



AMAL C. MONDAL

Associate Professor in Cellular & Molecular Neurobiology

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Education

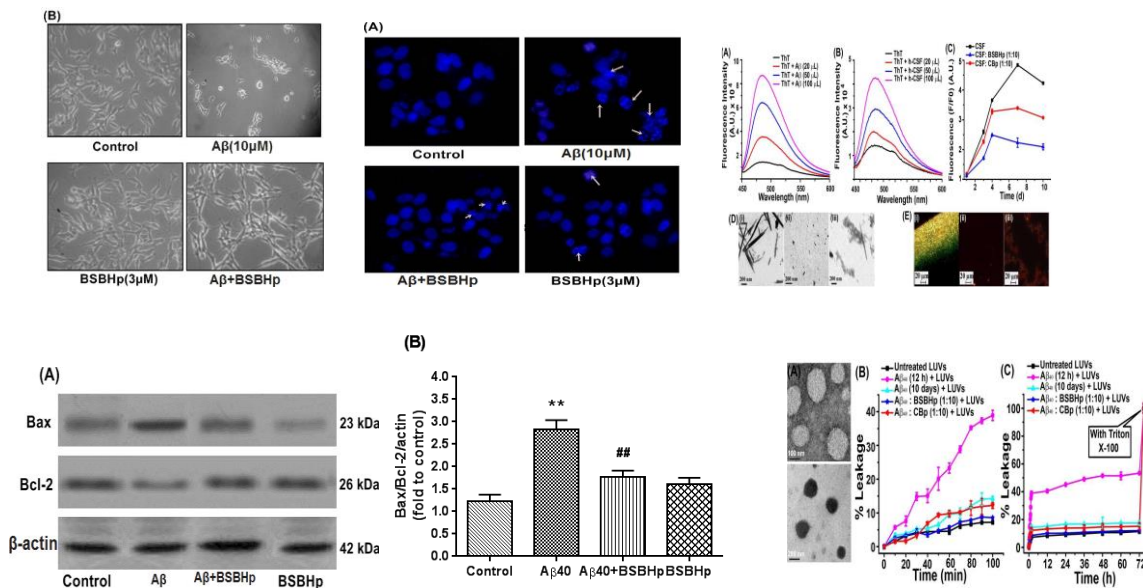
Ph.D. 2004 Chittaranjan National Cancer Institute (CNCI) & Jadavpur University,
Kolkata-700 032, India.

Position & Employment

Sl No.	Institution /Place	Position	From (Date)	To (date)
1.	Jawaharlal Nehru University, New Mehrauli Road New Delhi-110067	Associate Professor in Cellular & Molecular Neurobiology	01.10.2015	Till date
2.	Raja Peary Mohan College, Uttarpara, Hooghly, (W.B.)	Asst. Prof. in Physiology (Stage-3)	11.05.2014	30.09.2015
3.	Raja Peary Mohan College, Uttarpara, Hooghly, (W.B.)	Asst. Prof. in Physiology (Stage-2)	11.05.2009	10.05.2014
4.	Raja Peary Mohan College, Uttarpara, Hooghly, (W.B.)	Asst. Prof. in Physiology (Stage-1)	11.05.2005	10.05.2009
5.	University of Illinois at Chicago (UIC), Chicago, IL-60612, USA	Post Doctoral Research Associate	21.01.2003	30.04.2005
6.	Chittaranjan National Cancer Institute, Kolkata-700026	JRF & SRF	04.06.1998	13.09.2002

Area of Research:

My laboratory is primarily interested in protein misfolding in neurological disorders. We are trying to explore the role of Beta sheet breaker α/β hybrid peptides (synthetic antibodies) as a therapeutic approach to *in vitro* cellular model such as human neuroblastoma SH-SY5Y cells and *in vivo* rat models of Alzheimer's disease (AD) and Parkinson's disorder (PD). In order to understand the molecular mechanisms, various models have explored and the knowledge obtained has enriched our understanding towards some aspects of the disease. We are currently investigating how these newly synthesized breaker peptides prevent accumulation of amyloid beta into its oligomeric form basically that forms cellular plaques and NFT, the important hallmarks of the disease. These oligomers are more toxic than soluble monomeric form and as a result neuronal atrophy observed in AD. So, we are trying to investigate how it prevents neuronal apoptosis by checking various markers proteins, ROS generation and intracellular Ca^{2+} release into the cell. We are also trying to explore the effects of natural herbal extract *Bacopa monnieri* on AD model as it is already being used as memory enhancer.



