

## Rajesh Ramesh Ugale, Ph.D.

### Research area:

Ischemic stroke caused by the occlusion of a cerebral artery represents the most common kind of a cerebrovascular event and accounting for 85–90% of all incidences. Despite numerous studies on neuroprotective agents, the only effective and FDA approved therapy for ischemic stroke is the removal of the thrombus/embolus either pharmacologically by thrombolysis with recombinant tissue plasminogen activator (tPA) or mechanically with a retriever. However, tPA treatment has a very short therapeutic time window of 4–6 h after onset of ischemia and associated with severe side effects such as cerebral edema and hemorrhage. Literature suggests that ischemic neuronal death is a transcription-dependent process that requires the expression of death-signaling genes, as well as the repression of survival-promoting genes. Thus, targeting the transcription factors that are responsible for neuronal death is considered as better therapeutic strategy. It prevents the upregulation of many death-signaling genes and the down-regulation of many survival-promoting genes at the latest converging points. This will enable to widen the therapeutic window for effective drug administration without the need to target individual genes for up-regulation or down-regulation. My lab is working on sterol response element binding protein 1 (SREBP1), which plays fundamental role in lipid metabolism, and act as a critical transcription factor for NMDAR-mediated excitotoxicity and ischemic stroke injury. Simultaneously, we are also working on alternative medicines such as traditional plants for their therapeutic effects in ischemic stroke/reperfusion injury.

### Postdoctoral Research

July 2005 to July 2007

Department of Psychiatry, Neurobiology of Alcoholism, University of Illinois at Chicago, VA  
Medical center, Chicago, Illinois, USA

- The NIH funded project involved study of the behavioral, molecular and epigenetic mechanisms in the withdrawal induced anxiety produced by alcohol.

### Education

2002-2006 Department of Pharmaceutical Sciences, Nagpur University, Nagpur, India

- Doctor of Philosophy (Ph.D.) - Served as research associate with Dr. C.T. Chopde on the project involving interaction of centrally active agents and neurosteroids in animal models of various neurological and neuropsychiatric disorders.

1999–2001 Department of Pharmaceutical Sciences, Nagpur University, Nagpur, India

- Master of Pharmacy (Pharmacology)  
Research project: Role of allopregnanolone in the antipsychotic effect of olanzapine.

[1991–1995 Institute of Pharmaceutical Education and Research, Wardha, Maharashtra, India

- Bachelor of Pharmacy

### Teaching & Research Experience

Oct 2013-Present

Department of Pharmaceutical Sciences, Nagpur University, India

- Assistant Professor, Pharmacology, Department of Pharmaceutical Sciences, R.T.M. Nagpur University, Nagpur

Jan 2012-Oct 2013

SLT Institute of Pharmaceutical Sciences, Guru Ghasidas Vishwavidyalaya, (A Central University), Bilaspur (C.G.) India

- Assistant Professor, Pharmacology, SLT Institute of Pharmaceutical Sciences, Guru Ghasidas Vishwavidyalaya, (A Central University), Bilaspur

Jul 2001 to Jan 2012

Department of Pharmacy, Kamptee, (Nagpur University), India

- Assistant Professor, Pharmacology, SKBCOP College of Pharmacy, Kamptee, Nagpur (2008-12)
- Lecturer, Pharmacology, SKBCOP College of Pharmacy, Kamptee, Nagpur (2001-07)

### Research Guidance:

- M. Pharm: 60 Students
- Ph.D. : 2 Students

### Research Projects

- PI:  
Title: "Evaluation of selective Imidazoline I2 receptor ligands as analgesics in chronic neuropathic pain models"  
Funding agency:  
Cost: 3,00,000 (Three lacs)  
Duration: 2015-2017
- PI:  
Title: Influence of SREBP1 inhibition on post-ischemic regulation of survival and death signaling proteins.  
Funding Agency: SERB-DST, Govt. of India  
Cost: Rs: 35,20,000 (Thirty-five lacs twenty thousand)  
Duration: 2015-2019
- Co-PI:  
Title: Behavioral and Therapeutic Approach to treat the Post Traumatic Stress Disorder" which has been technically approved (File No. 2019-6100/CMB/BMS).  
Funding agency: Indian Council of Medical Research, Govt. of India
- Co-PI:  
Title: Role of epigenetics in fear memory consolidation and extinction

Funding agency: Department of Biotechnology, Govt. of India  
 Cost: 63,07,000 (Sixty three lacs seven thousand)  
 Duration: 2011-2014

#### International Visits

- Department of Psychiatry, Neurobiology of Alcoholism, University of Illinois at Chicago, VA medical center, Chicago, Illinois, USA (July 2005-July 2007)
- University of Cagliari, Department of Toxicology, Cagliari, Italy, Europe (Nov 1-24, 2003)

