**

**April 2000 to March 2006**

Department of Pharmaceutical Sciences, R.S.T.M. Nagpur University, Nagpur, India

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### **EDUCATION**

**One-Year Course in "Clinical Research Methods" (GPA 3.82)**

**2013-2014**

School of Public Health, Division of Health Policy and Administration  
University of Illinois at Chicago, Chicago, IL 60612 USA

**Ph.D. (Biochemistry) Nine Peer-reviewed International Publications**

**2001-2007**

Department of Pharmaceutical Sciences, R.S.T.M. Nagpur University,  
Nagpur 440 033, India

**M.Sc. (Biochemistry) First class, University Merit; 72.2%**

**1997-1999**

Department of Biochemistry, R.S.T.M. Nagpur University,  
Nagpur - 440 033, India

**B.Sc. (Biochemistry, Zoology, Chemistry), First Class, 64.1%**

**1993-1996**

Hislop College, R.S.T.M. Nagpur University; Nagpur 440 001, India

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## PUBLICATIONS IN PEER-REVIEWED INTERNATIONAL JOURNALS

1. Singru PS, Sakharkar AJ, Subhedar N. (2003) Neuronal nitric oxide synthase in the olfactory system of an adult teleost fish *Oreochromis mossambicus*. *Brain Research* 977:157-168.
2. Sakharkar AJ, Singru PS, Sarkar K, Subhedar N. (2005a) Neuropeptide Y in the forebrain of the adult male cichlid fish *Oreochromis mossambicus*: Distribution, effects of castration and testosterone replacement. *Journal of Comparative Neurology* 489:148-165.
3. Sakharkar AJ, Singru P, Subhedar N. (2005b) Reproduction phase-related variations in the GnRH immunoreactive fibers in the pineal of Indian major carp *Cirrhinus mrigala* (Ham.). *Fish Physiology and Biochemistry* 31:163-166.
4. Mazumdar M, Singru P, Sakharkar AJ, Deshmukh M, Subhedar N. (2005) Glucagon-like peptide-1 (GLP-1) immunoreactivity in the forebrain and pituitary of the teleost, *Clarias batrachus* (Linn.). *Fish Physiology and Biochemistry* 31:173-176.
5. Mazumdar M, Lal B, Sakharkar AJ, Deshmukh M, Singru PS, Subhedar N. (2006) Involvement of neuropeptide Y Y1 receptors in the regulation of LH and GH cells in the pituitary of the catfish, *Clarias batrachus*: an immunocytochemical study. *General and Comparative Endocrinology* 149:190-196.
6. Sakharkar AJ, Singru PS, Mazumdar M, Subhedar N. (2006) Reproduction phase-related expression of  $\beta$ -endorphin-like immunoreactivity in the nucleus lateralis tuberis of the female Indian major carp *Cirrhinus mrigala*: correlation with LH cells-ovary axis. *Journal of Neuroendocrinology* 18:319-329.
7. Mazumdar M, Sakharkar AJ, Singru PS, Subhedar N. (2007) Reproduction phase-related variations in the neuropeptide Y immunoreactivity in olfactory system, forebrain and pituitary of the female catfish, *Clarias batrachus* (Linn.). *Journal of Comparative Neurology* 504:450-469.
8. Singru PS, Mazumdar M, Sakharkar AJ, Lechan RM, Thim L, Clausen JS, Subhedar N. (2007a) Immunohistochemical localization of cocaine- and amphetamine-regulated transcript peptide (54-102) in the brain of the catfish, *Clarias batrachus* (Linn.). *Journal of Comparative Neurology* 502:215-235.
9. Singru PS, Sakharkar AJ, Mazumdar M, Subhedar N. (2007b) Neuronal nitric oxide synthase immunoreactivity in forebrain, pineal, and pituitary of *Oreochromis mossambicus* (Tilapia). *Fish Physiology and Biochemistry* 33:297-309.
10. Pan W, Hsueh H, He Y, Sakharkar A, Cain C, Yu C, Kastin AJ. (2008) Astrocyte leptin receptor (ObR) and leptin transport in adult-onset obese mice. *Endocrinology* 149:2798-2806.
11. Sakharkar AJ, Mazumdar M, Singru PS, Subhedar N. (2008) Neurosecretory neurons of the nucleus preopticus (NPO) express salmon GnRH mRNA and show reproduction phase-related variation in the female Indian major carp, *Cirrhinus cirrhosus*. *Comparative Biochemistry and Physiology-Part A: Molecular & Integrative Physiology* 151:247-252.
12. Moonat S, Starkman BG, Sakharkar A, Pandey SC. (2010) Neuroscience of alcoholism: molecular and cellular mechanisms. *Cellular and Molecular Life Sciences* 67:73-88.
13. Zhang H, Sakharkar AJ, Shi G, Ugale R, Prakash A, Pandey SC. (2010) Neuropeptide Y signaling in the central nucleus of amygdala regulates alcohol-drinking and anxiety-like behaviors of alcohol-preferring rats. *Alcoholism: Clinical and Experimental Research* 34:451-461.
14. Moonat S, Sakharkar A, Zhang H, Pandey SC. (2011) The role of amygdaloid brain-derived neurotrophic factor, activity-regulated cytoskeleton-associated protein and dendritic spines in anxiety and alcoholism. *Addiction Biology* 16:238-550.