Research Projects received as PI

a) Ongoing:

1. To Investigate Anti-Amyloidogenic properties of Anti-histamine drugs on alpha synuclein and its cellular consequence on autophagy and inflammatory pathways involved in Parkinson's disease. **BT/PR32907/MED/122/227/2019** [11th Jan, 2021].

b) Completed

1. Role of β -Breaker di-peptide for amyloid disruption in Alzheimer's disease: A novel therapeutic approach in *in vitro* model. **UPoE-II, 2016--2019**
2. Effect of naturally occurring as well as synthetic cyclic molecules on inhibition of beta amyloid aggregation in vivo and in vitro. **DBT, 2017--2020**
3. Arresting Pre Fibrillar-Aggregates of Alzheimer's Amyloid by Synthetic Antibodies. **DBT, 2013--2016**
4. Role of MAP Kinase in behavioral model of depression: Effect of chronic antidepressant treatment. **LSRB/ DRDO, 2012--2015**
5. Role of neurotrophins in stress and depression. **SERB, 2010--2013**
6. Role of Monoamine Neurotransmitters in Learned Helplessness Behavior and Depression in Rat Model. **UGC, 2008--2010**

Research Projects received as mentor

4. Molecular cross talk between Wnt beta-catenin and sonic hedgehog (SHH) signaling pathways in neuroblastoma: Role of safranal (*Crocus sativus*) as a chemopreventive agent by Mr. Mir Hilal Ahmad (SRF). **ICMR has sanctioned the project on 10.05.2019 Ref No. 45/7/2019/MP/BMS.**
3. Deciphering the novel proteins in depression and its interaction with sonic hedgehog (SHH) signaling in prenatally stressed (PNS) rats: Role of cannabidiol (CBD) as antidepressant by Dr. M. Fatima (RA). **ICMR has sanctioned the project**
2. Effect of maternal chronic unpredictable mild stress (CUMS) on sonic hedgehog signaling, BDNF expression and DNA damage in the hippocampus and pre frontal cortex of neonatal and adult offspring by Dr. Mahino Fatima. **SERB approved the project on 06/07/2016 vide file No. PDF/2016/000670. (Completed)**
1. To study and elucidate common molecular cross talk between Parkin, p53 and JNK mediated apoptosis in both familial and sporadic Parkinson's disease using *Drosophila* model by Dr. Saurabh Srivastav. **SERB approved the project on 06/07/2016 vide file No. PDF/2016/000892. (Completed)**

Student Guidance

- Post Ph.D. Project supervision-02
- Ph. D. Thesis supervision-06
- M. Sc. Project supervision & Summer/Winter trainee thesis-12

Professional Recognition, Awards, Fellowships received

- Received **Dr. A. Namasivayam Award** by IABMS, 04th Nov, 2016
- Awarded **International Travel Grant** by UGC to attend XXI World Congress of Neurology at Vienna, Austria, 2013
- Awarded **International Travel Grant** by UGC to attend XX World Congress of Parkinson's and related disorders at Shanghai, China, 2011

- Best Paper Presented at **PHYSICON-2011**, and **Awarded Dr. K. Anji Reddy Cash Prize**
- Best paper presentation award in **UGC Sponsored Seminar**, 2005 at RPM College, Uttarpara, Hooghly, (W.B.).
- January 2003 – April 2005 **Post Doctoral Fellowship**, (with Dr. Y. Dwivedi) University of Illinois at Chicago (UIC), Chicago, IL-60612, USA.
- January, 2000 Selected for **Young Scientist Award** from 87th Indian Science Congress Association held at Pune.
- July 1998–Sept 2002 **JRF & SRF** Awarded by the STBA Laboratory, Chittaranjan National Cancer Institute (**CNCI**) Kolkata-700 026.
- National fellow, 1998