#### Honors and awards

- Member, Advisory Board, Foundation for Health and Environment Research, New Delhi
- Best Scientist Award 2017, R.T.M. Nagpur University, Nagpur
- Travel Grant to visit University of Cagliari, Department of Toxicology, Cagliari, Italy, Europe (Nov 1-24, 2003)
- Article in J Neuroscience 2<sup>nd</sup> April highlighted by **NIH News** for press release and **Nature Reviews Neuroscience**
- Editor, International Journal of Pharmacognosy and Chinese Medicine, Medwin Publishers USA
- Editorial Board Member for "The Scientific World Journal" by Hindawi Publication Corporation U.S.A. Impact Factor of 1.730
- Editorial Board Member for "New Journal of Science" by Hindawi Publication Corporation U.S.A.
- B Uvna's Prize from Indian Pharmacological Society at IPS 2011 for paper entitled "Agmatine in the hypothalamic paraventricular nucleus stimulates feeding in rats: Involvement of neuropeptide Y" published in British Journal of Pharmacology, 164, 2011, 704-718
- Indian Pharmacological Society's prestigious ACHARI AWARD for the best research paper, "Involvement of GABAergic neuroactive steroid allopregnanolone in anticonvulsant activity of fluoxetine" (2002)
- Indian Pharmaceutical Congress's best poster award at Pharmacology and Toxicology session entitled, "Antidepressant like effect of adenosine receptor antagonists in Porsolt's forced swim test: modulation by serotonergic agents" (2003)
- Executive Member, Local Organizing Committee at 45<sup>th</sup> Annual Conference of Indian Pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
- Chairperson, O D Gulati oral session at 50<sup>th</sup> Golden Jubilee Concluding Celebrations & Annual Conference of Indian Pharmacological Society IPSCON-2017 (15-17 Feb, 2018)
- Chairman, Scientific Committee of 4<sup>th</sup> Ethnopharmacology Conference, held on Feb 2015 at Nagpur.

#### Research publications proceedings & presentations

##### A) Publications (Citations: 1296; h-index=15)

##### 28. Journal of Stroke and Cerebrovascular Diseases (Elsevier)

Swapnil Kale, Amol Kharat, Saurabh Ambulkar, Amul Sakharkar, Anand Prakash, Lopmudra Sarode, Rajesh Ugale (2020) Neuroprotective potential of Protocatechuic acid against ischemic reperfusion injury by restoring imbalance of neuronal cell death and survival proteins. J Stroke Cerebrovasc Dis. 2020 Dec 4;30(2):105507. doi: 10.1016/j.jstrokecerebrovasdis.2020.105507.

##### 27. Neurobiology of Disease (Elsevier)

Facilitation of GluN2C-containing NMDA receptors in the external globus pallidus increases firing of fast spiking neurons and improves motor function in a hemiparkinsonian mouse model. Liu J, Shelkar GP, Sarode LP, Gawande DY, Zhao F, Clausen RP, Ugale RR, Dravid SM. Neurobiol Dis. 2021 Jan 6;150:105254. doi: 10.1016/j.nbd.2021.105254. Online ahead of print. PMID: 33421565

##### 26. Journal of Stroke and Cerebrovascular Diseases (Elsevier)

Ashutosh Mahale, Rakesh Kumar, Lopmudra Sarode, Sukanya Gakare, Anand Prakash, Rajesh R. Ugale (2020) Dapsone prolong delayed excitotoxic neuronal cell death by interacting with proapoptotic/survival signaling proteins Journal of Stroke and Cerebrovascular Diseases, Aug;29(8):104848. doi: 10.1016/j.jstrokecerebrovasdis.2020.104848. Epub 2020 Jun 4.

##### 25. Behavioral Pharmacology

Pushparaj Gawai, Rohit Upadhyay, Sukanya G. Gakare, Lopmudra Sarode, Shashank Dravid and Rajesh R. Ugale (2020) Antipsychotic-like profile of CIQ isomers in animal models of schizophrenia. Behav Pharmacol. 2020 Sep;31(6):524-534.

##### 24. Brain Research Bulletin (Elsevier)

Rohit Kanojia, Sudhir Mehrotra, SARFRAJ SIDDIQUI, Vandana Ranjan, Sanjay Singh, Sudipta Saha, Sukanya Tripathy, Dinesh Modi, Shiv Kumar, Rajesh Ugale. Anand Prakash (2019) Regulation of HDAC1 and HDAC2 during consolidation and extinction of fear memory. Brain Res Bull. 2019 May 17;150:86-101. doi: 10.1016/j.brainresbull.2019.05.011

##### 23. Scientific Reports (Nature Publishing Group) Online ISSN: 2045-2322;

Gajanan P. Shelkar, Ratnamala Pavuluri, Pauravi J. Gandhi, Aparna Ravikrishnan, Dinesh Y. Gawande, Jinxiu Liu, Dustin J. Stairs, Rajesh R. Ugale and Shashank M. Dravid (2019) Differential effect of NMDA receptor GluN2C and GluN2D subunit ablation on behavior and channel blocker-induced schizophrenia phenotypes. Sci Rep. 2019 May 20;9(1):7572. doi: 10.1038/s41598-019-43957-2. Citation Index:07

##### 22. Brain Research Bulletin (Elsevier)

Singh S, Siddiqui SA, Tripathy S, Kumar S, Saha S, Ugale R, Modi DR, Prakash A (2018) Decreased level of histone acetylation in the infralimbic prefrontal cortex following immediate extinction may result in deficit of extinction memory. Brain Res Bull. Jun 15;140:355-364. doi: 10.1016/j.brainresbull.2018.06.004. Citation Index:07

##### 21. Cellular and Molecular Neurobiology (Springer)

Sarfraj Ahmad Siddiqui, Sanjay Singh, Vandana Ranjan, M.Y. Khan, Rajesh Ugale, Sudipta Saha, Anand Prakash (2017) Enhanced histone acetylation in the infralimbic prefrontal cortex leads to fear extinction. Cell Mol Neurobiol. 2017 Jan 17. doi: 10.1007/s10571-017-0464-6 **Impact Factor: 3.606**