15. Kalinin S, Polak PE, Lin SX, Sakharkar AJ, Pandey SC, Feinstein DL. (2012) The noradrenaline precursor L-DOPS reduces pathology in a mouse model of Alzheimer's disease. *Neurobiology of Aging* 33:1651-1663.
16. Sakharkar AJ, Tang L, Zhang H, Shi G, Pandey SC. (2012) Histone deacetylases (HDAC)-induced chromatin remodeling in the amygdala: A role in rapid tolerance to anxiolytic effects of alcohol. *Alcoholism: Clinical and Experimental Research* 36:61-71.
17. Starkman BG, Sakharkar AJ, Pandey SC. (2012) Epigenetics-Beyond the genome in alcoholism. *Alcohol Research: Current Reviews – Official Journal of National Institutes of Health, USA -National Institute on Alcohol Abuse and Alcoholism (NIH-NIAAA, USA)* 34:293-305.
18. Arora DS, Nimitvilai S, Teppen TL, McElvain MA, Sakharkar AJ, You C, Pandey SC, Brodie MS. (2013) Hyposensitivity to gamma-aminobutyric acid in the ventral tegmental area during alcohol withdrawal: reversal by histone deacetylase inhibitors. *Neuropsychopharmacology* 38:1674-1684.
19. Moonat S, Sakharkar AJ, Zhang H, Tang L, Pandey SC. (2013) Aberrant histone deacetylase2-mediated histone modifications and synaptic plasticity in the amygdala predisposes to anxiety and alcoholism. *Biological Psychiatry* 73:763-773.
20. Krishnan HR, Sakharkar AJ, Teppen T, Berkel TDM, Pandey SC. (2014) The Epigenetic Landscape of Alcoholism. *International Review of Neurobiology* 115:75-116.
21. Sakharkar AJ, Tang L, Zhang H, Chen Y, Grayson D, Pandey SC. (2014a) Effects of acute ethanol exposure on anxiety measures and epigenetic modifiers in the extended amygdala of adolescent rats. *International Journal of Neuropsychopharmacology* 17:2057-2067.
22. Sakharkar AJ, Zhang H, Tang L, Baker K, Shi G, Moonat S, Pandey SC. (2014b) Effects of histone deacetylase inhibitors on amygdaloid histone acetylation and neuropeptide Y expression: A role in anxiety-like and alcohol drinking behaviours. *International Journal of Neuropsychopharmacology* 17:1207-1220.
23. You C, Zhang H, Sakharkar AJ, Teppen T, Pandey SC. (2014) Reversal of deficits in dendritic spines, BDNF, and Arc expression in the amygdala during alcohol dependence by HDAC inhibitor treatment. *International Journal of Neuropsychopharmacology* 17:313-322.
24. Zhang X, Kusumo H, Sakharkar AJ, Pandey SC, Guizzetti M. (2014) Regulation of DNA methylation by ethanol induces tissue plasminogen activator expression in astrocytes. *Journal of Neurochemistry* 128:344-349.
25. Pandey SC, Sakharkar AJ, Tang L, Zhang H. (2015) Potential role of adolescent alcohol exposure-induced amygdaloid histone modifications in anxiety and alcohol intake during adulthood. *Neurobiology of Disease* (*In Press*).
26. Sakharkar AJ, Zhang H, Vetreno RP, Crews FT, Pandey SC. (2015) Role of histone acetylation in adolescent alcohol exposure-induced regulation of brain-derived neurotrophic factor expression and neurogenesis in hippocampus at adulthood. *Brain Structure and Function* (*In press*).