Affiliation to Scientific/ Technical Committees

1. *Member*, Indian Science Congress Association
2. *Member*, Indian Academy of Neuroscience
3. *Member*, Indian Association for Biomedical Scientist
4. *Member*, The Physiological Society of India
5. *Member*, International Neuromodulation society
6. Reviewer of Academic journals of Plos One, Communication Biology, ACS NeuroChem, Bioscience, Biochemistry and Biotechnology, Libertas Academica Journals, Toxicology in vitro.
7. *Board member* of Elixir International Journal
8. *Board member* of American Journal of Biochemistry and Molecular Biology
9. Associate Editor, Journal of Alzheimer's Disease
10. Review Editor, Frontiers in Endocrinology

Publications in reverse chronological order

Papers & Reviews published as independent researcher

- 47) Ahmad MH, Fatima M, Ali M, Rizvi MA, **Mondal AC***. Naringenin alleviates paraquat-induced dopaminergic neuronal loss in SH-SY5Y cells and a rat model of Parkinson's disease. **Neuropharmacology**. 201 (2021), 108831 Oct 13. doi:10.1016/j.neuropharm. 2021.108831. **JIF-5.25**
- 46) Anand SK, Sahu MR, **Mondal AC***. Bacopaside-I Alleviates the Detrimental Effects of Acute Paraquat Toxicity in the Adult Zebrafish Brain. **Neurochemical Research**, 2021 Nov;46(11):3059-3074. **JIF-3.99**
- 45) Anand SK, Sahu MR, **Mondal AC***. Induction of oxidative stress and apoptosis in the injured brain: Potential relevance to brain regeneration in zebrafish. **Molecular Biology Reports**, 2021 Jun;48(6):5099-5108. **JIF-2.31**
- 44) Subba R, Sandhir R, Singh SP, Mallick BN, **Mondal AC***. Pathophysiology linking depression and type 2 diabetes: Psychotherapy, physical exercise, and fecal microbiome transplantation as damage control. **European Journal of Neuroscience**, 2021, Apr; 53 (8):2870-2900. PMID: 33529409. **JIF-3.11**