##### 20. Scientific Reports (Nature Publishing Group) Online ISSN: 2045-2322; Citation Index:07

Gupta SC, Ravikrishnan A, Liu J, Mao Z, Pavuluri R, Hillman BG, Gandhi PJ, Stairs DJ, Li M, Ugale RR, Monaghan DT, Dravid SM (2016) The NMDA receptor GluN2C subunit controls cortical excitatory-inhibitory balance, neuronal oscillations and cognitive function. Sci Rep. 2016 Dec 6;6:38321 doi: 10.1038/srep38321 **Impact Factor: 5.228; Citation Index:18**

##### 19. British Journal of Pharmacology (British Pharmacological Society) Online ISSN: 1476-5381

Shelkar GP, Gakare SG, Chakraborty S, Dravid SM, Ugale RR (2016) Interactions of nitric oxide with  $\alpha 2$ -adrenoceptors within the locus coeruleus underlie the facilitation of inhibitory avoidance memory by agmatine. Br J Pharmacol. 2016;173(17):2589-99 **Impact Factor: 5.259; Citation Index:04**

##### 18. British Journal of Pharmacology (Wiley Publications) Online ISSN: 1476-5381

- Pratyush S Suryavanshi, **Rajesh R Ugale**, Deniz Yilmazer-Hanke, Dustin J Stairs and Shashank M Dravid (2014) GluN2C/GluN2D subunit-selective NMDA receptor potentiator CIQ reverses MK-801-induced impairment in prepulse inhibition and working memory in Y-maze test in mice. *Br J Pharmacol*. 2014 Feb;171(3):799-809. doi: 10.1111/bph.12518. **Impact Factor: 5.259; Citation Index:52**
17. **Indian Journal of pharmacology** ISSN Print: 0253-7613, Online: 1998-3751  
Ramesh Nitharwal, Manvendra Singh Karchuli, Hasit Patel, **Rajesh R Ugale** (2013) Chemoprotective potential of *Coccinia indica* against cyclophosphamide induced oxidative stress and genotoxicity in bone marrow. *Indian J Pharmacol*. 2013 Sep-Oct;45(5):502-7. doi: 10.4103/0253-7613.117783 **Impact Factor: 0.583; Citation Index:10**
  16. **European Journal of Pharmacology** (Elsevier Publication, UK) Online ISSN: 0014-2999  
Nandkishor Ramdas Kotagale, Saurabh Haridas Shirbhate, Pradeep Shukla, **Rajesh Ramesh Ugale** (2013) Agmatine Attenuates Neuropathic Pain in Sciatic Nerve Ligated Rats: Modulation by Hippocampal Sigma Receptors. *Eur J Pharmacol*. 2013 Aug 15;714(1-3):424-31. doi: 10.1016/j.ejphar.2013.07.005. Epub 2013 Jul 16. **Impact Factor: 2.72 Citation Index:13**
  15. **Neuroscience Letters** (Elsevier Publication, UK) ISSN: 0304-3940  
Prajwal P. Thakre, Meher R. Tundulwar, Chandrabhan T. Chopde, **Rajesh R. Ugale** (2013) Neurosteroid allopregnanolone attenuates development of nicotine abstinence behavior in mice. *Neurosci Lett*. 2013 Apr 29; 541:144-9. doi: 10.1016/j.neulet.2013.02.023. Epub 2013 Feb 26. **Impact Factor: 2.16;Citation Index: 04**
  14. **Behavioral Pharmacology (Wolters Kluwer; Lippincott William & Wilkins)** Online ISSN: 0955-8810  
Sheikh Sameer, Chakraborty S, **Ugale Rajesh** (2013) Agmatine attenuates acquisition but not expression of ethanol conditioned place preference in mice: A role for imidazoline receptors. *Behav Pharmacol*. 2013 Apr; 24(2):87-94. doi: 10.1097/FBP.0b013e32835efc46. **Impact Factor: 2.72; Citation Index: 07**
  13. **European Journal of Neuroscience** (Wiley Publications) Online ISSN: 1460-9568  
Gupta SC, Hillman BG, Prakash A, **Ugale RR**, Stairs DJ, Dravid SM. (2013) Effect of D-cycloserine in conjunction with fear extinction training on extracellular signal-regulated kinase activation in the medial prefrontal cortex and amygdala in rat. *Eur J Neurosci*. 2013 Jun; 37(11):1811-22. doi: 10.1111/ejn.12197. Epub 2013 Mar 31. **Impact Factor: 3.65 Citation Index:23**
  12. **British Journal of Pharmacology** (Wiley Publications) Online ISSN: 1476-5381  
B G Taksande, N R Kotagale, P D Mali, K T Nakhate, D M Kokare, K Hirani, N K Subhedar, C T Chopde, R R Ugale, (2011) Agmatine in the Hypothalamic Paraventricular Nucleus Stimulates Feeding in Satiated Rats: Involvement of Neuropeptide Y. *Br J Pharmacol*. 2011 Sep; 164(2b):704-18. doi: 10.1111/j.1476-5381.2011.01484.x. **Impact Factor: 5.204; Citation Index: 40**
  11. **European Journal of Pharmacology** (Elsevier Publication, UK) Online ISSN: 0014-2999  