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#### Oral Presentations:

1. Symposium Oral Presentation "Neuropeptide Y immunoreactive system in the forebrain of the adult male cichlid fish, *Oreochromis mossambicus* responds to castration and testosterone replacement therapy." National Conference on Recent Trends in Comparative Endocrinology, Nagpur University, Nagpur, India, Nov. 27-29, 2003.
2. Guest Lecture "Brain Chromatin Remodeling: A Novel Mechanism in Alcoholism." Society of Biological Chemists, India. Nagpur Chapter- Department of Biochemistry, R.T.M. Nagpur University, Nagpur, India. January 7, 2009.
3. Speaker "Epigenetics of Co-morbidity of Anxiety and Alcoholism." Guest Lecture: Society of Biological Chemists, India. Nagpur Chapter-Department of Biochemistry, R.T.M. Nagpur University, Nagpur, India, January 9, 2013.

4. Plenary Talk "A Role for Epigenetic Modifications in the Co-morbidity of Anxiety and Alcoholism." 45th Annual Conference of Indian Pharmacological Society and International Conference on Navigating Pharmacology towards Safe and Effective Therapy. S.K.B. College of Pharmacy, Kamptee, Nagpur, India. January 7, 2013.
  5. Symposium Oral Presentation (2014) Epigenetic regulation of neuropeptide Y gene expression contributes to anxiety-like and alcohol-drinking behaviors. 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, USA.
  6. Symposium Oral Presentation (2014) Role of DNA methylation in intermittent ethanol exposure-induced changes in neuropeptide Y expression and anxiety-like behaviors. 3<sup>rd</sup> International Conference and Exhibition on Addiction Research and Therapy, Chicago, USA.
  7. Invited Speaker (2015) Neuroepigenetic Landscape of Alcoholism. Natural History Society, Department of Zoology, Karnataka University, Dharward, India.
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#### **PAPERS PRESENTED AT VARIOUS NATIONAL/INTERNATIONAL MEETINGS**