Brijesh G. Taksande, Nandkishor R. Kotagale, Mital R. Patel, Gajanan P. Shelkar, Rajesh R. Ugale, Chandrabhan T. Chopde (2010) Agmatine, an endogenous imidazoline receptor ligand modulates ethanol anxiolysis and withdrawal anxiety in rats. *European Journal of Pharmacology* 637 (2010) 89–101 **Impact Factor: 2.516; Citation Index: 67**
  10. **Behavioural Brain Research** (Elsevier Publication, UK) Online ISSN: 0166-4328  
Nandkishor Ramdas Kotagale, Brijesh Gulabrao Taksande, Avinash Yashwant Gahane, Rajesh Ramesh Ugale, Chandrabhan Tukaram Chopde (2010) Repeated agmatine treatment attenuates nicotine sensitization in mice: Modulation by 2-adrenoceptors *Behavioural Brain Research* 213 (2010) 161–174 **Impact Factor: 3.417; Citation Index: 35**
  9. **Neuropharmacology** (Elsevier Publication, UK) Online ISSN: 0028-3908  
Brijesh G. Taksande, Nandkishor R. Kotagale, Sunil J. Tripathi, Rajesh R. Ugale, Chandrabhan T. Chopde (2009) Antidepressant like effect of selective serotonin reuptake inhibitors involve modulation of imidazoline receptors by agmatine *Neuropharmacology* 57 (2009) 415–424 **Impact Factor: 4.137;Citation Index:76**
  8. **Alcoholism: Clinical and Experimental Research** (Blackwell Publishing Group, USA). Online ISSN: 1530-0277  
Huaibo Zhang, Amul J. Sakharkar, Guangbin Shi, **Rajesh Ugale**, Anand Prakash, and Subhash Pandey (2010) Neuropeptide Y Signaling in the Central Nucleus of Amygdala Regulates Alcohol-Drinking and Anxiety-Like Behaviors of Alcohol-Preferring Rats. *Alcohol Clin Exp Res*. Vol 34, No 3, 2010: pp 451–461 **Impact Factor: 3.343; Citation Index:52**
  7. **Journal of Neuroscience** (Official journal of Society of neuroscience, USA) ISSN Print: 0270-6474, Online: 1529-2401  
Subhash C. Pandey, **Rajesh Ugale**, Huaibo Zhang, Lei Tang, and Anand Prakash (2008) Brain Chromatin Remodeling: A Novel Mechanism of Alcoholism. *J Neuroscience* Apr 2; 28(14):3729-37 **Impact Factor: 7.45; Citation Index: 342 (Most cited)**
  6. **Journal of Neuroscience** (Official journal of Society of neuroscience, USA) ISSN Print: 0270-6474, Online: 1529-2401  
Subhash Pandey, Huaibo Zhang, **Rajesh Ugale**, Prakash Anand, Teijun Xu and Kaushik Misra, (2008) Effector Immediate-early Gene Arc in the Amygdala Plays a Critical Role in Alcoholism. *J Neuroscience* Mar 5; 28(10):2589-2600 **Impact Factor: 7.45; Citation Index:118**
  5. **Brain Research Main Journal** (Elsevier Publication, UK) Online ISSN: 0006-8993  
**Ugale RR**, Sharma AN, Kokare DM, Hirani K, Subhedar NK, Chopde CT (2007) Neurosteroid allopregnanolone mediates anxiolytic effect of etifoxine in rats. *Brain Res* Dec 12;1184:193-201. Epub 2007 Sep 25 **Impact Factor: 2.72; Citation Index:49**
  4. **European Journal of Pharmacology** (Elsevier Publication, UK) Online ISSN: 0014-2999  
Sharma AN, Chopde CT, Hirani K, Kokare DM, **Ugale RR** (2007) Chronic progesterone treatment augments while dehydroepiandrosterone sulphate prevents development of tolerance to ethanol anxiolysis and withdrawal anxiety in rats. *Eur J Pharmacol* Jul 19;567(3):211-22. Epub 2007 Apr 22 **Impact Factor: 2.516; Citation Index:29**
  3. **Psychopharmacology** (Springer Publication, USA) ISSN Print: 0033-3158, Online: 1432-2072  
Hirani K, Sharma AN, Jain NS, **Ugale RR**, Chopde CT (2005) Evaluation of GABAergic Neuroactive Steroid 3 alpha-Hydroxy-5 alpha-Pregnane-20-One As A Neurobiological Substrate for the Anti-anxiety Effect of Ethanol in Rats. *Psychopharmacology (Berl)*. 2005 Jul; 180(2):267-78) **Impact Factor: 4.077; Citation Index:102**
  2. **Brain Research Main Journal** (Elsevier Publication, UK) Online ISSN: 0006-8993  
**Ugale RR**, Mittal N, Hirani K and Chopde CT (2004) Essentiality of central GABAergic neuroactive steroid allopregnanolone for anticonvulsant action of fluoxetine against pentylenetetrazole-induced seizures in mice *Brain Research* 2004; 1023:102-111 **Impact Factor: 2.72; Citation Index:37**
  1. **Neuropsychopharmacology** (NATURE Publication, USA) ISSN Print: 0893-133X, Online: 1470- 634X  
**Ugale RR**, Hirani K, Morelli M, Chopde CT (2004) Role of neuroactive steroid allopregnanolone in antipsychotic-like profile of olanzapine in rodents. *Neuropsychopharmacology* 2004; 29:1597-609) **Impact Factor: 7.991; Citation Index: 46**