1. Sakharkar AJ, Subhedar N. (2000) Application of immunocytochemistry coupled with organ culture for investigating the nature of hypophysial control: Gonadotropin secreting cells respond to GnRH treatment in vitro. National Conference on Endocrinology, St. Xavier's College, Ranchi.
2. Aswar M, Sakharkar AJ, Subhedar N. (2000) Glucagon secreting cells respond to somatostatin treatment in vitro. National Conference on Endocrinology, St. Xavier's College, Ranchi.
3. Kokare DM, Sakharkar AJ, Subhedar N. (2000) Calcitonin secreting parafollicular cells in the thyroid respond to calcium treatment in vitro. National Conference on Endocrinology, St. Xavier's College, Ranchi.
4. Sakharkar AJ, Subhedar N. (2002) Cholecystokinin-like immunoreactivity in the brain of *Cirrhinus mrigala* (Ham.). Indo-US Symposium on "Brain Research", National Brain Research Centre, New Delhi.
5. Kokare DM, Sakharkar AJ, Subhedar N. (2002) Effects of Ca<sup>++</sup> and verapamil on the rat thyroid gland in vitro. XXXIV Annual Conference of the Indian Pharmacological Society. Indian Journal of Pharmacology 34:211-225.
6. Sakharkar AJ, Subhedar N. (2002) Nitric oxide synthase in the brain of *Cirrhinus mrigala* (Ham.). National Seminar on Environmental Biology and Fish Biology, Department of Zoology, Visva-Bharti University, Santiniketan.
7. Subhedar N, Biju KC, Singru PS, Gaikwad AS, Sakharkar AJ. (2002) *Clarias batrachus*: A model of opportunities and challenges. National colloquium on catfish physiology, Banaras Hindu University, Department of Zoology, Varanasi.
8. Subhedar N, Singru PS, Sakharkar AJ, Gaikwad AS. (2002) Nitric oxide: Novel signalling molecule in the brain of teleosts. Innovations and prospects in life sciences, School of life sciences, Pt. Ravishankar Shukla University, Raipur.
9. Subhedar N, Biju KC, Singru PS, Gaikwad AS, Sakharkar AJ. (2002) Neuropeptides in the forebrain of teleosts: anatomical-functional correlates. A symposium on Recent Trends in Modern Biology, University of Pune, Department of Zoology, Pune.
10. Sakharkar AJ, Singru PS, Sarkar K, Subhedar N. (2003) Neuropeptide Y immunoreactive system in the forebrain and pituitary of the cichlid fish, *Oreochromis mossambicus* responds to castration and testosterone replacement therapy. National Conference on Recent Trends on Comparative Endocrinology, Nagpur University, Nagpur.
11. Sakharkar AJ, Singru PS, Sarkar K, Subhedar N. (2003) Seasonal variation in beta-endorphin-like immunoreactivity in the nucleus preopticus and nucleus lateralis tuberis in the female Indian major carp, *Cirrhinus mrigala* (Ham.). National Conference on Recent trends on Comparative Endocrinology, Nagpur University, Nagpur.
12. Singru PS, Sakharkar AJ, Sarkar K, Subhedar N. (2003) Neuronal nitric oxide synthase in the forebrain and pituitary of an adult teleost, *Oreochromis mossambicus*. National Conference on Recent trends on Comparative Endocrinology, Nagpur University, Nagpur.
13. Sakharkar AJ, Singru PS, Saha SG, Subhedar N. (2004) Gonadotropin-releasing hormone (GnRH) immunoreactivity in the pineal of the Indian major carp, *Cirrhinus mrigala* (Ham.) shows correlation with the seasonal reproductive cycle. An International Symposium to commemorate Dedication of

National Brain Research Centre to the Nation. National Brain Research Centre, Manesar, Haryana, India.