## B) Reviews

1. **International Journal of Pharmacognosy and Chinese Medicine** ISSN: 2576-4772

Sarode LP, Mardhekar VY and Ugale RR (2019) Neuroprotective Effects of *Lycium Barbarum* in Ischemic Stroke: Current Perspectives. Int J Pharmacogn Chinese Med. 2019 March 23, 2019; 3(1): 000156. DOI: 10.23880/ipcm-16000156

#### C) Proceedings at International & National Conferences and Symposium

1. YS Gautam, AK Tripathi, **RR Ugale** (2013) Evaluation of Analgesic Efficacy of 2-(2-Benzofuranyl)-2-Imidazoline in Neuropathic Pain Models. INDIAN JOURNAL OF PHARMACOLOGY 45, S245-S245 Publication date **2013/12/1**
2. SH Shirbhate, BG Taksande, NR Kotagale, CT Chopde, **RR Ugale** (2012) Intrahippocampal administration of neurosteroid agmatine exhibits antinociceptive effect in neuropathic rat model: Modulation by sigma-1 receptor. INTERNATIONAL JOURNAL OF DEVELOPMENTAL NEUROSCIENCE 30 (8), 640-640 Publication date **2012/12/1**
3. **RR Ugale**, BG Hillman, SC Gupta, P Suryavanshi, DJ Stairs, SM Dravid (2012) Role of NMDA receptor subtypes in regulation of central amygdala. The FASEB Journal 26 (1\_MeetingAbstracts), lb574 Publication date: **2011/4/1**
4. K Hirani, B Taksande, N Kotagale, P Mali, K Nakhate, D Kokare, N Subhedar, C Chopde, **R Ugale** (2011) Agmatine in the Hypothalamic Paraventricular Nucleus Stimulates Feeding in Satiated Rats: Involvement of Neuropeptide Y. The FASEB Journal 25 (1 Supplement), 795.11-795.11 Publication date: **2011/4/1**
5. SC Pandey, H Zhang, **R Ugale**, A Prakash, T Xu, K Misra (2010) Effector Immediate-Early Gene Arc in the Amygdala Plays a Critical Role in Alcoholism. (March, pg 2589, 2008) JOURNAL OF NEUROSCIENCE 30 (21), 7447-7448 Publication date **2010/5/26**
6. S Moonat, H Zhang, A Prakash, **R Ugale**, SC Pandey (2009) AMYGDALOID BRAIN-DERIVED NEUROTROPHIC FACTOR SIGNALING AND DENDRITIC SPINES: A ROLE IN ANXIETY AND ALCOHOLISM. ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH 33 (6), 321A-321A Publication date **2009/6/1**
7. H Zhang, **R Ugale**, A Prakash, SC Pandey (2008) Activity-regulated cytoskeleton associated protein and dendritic spines in the amygdala: A role in alcohol dependence and preference. ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH 32 (6), 324A-324A Publication date **2008/6/1**
8. SC Pandey, H Zhang, **R Ugale**, A Prakash, T Xu, K Misra (2007) Regulation of arc gene expression and dendritic spines in the amygdala during alcohol dependence. JOURNAL OF NEUROCHEMISTRY 102, 147-147 Publication date **2007/8/1**
9. H Zhang, **R Ugale**, SC Pandey (2007) Molecular mechanisms of NPY-induced attenuation of anxiety-like and alcohol-drinking behaviors of alcohol preferring (P) rats. ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH 31 (6), 198A-198A Publication date **2007/6/1**
10. A Prakash, **R Ugale**, SC Pandey (2007) Regulation of calcitonin gene-related peptide (CGRP) expression in the amygdala by ethanol exposure and withdrawal. ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH 31 (6), 199A-199A Publication date **2007/6/1**

#### C) Research Presentations at International & National Conferences and Symposium

1. Gakare SG, Varghese SS, **Ugale RR**. Prevention of Glutamate Excitotoxicity in Lateral Habenula Ethanol Withdrawal Induced Somatic And Behavioral Effects In Ethanol Dependent Mice. Accepted at Neuroscience 2019 by Society of Neuroscience, at Chicago, USA (October 19-22, 2019)
2. Sabnis S, Yedke NG, Gakare SG, Sarode L, Ugale RR. "Role of medial habenula in ethanol reward and dependence" Presented at World Congress on Pharmacology - 2019 "Drug Discovery, Design & Development" "to be held on 28th and 29th August 2019 at J.N.TATA Auditorium, Indian Institute of Science, Bengaluru, Karnataka.
3. Mahale Ashutosh, Kale S, Kharat A, Ambulkar S, Sarode L, **Ugale R**. Investigation for neuroprotective effect of protocathechuic acid on MCAO induced ischemic/reperfusion injury in rats. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
4. Ghatage TS, Sarode RR, Sarode LP, **Ugale R**. Anti-nociceptive effect of I2 receptor agonist 2-BFI is mediated by hippocampal  $\mu$ -opioid receptor in chronic constriction injury model of neuropathic pain. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
5. Mardhekar V, Chimthanawala N, Gakare S, **Ugale R**. Glutaminergic transmission within IL region of mPFC important for D-serine induced facilitation of ethanol extinction. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
6. Kumar Rakesh, Shah Q, Nadekar C, Girdhar P, Sarode L, **Ugale R**. Neuroprotective effect of Deferoxamine in ischemic reperfusion injury involves post-ischemic regulation of survival/death signalling proteins. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
7. Wagh SA, Sahu DM, Gakare S, **Ugale R**. Effect of NR2C/2D receptor antagonist DQP within mediodorsal thalamus acquisition and consolidation of recognition, fear and working memory. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
8. Patni Paras, Gawai P, **Ugale R**. Striatal dopamine receptor antagonism by sulpiride facilitate antipsychotic like profile of NR2C/2D potentiators CIQ in animal models of schizophrenia. Presented at International conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences (IAN 2018) held at Institute of Science, Banaras Hindu University, Varanasi, UP, India (October 29-31, 2018)
9. Rangari Varshika V. and Ugale Rajesh R. *TRIGONELLA FOENUM-GRACUM* - FENUGREEK SEEDS: WONDER DRUG FOR THE TREATMENT OF DIABETES. ABSTRACT NO. – JUNSPH18/P-189 NATIONAL SEMINAR on Pharmacy & Healthcare: Traditional Knowledge to Modern Techniques on 14<sup>th</sup> September, 2018 sponsored by DST and Advanced Pharmacognosy Research Laboratory Department of Pharmaceutical Technology Jadavpur University Kolkata
10. Sarode RR, Bansod PJ, Sarode LP, Gakare SG, **Ugale RR**. Effect of protocathechuic acid on memory and cognition in mice. Presented in "Annual conference of Indian Pharmacological Society (IPSCON-2017)" organized by SVKM'S NMIMS, Mumbai from 15<sup>th</sup> to 17<sup>th</sup> February 2018
11. Niyamat M.A. Chimthanawala, **Rajesh R. Ugale**. Influence of accumbal D-serine manipulations on ethanol withdrawal and reinstatement. Presented in 49<sup>th</sup> Annual Conference of Indian Pharmacological Society held at PGIMER, Chandigarh, India (21-23<sup>rd</sup> October 2016)

12. Niyamat M.A. Chimthanawala\*, Deepti M. Sahu, **Rajesh R. Ugale**. ROLE OF NR2C/2D RECEPTOR INTERACTION WITHIN MEDIODORSAL THALAMUS IN MEMORY ACQUISITION. Presented at XXXIV Annual Meeting of Indian Academy of Neurosciences (IAN 2016) "Molecules to Mind" conference held at National Brain Research Centre, Manesar, India (19-21<sup>st</sup> October 2016)
13. **Rajesh Ugale**, Rohit Upadhyay, Sukanya Gakare "EFFECT OF CIQ ISOMERS ON SCHIZOPHRENIA LIKE SYMPTOMS INDUCED BY NEURODEVELOPMENTAL ANIMAL MODEL" "49th Annual Conference of the Indian Pharmacological Society "IPSCON- 2016" PGIMER, Chandigarh October 21th – 23th, 2016
14. Upadhyay R. D, Gawai P. P, **Ugale R. R** "Antipsychotic like profile of the NR2C potentiator CIQ in animal models of schizophrenia" presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society, Bhubaneswar from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
15. Sahu D.M., Alkunte A.A., **Ugale R.R** "Modulation of  $\alpha 7$  nicotinic receptors within medial prefrontal cortex improves cognitive deficits in schizophrenia" presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
16. Verma J.R., Wanjari S. S., **Ugale R. R** "Modulation of nitrgergic system within cingulate cortex in spatial memory formation" presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society, Bhubaneswar from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
17. Girdhar P.M., Amale P.N., **Ugale R.R** "Plumbagin produces antinociceptive effect in CCI model of neuropathic pain." presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society, Bhubaneswar from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
18. Kale S.D., Kumar R., Bodkhe S., **Ugale R. R** "NR2C Receptor play crucial role in social behaviour ." presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society, Bhubaneswar from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
19. Gakare S. G., Shelkar G. P., **Ugale R. R** "Role of LHB-RMTg pathway in ethanol addiction" presented at 2<sup>nd</sup> Meeting of the Indian Sub-Continental Branch of the International Neuropeptide Society, Bhubaneswar from December 13<sup>th</sup> to 15<sup>th</sup>, 2015
20. Gakare S. G., Shelkar G. P., **Ugale R. R** "Fasciculus retroflexus: an important target in alcoholism" presented at XXXIII Annual Conference of Indian Academy of Neurosciences "Neuroscience Research from Mechanisms to Applications", Chandigarh from November 1<sup>st</sup> to 3<sup>rd</sup>, 2015
21. Suwarna S. Chakraborty, **Rajesh R. Ugale**, Chandrabhan T. Chopde (2013). Relaxin-3 Modulates Ethanol Induced Anxiolysis And Reward In Mice. Presented in 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy" (5-7 Jan, 2013)
22. Pannase Akshay S. Yewalekar PS, Kotagale NR, **Ugale RR** (2013). Effect of Bacopa Monniera extract on ethanol withdrawal syndrome in rats. 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
23. Mahajan VA, Faldu DS, Taksande BG, Kotagale NR, **Ugale RR**, Chopde CT (2013). Agmatine prevents anhedonia and behavioral alterations in mouse model of chronic unpredictable mild stress. 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
24. Sharma OS, Ali MT, **Ugale RR**, Kotagale NR. (2013). Agmatinergic modulation of nicotine induced memory related effects in rats 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
25. Bhoyar AS, Thakre PP, **Ugale RR**, Chopde CT. (2013). Effect of Relaxin-3 in depression like behavior of rats. 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
26. Yewalekar PS, **Ugale RR**, Kotagale NR, Taksande BG, Chopde CT (2013). Effect of Bacopa Monniera on ethanol withdrawal syndrome in rats. 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
27. Poonam Charde, Tarun Joshi, Yerpude MT, **Ugale RR**, Kotagale NR, Chopde CT. Effect of sigma receptor antagonists on serotonin syndrome induced by different combination of antidepressants 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
28. Sakaria Jay, Puthuve MA, Chopde CT, **Ugale RR** (2013). NR2C receptors within amygdaloid nuclei modulate fear learning and extinction in mice. 45<sup>th</sup> Annual Conference of Indian Pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
29. Thakre Aarti, Suman KR, **Ugale RR**, Shingatgeri VM. Effect of atorvastatin on progression of autoimmune encephalomyelitis in mice. 45<sup>th</sup> Annual Conference of Indian pharmacological Society and International Conference on "Navigating Pharmacology towards Safe and Effective Therapy". (5-7 Jan, 2013)
30. Ramesh K Nitharwal, Manvendra Singh Karchuli, Hasit Patel Khemraj Hirani, **Rajesh Ramesh Ugale** (2012). Chemoprotective potential of *Coccinia indica* against cyclophosphamide induced oxidative stress and genotoxicity in bone marrow. National Seminar on "Standardization of herbal formulations: A Holistic Goal" on Feb 25-26, 2012 at Guru Ghasidas Vishwavidyalaya, (A central university) Bilaspur.
31. K Hirani, GP Shelkar, **RR Ugale** Agmatine facilitates memory retrieval through activation of noradrenergic afferents of locus coeruleus-hippocampus pathway in inhibitory avoidance test. Neuroscience 2011, November 12-16, 2011 at Washington DC (**poster presentation**)
32. Chakraborty S, Lengure A, Taksande BG, Kotagale NR, **Ugale RR**, Chopde CT (2011) Influence of tegmental nitric oxide on ethanol induced reward. Symposium on Drug Metabolism and Pharmacokinetics 2011 held at National Institute of Pharmaceutical Education and Research on 11-13<sup>th</sup> Feb 2011.
33. Khemraj Hirani, Brijesh G Taksande, Nandkishor R Kotagale; Prashant D Mali ; Kartik T Nakhate; Dadasaheb M Kokare, Nishikant K Subhedar, Chandrabhan T Chopde, **Rajesh R Ugale**. (2011) Agmatine in the Hypothalamic Paraventricular Nucleus Stimulates Feeding in Satiated Rats: Involvement of Neuropeptide. Experimental biology 2011 Walter E Washington Convention Center, Washington DC (Poster presentation)
34. Kadu AS, Gite RA, Paliwal NP, **Ugale RR**, Kotgale NR, Chopde CT. (2010) Effect of withania somnifera extract on ethanol withdrawal induced behavioral and biochemical alterations in rats. Indian Journal of Pharmacology, vol 42, 2, S255. Dec 13 -16, 2010. 43<sup>rd</sup> Annual Conference of Indian Pharmacological society & International Conference on "Pharmacology and translational Research", Hyderabad.
35. Kalantri AH, Palhade MW, Faldu DS, Taksande BG, Kotagale NR, **Ugale RR**, Chopde CT. (2010) Agmatine induced suppression of conditioned avoidance response: modulation by serotonergic system. Indian Journal of Pharmacology, vol 42, 2, S289. Dec 13 -16, 2010.