14. Subhedar N, Sakharkar AJ, Kokare DM. (2004) Neuronal nitric oxide synthase as a marker for NO in the CNS. XXXVII Annual Conference of the Indian Pharmacological Society, Kolkata. Indian Journal of Pharmacology 36:106.
15. Subhedar N, Sakharkar AJ. (2005) Principles of immunocytochemistry. National Workshop on Critical Appraisal and Hands-on Training in Advanced Techniques in Endocrine Research, Department of Zoology, Aligarh Muslim University, Aligarh, India.
16. Singru P, Sakharkar AJ, Mazumdar M, Deshmukh M, Subhedar N. (2005) Neuronal nitric oxide synthase (nNOS) in the olfactory system, forebrain, pituitary and pineal of the adult male cichlid fish *Oreochromis mossambicus*. National Symposium on Comparative Endocrinology and Reproductive Physiology: Retrospect and Prospect. Department of Zoology, University of Delhi, India.
17. Mazumdar M, Sakharkar AJ, Deshmukh M, Subhedar N. (2005) Reproduction phase-related changes in neuropeptide Y (NPY) immunoreactivity in the olfactory system and forebrain of *Clarias batrachus* (Linn.). National Symposium on Comparative Endocrinology and Reproductive Physiology: Retrospect and Prospect. Department of Zoology, University of Delhi, India.
18. Sakharkar AJ, Singru P, Subhedar N. (2005) Reproduction phase-related variations in the GnRH immunoreactive fibers in the pineal of Indian major carp, *Cirrhinus mrigala* (Ham.). International Symposium on Frontiers in Molecular Endocrinology, Department of Animal Sciences, School of Life Sciences, University of Hyderabad, India.
19. Mazumdar M, Singru P, Sakharkar AJ, Deshmukh M, Subhedar N. (2005) Glucagon-like peptide-1 (GLP-1) immunoreactivity in the forebrain and pituitary of the teleost, *Clarias batrachus* (Linn.). International Symposium on Frontiers in Molecular Endocrinology, Department of Animal Sciences, School of Life Sciences, University of Hyderabad, India.
20. Subhedar N, Sakharkar AJ, Mazumdar M. (2006) Immunocytochemistry: Theory and applications. VII South Asian Symposium on Odonatology and Recent Trends in Zoology. Hislop College, Nagpur, India.
21. Sakharkar AJ, Singru PS, Mazumdar M, Subhedar N. (2006) Reproduction phase-related expression of beta-endorphin-like immunoreactivity in the nucleus lateralis tuberosus of the female Indian major carp, *Cirrhinus mrigala*: Correlation with LH cells-ovary axis. VII South Asian Symposium on Odonatology and Recent Trends in Zoology. Hislop College, Nagpur, India.
22. Sakharkar AJ, Singru PS, Mazumdar M, Subhedar N. (2006) Neuropeptide Y and neuronal nitric oxide synthase in the forebrain and pituitary of the cichlid fish, *Oreochromis mossambicus* (Tilapia): a double immunolabeling study. "Aqua-Tech 2006" A National Conference on Innovative Techniques and Remedies in Fishery Science, Department of Zoology, Dr. Ambedkar College, Nagpur, India.
23. Mazumdar M, Sakharkar AJ, Deshmukh MK, Subhedar NK. (2006) Neuropeptide Y stimulates the release of LH from the pituitary of *Clarias batrachus*: involvement of neuropeptide Y1 receptors. "Aqua-Tech 2006" A National Conference on Innovative Techniques and Remedies in Fishery Science, Department of Zoology, Dr. Ambedkar College, Nagpur, India.
24. Sakharkar AJ, Mazumdar M, Chhabra G, Barsagade V, Singru PS, Subhedar N. (2007) Neurosecretory neurons of the nucleus preopticus (NPO) express salmon GnRH mRNA and show reproduction phase-related variation in the Indian major carp, *Cirrhinus mrigala* (Ham.). National Conference on Current Trends in Biochemistry, University Department of Biochemistry, RTM Nagpur University, Nagpur, India.
25. Zhang H, Prakash A, Sakharkar AJ, Pandey SC. (2008) A role for CREB signaling in bed nucleus of stria terminalis brain regions in alcoholism. Joint Scientific Meeting of the Research Society on Alcoholism and the International Society for Biomedical Research on Alcoholism. Washington D.C. USA.
26. Sakharkar AJ, Tang L, Zhang H, Pandey SC. (2008) The role of histone deacetylases (HDAC)-induced brain chromatin remodeling in rapid alcohol tolerance. International Conference on Translational Pharmacology And 41<sup>st</sup> Annual Conference of Indian Pharmacological Society, All India Institute of Medical Sciences, New Delhi, India.
27. Moonat S, Sakharkar AJ, Zhang H, Pandey SC. (2009) Effects of acute ethanol exposure on amygdaloid dendritic morphology and anxiety-like behaviors in P and NP rats. 40<sup>th</sup> Annual Meeting of American Society for Neurochemistry, Charleston, South Carolina, USA.