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  52. Sharma AN, **Ugale RR**, Chopde CT. (2005). Reversal of ethanol withdrawal anxiety by nonbenzodiazepine anxiolytic etifoxine: role for neurosteroid allopregnanolone. 38<sup>th</sup> annual conference of Indian Pharmacological Society, Chennai, India.
  53. K Hirani, **RR Ugale** and C T Chopde (2003) Neuroactive steroids: Potential targets for treatment of alcoholism and neuropsychiatric disorders. Summer school of Nurturing the Brain, at RIKEN Brain Science Institute, Wako-shi, Japan (Aug 30<sup>th</sup>) (**Oral Presentation**)
  54. P Bhutada, K Hirani, NS Jain, **RR Ugale** and CT Chopde (2003). Effect of finasteride on sensitization to ethanol- induced locomotor stimulation at Pharmacology and Toxicology session, 55<sup>th</sup> Indian Pharmaceutical Congress, Chennai (Dec.19<sup>th</sup> – 21<sup>st</sup>).
  55. Kalaiyarasi C, K Hirani, N Jain, **R Ugale**, CT Chopde (2003). Antidepressant effect of adenosine receptor antagonists in Porsolt’s forced swim test: modulation by serotonergic agents at Pharmacology and Toxicology session, 55<sup>th</sup> Indian Pharmaceutical Congress, Chennai (Dec.19<sup>th</sup>– 21<sup>st</sup>).
  56. P. Bhutada, **RR Ugale**, K Hirani, NS Jain and CT Chopde (2003). An evaluation of role of neuroactive steroid allopregnanolone in cataleptic effect of olanzapine: modulation by acute and chronic stress. National symposium on current trends in comparative endocrinology: Impact of molecular biology and biotechnology organized by Department of Zoology, Nagpur (Nov 27-29).
  57. K Hirani, AN Sharma, **RR Ugale**, NS Jain and CT Chopde (2003). Analgesic effect of ethanol and withdrawal induced hyperalgesia: Modulation by neuroactive steroid allopregnanolone. National symposium on current trends in comparative endocrinology: Impact of molecular biology and biotechnology organized by Department of Zoology, Nagpur (Nov 27-29).
  58. C T Chopde, K Hirani, **R Ugale**, N S Jain (2002); Neuroactive steroids: Potential targets for treatment of psychiatric disorders. Department of Toxicology, University of Cagliari, Cagliari, Italy, UK (Oct 10) (**Oral Presentation**)