28. Teppen T, Zhang H, Sakharkar AJ, Pandey SC. (2009) Sir2-induced chromatin remodeling in the amygdala: a role in ethanol withdrawal-related anxiety. 40<sup>th</sup> Annual Meeting of the American Society for Neurochemistry, Charleston, South Carolina, USA.
29. Moonat S, Sakharkar AJ, Zhang H, Pandey SC. (2009) Acute ethanol exposure increases amygdaloid Arc expression and dendritic spine density and decreases anxiety-like behaviors in P as compared to NP rats. Annual Conference of Association of Physician Scientists of America, Chicago, USA.
30. Sakharkar AJ, Tang L, Zhang H, Shi G, Pandey SC. (2010) A critical role for amygdaloid histone deacetylases (HDAC)-induced chromatin remodeling in rapid ethanol tolerance. 33<sup>rd</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
31. Pandey SC, Sakharkar AJ, Tang L, Zhang H. (2010) The co-morbidity of anxiety and alcoholism: A perspective from epigenetic studies. 2010 ISBRA World Congress. International Society for Biomedical Research on Alcoholism. Paris, France.
32. Pandey SC, Sakharkar AJ, Tang L, Baker K, Zhang H. (2010) Epigenetic basis for anxiety and alcoholism: A role for histone deacetylases. 33<sup>rd</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
33. Teppen TL, Zhang H, Sakharkar AJ, Pandey SC. (2010) Potential involvement of amygdaloid Sir-2 induced chromatin remodeling in alcoholism. 33<sup>rd</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
34. Sakharkar AJ, Tang L, Zhang H, Pandey SC. (2011) Amygdaloid Histone Deacetylases (HDACs)-induced Chromatin Remodeling: Role in Rapid Ethanol Tolerance in Adult and Adolescent Rats. 34<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, Atlanta, Georgia, USA.
35. Starkman BG, Kusumo H, Zhang H, Sakharkar AJ, Pandey SC. (2011) CREB Gene and Chromatin Remodeling: A Role in alcoholism and anxiety. 34<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, Atlanta, Georgia, USA.
36. Pandey SC, Sakharkar AJ, Moonat S, Tang L, Zhang H. (2011) Histone Deacetylase-2 Isoform and Chromatin Remodeling in the Amygdala: A Role in Anxiety and Alcoholism. 34<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, Atlanta, Georgia, USA.
37. Pandey SC, Moonat S, Zhang H, Sakharkar AJ. (2011) HDAC2-induced Chromatin Remodeling in Amygdala: A Role in anxiety and Alcoholism. 50<sup>th</sup> Anniversary Meeting of the American College of Neuropsychopharmacology, Hawaii, USA.
38. Sakharkar AJ, Tang L, Zhang H, Pandey SC. (2012) Effects of various doses of ethanol exposure on HDAC and DNMT activities in the extended amygdala of adolescent rats. 35<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Francisco, California, USA.
39. Krishnan HR, Teppen TL, Sakharkar AJ, Pandey SC. (2012) Effects of acute ethanol exposure on microRNA profiling in the amygdala of rats. 35<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Francisco, California, USA.
40. Teppen TL, Sakharkar AJ, Starkman B, Tang L, Kusumo H, Shi G, Zhang H, Pandey SC. (2012) Amygdaloid histone acetyltransferase (HAT)-induced chromatin remodeling: a role in alcohol tolerance and drinking behaviors. 35<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Francisco, California, USA.
41. Pandey SC, Sakharkar AJ, Tang L, Zhang H. (2012) Adolescent intermittent ethanol-induced alcohol drinking and anxiety-like behaviors at adulthood: a role for histone deacetylases. 35<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, San Francisco, California, USA.
42. Pandey SC, Sakharkar AJ, Tang L, Zhang H. (2012) Adolescent intermittent ethanol-induced chromatin remodeling in the amygdala: A role in alcohol drinking and anxiety-like behaviors at adulthood. 16<sup>th</sup> World Congress of International Society for Biomedical Research on Alcoholism, Sapporo, Japan.
43. Sakharkar AJ, Tang L, Zhang H, Pandey SC. (2013) A role for epigenetic modifications in the co-morbidity of anxiety and alcoholism. 45<sup>th</sup> Annual Conference of Indian Pharmacological Society and International Conference on Navigating Pharmacology towards Safe and Effective Therapy. Kamptee, Nagpur, India.
44. Sakharkar AJ, Tang L, Zhang H, Pandey SC. (2013) Adolescent intermittent ethanol-induced chromatin and synaptic remodeling at adulthood: a role in anxiety and alcoholism. 36<sup>th</sup> Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.