59. Hirani K, **Ugale RR**, Jain NS, Khisti RT and CT Chopde (2002) Neuroactive steroid 3 alpha-hydroxy-5alpha-pregnan-20-one modulated behavioral action of ethanol in porsolt's force swim test. INDO-US Symposium on "Brain Research" organized by National Brain Research center, New Delhi (Jan 10-12)
60. NS Mittal, K Hirani, **R Ugale** and CT Chopde (2002). Anticonvulsant activity of fluoxetine: involvement of GABAergic neurosteroid allopregnanolone. Prestigious GS Achari session of 35th Annual Conference of Indian Pharmacology Society, Gwalior (Achari award)
61. Sharma Ajay N, Hirani Khemraj, **Ugale Rajesh** and Chopde CT (2002). Potential role of Neurosteroid Allopregnanolone in Anxiolytic action of ethanol withdrawal induced anxiety. 35th Annual Conference of Indian Pharmacology Society, Gwalior
62. **RR Ugale**, K Hirani and CT Chopde (2002) Putative Role of Neuroactive Steroid Allopregnanolone in the Anticonvulsant Action of Etifoxine. Pharmacology and Toxicology session of the 54th Indian Pharmaceutical Conference, Pune.
63. NS Mittal, **R Ugale**, K Hirani and CT Chopde (2002). Influence of Protracted Social Isolation and Estrous Cycle on Antidepressant Action of Fluoxetine: Modulation By Neurosteroid Allopregnanolone, Pharmacology and Toxicology session of the 34th IPS, Pune.
64. U Tambe, K Hirani, NS Jain, **RR Ugale**, CT Chopde and Micaela Morelli (2002). Effect of NMDA and Adenosine antagonists in the development of behavioral sensitization and its expression to Haloperidol induced catalepsy. Pharmacology and Toxicology session of the 34th IPS, Pune.
65. Preeti Koul, Chopde CT, Nishant Jain, **Rajesh Ugale**, Urmilla Tambe (2002) Effect of 5-HT3 antagonist ondansetron on haloperidol induced catalepsy. Poster presentation at 53rd IPC New Delhi.
66. Rahul Khisti, Chopde CT, **Rajesh Ugale**, Nishant Jain, Mahesh Vyas (2002) Effect of allopregnanolone on dopamine mediated behavior. Poster presentation at 53rd IPC New Delhi.
67. **RR Ugale**, CT Chopde, NS Jain and K Hirani (2002). Role of neurosteroid allopregnanolone in behavioral actions of atypical antipsychotic Olanzapine. Indian Pharmacological Society, Indira Gandhi Medical College, Nagpur (Jan 10th-12th).
68. K Hirani, MN Vyas, **RR Ugale** and CT Chopde (2001). Decreased neurosteroid conditions attenuate antidepressant like effect of ethanol in rodents. Southern Regional Conference of Indian Pharmacological Association, Sept 1-3, Mangalore.
69. RT Khisti, **RR Ugale** and CT Chopde (2000). Stimulation of Adenosine A3 receptors induces catalepsy in mice. Oral presentation in 52nd IPC, Hyderabad.

#### **Collaborators (International/National)**

- Dr. Shashank Dravid, Department of Pharmacology, Creighton University, Omaha, NE USA (Collaboration for electrophysiological studies)
- Dr. Khemraj Hirani, Sylvester Comprehensive Cancer Center, University of Miami Hospitals and Clinics, Miami, FL USA (Collaboration for clinical studies)
- Dr. Anand Prakash, Babasaheb Bhimrao Ambedkar Central University, Lucknow, U.P. India (Joint work in DBT funded project)

#### **Lab Techniques**

Middle cerebral artery occlusion for ischemic stroke

Primary neuronal cortical culture and oxygen glucose deprivation method

Direct Intracerebroventricular (ICV) drug administration (mice/rats) by stereotaxy apparatus

Behavioral pharmacology methods viz. animal paradigms for screening antipsychotic, antidepressant, anxiolytics, drug dependence, sensitization and cross-tolerance, analgesics, obesity disorders, reward, learning and memory, addiction.

Basic pharmacological techniques including adrenalectomy, Retro-orbital blood sampling etc.

Immunohistochemistry, immunogoldlabelling, Co-localisation study

Western blotting; In-situ RT-PCR, Real time PCR; Lesioning surgery in rodents; Olfactory bulbectomy

Enzyme linked immunosorbent assay (ELISA)

#### **Professional Affiliations**

- Member, British Pharmacological Society, UK
- Member, World Stroke Organization
- Life member, Indian Pharmacological Society
- Life Member, Indian Pharmaceutical Association
- Life Member, Association of Pharmaceutical teachers of India
- Life Member alumnus, University Department of Pharmaceutical Sciences, Nagpur
- Life Member, Foundation for Health and Environment Research, Delhi
- Registered Pharmacist, Maharashtra State Pharmacy Council
- Ex-President, Alumni association IPER, Wardha