45. Krishnan HR, Zhang H, Sakharkar AJ, Pandey SC. (2013) Role of DNA methylation in amygdaloid circuitry-mediated anxiolytic behaviors following acute ethanol exposure. 36th Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.
  46. Gavin DP, Sakharkar AJ, Pandey SC. (2013) Effect of adolescent intermittent ethanol exposure on the DNA demethylation gene network. 36th Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.
  47. Teppen TL, Krishnan HR, Zhang H, Sakharkar AJ, Pandey SC. (2013) The anxiolytic effects of acute ethanol exposure are mediated through microRNA-494 expression in the amygdala of rats. 36th Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.
  48. Zhang X, Kusumo H, Sakharkar AJ, Pandey SC, Guizzetti M. (2013) Epigenetic regulation of astrocyte tissue plasminogen activator by ethanol. 36th Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.
  49. Arora DS, Nimitvilai S, McElvain MA, Sakharkar AJ, Teppen TL, Pandey SC, Brodie MS. (2013) histone deacetylase inhibitors reverse the decrease in sensitivity to GABA in the ventral tegmental area produced by repeated alcohol treatment. 36th Annual Scientific Meeting of the Research Society of Alcoholism, Orlando, Florida, USA.
  50. Sakharkar AJ, Zhang H, Tang L, Baxstrom K, Shi G, Moonat S, Pandey SC. (2014) Epigenetic regulation of neuropeptide Y gene expression contributes to anxiety-like and alcohol-drinking behaviors. 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, WA, USA.
  51. Sakharkar AJ, Zhang H, Tang L, Pandey SC. (2014) A role for histone acetylation in intermittent ethanol exposure-induced changes in BDNF expression and anxiety-like behaviors in adolescent rats. 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, WA, USA.
  52. Pandey SC, Sakharkar AJ, Krishnan H, Gavin DP, Zhang H, Grayson D. (2014) Role of epigenetic changes produced by ethanol exposure in anxiety and alcoholism. 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, WA, USA.
  53. Floreani C, Sakharkar AJ, Krishnan HR, Pandey SC. (2014) Hypoxia inducible factor expression changes in the rat amygdala in response to adolescent intermittent ethanol exposure. 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, WA, USA.
  54. Teppen TL, Krishnan H, Zhang H, Sakharkar AJ, Pandey SC. (2014) MicroRNA-494 and CREB pathway: A role in the anxiolytic-like effects of acute ethanol . 37th Annual Scientific Meeting of the Research Society of Alcoholism, Seattle, WA, USA.
  55. Sakharkar AJ, Vetreno RP, Zhang H, Crews FT, Pandey SC. (2015) Role of histone acetylation in adolescent alcohol exposure-induced regulation of hippocampal BDNF expression and neurogenesis at adulthood. 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
  56. Gavin DP, Sakharkar AJ, Teppen T, Pandey SC. (2015) effect of adolescent intermittent ethanol exposure on the mediators of DNA methylation and demethylation in the hippocampus. . 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
  57. Vinod KY, Sakharkar AJ, Zhang H, Vemuri K, Makriyannis A, Hungund BI, Pandey SC. (2015) CB1 receptor modulates neuropeptide y expression through epigenetic changes and reduces alcohol consumption. 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
  58. Kyzar EJ, Sakharkar AJ, Zhang H, Pandey SC. (2015) Effect of adolescent alcohol exposure on expression of histone demethylases and methyltransferases in the extended amygdala of adult rats. 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
  59. Krishnan HR, Zhang H, Sakharkar AJ, Pandey SC. (2015) epigenetic regulation of BDNF is responsible for the development of tolerance to the anxiolytic effects of ethanol. 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
  60. Pandey SC, Teppen TL, Krishnan HR, Sakharkar AJ, Zhang H (2015) Novel microRNAs in the amygdala mediate acute actions of alcohol. 38th Annual Scientific Meeting of the Research Society of Alcoholism, San Antonio, Texas, USA.
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