- 43) Rani L & **Mondal AC***. Unravelling the role of gut microbiota in Parkinson's disease progression: Pathogenic and therapeutic implications. *Neuroscience Research*, 2021 July; 168:100-112. PMID: 33417973. **JIF- 3.30**
- 42) Paul A, Kumar S, Kalita S, Kalita S, Sarkar D, Bhunia A, Bandyopadhyay A, **Mondal AC***, Mondal B. An explicitly designed paratope of amyloid- β prevents neuronal apoptosis *in vitro* and hippocampal damage in rat brain. *Chemical Science*, 2021, 12 (8);2853-2862. **Edge Article**. [Epub 2020, 22 Dec]. PMID: 34164050. **JIF- 9.82**.
- 41) Sahu MR & **Mondal AC***. Neuronal Hippo signaling: From development to diseases. *Developmental Neurobiology*, 2021, March; 81(2):92-109. PMID: 33275833. **JIF-3.44**
- 40) Ahmad MH, Rizvi MA, Fatima M, **Mondal AC*** Pathophysiological implications of neuroinflammation mediated HPA axis dysregulation in the prognosis of cancer and depression. *Molecular & Cellular Endocrinology*, 2021, Jan 15; 520:111093 [doi.10.1016/j.mce.2020.111093](https://doi.org/10.1016/j.mce.2020.111093). [Epub 2020, 27 Nov]. PMID: 33253761. **JIF-4.10**
- 39) Srivastav S, Anand BG, Fatima M, Prajapati KP, Yadav SS, Kar K, **Mondal AC***. Piperine-Coated Gold Nanoparticles Alleviate Paraquat-Induced Neurotoxicity in *Drosophila melanogaster*. *ACS Chemical Neuroscience*, 2020, Nov 18;11(22):3772-3785. PMID: 33125229. **JIF-4.41**
- 38) Naz F, Rahul, Fatima M, Naseem S, Khan W, **Mondal AC**, Siddique YH. Ropinirole silver nanocomposite attenuates neurodegeneration in the transgenic *Drosophila melanogaster* model of Parkinson's disease. *Neuropharmacology*, 2020, Oct 15; 177:108216 [Epub 2020, 21 July]. PMID: 32707222. **JIF-5.25**
- 37) Singh AK, Yadav AN, Srivastava A, Srivastava S, Jaiswal RK, **Mondal AC**, Singh K. CdSe- Reduced graphene oxide nanocomposite toxicity alleviation via V₂O₅ shell formation over CdSe core: in vivo and in vitro studies. *Nanotechnology*, 2020, Oct 9; 31(41):415101. PMID: 32311687. **JIF-3.87**
- 36) Fatima M, Ahmad MH, Srivastav S, Rizvi MA, **Mondal AC***. A selective D2 dopamine receptor agonist alleviates depression through up-regulation of tyrosine hydroxylase and increased neurogenesis in hippocampus of the prenatally stressed rats. *Neurochemistry International*, 2020 Jun; 136; 104730. doi: 10.1016/j.neuint.2020.104730. [Epub 2020, 19 Mar]. PMID: 32201282. **JIF-3.75**
- 35) Sahu MR & **Mondal AC***. The emerging role of Hippo signaling in neurodegeneration. *Journal of Neuroscience Research* 2020 May; 98(5):796-814. PMID: 31705587. **JIF- 4.16**
- 34) Sushma & **Mondal AC***. Role of GPCR signaling and calcium dysregulation in Alzheimer's disease. *Molecular and Cellular Neuroscience*, 2019 Dec; 101, 103414 (doi: 10.1016/j.mcn.2019.103414) [Epub 2019, Oct. 23]. PMID: 31655116. **JIF-4.31**
- 33) Rani L & **Mondal AC***. Emerging concepts of mitochondrial dysfunction in Parkinson's disease progression: Pathogenic and therapeutic implications. *Mitochondrion*, 2020 Jan; 50:25-34. PMID: 31654753. **JIF- 4.16**

- 32) Anand SK & **Mondal AC***. Neuroanatomical distribution and functions of brain-derived neurotrophic factor in zebrafish (*Danio rerio*) brain. **Journal of Neuroscience Research**, 2020 May; 98(5):754-763. PMID: 31532010. **JIF- 4.16**
- 31) Kumar S, Srivastav S, Fatima M, Giri RS, Mandal B, **Mondal AC***. A Synthetic Pro-Drug Peptide Reverses Amyloid- β -induced Toxicity in the rat model of Alzheimer's disease. **Journal of Alzheimer's Disease**, 2019 Apr; 69(2):499-512. PMID: 30958369. **JIF-4.47**
- 30) Fatima M, Srivastav S, Ahmad MH, **Mondal AC***. Effects of chronic unpredictable mild stress induced prenatal stress on neurodevelopment of neonates: Role of GSK-3 β . **Scientific Reports (Nature Publishing Group)** 2019 Feb; 9 (1):1305 doi: 10.1038/s41598-018-38085-2. [Epub 2019, Feb 4]. PMID: 30718708. **JIF- 4.37**
- 29) Ahmad MH, Fatima M, **Mondal AC***. Role of Hypothalamic-Pituitary-Adrenal Axis, Hypothalamic-Pituitary-Gonadal Axis and Insulin Signaling in the Pathophysiology of Alzheimer's disease. **Neuropsychobiology**, 2019 Apr; 77(4):197-205. PMID: 30605907. **JIF-2.32**
- 28) Ahmad MH, Fatima M, **Mondal AC***. Influence of microglia and astrocyte activation in the neuroinflammatory pathogenesis of Alzheimer's disease: Rational insights for the therapeutic approaches. **Journal of Clinical Neuroscience**, 2019 Jan; 59:6-11. PMID: 30385170. **JIF-1.96**
- 27) **Mondal AC*** Fatima M. Direct and indirect evidence of BDNF and NGF as key modulators in depression: Role of antidepressants treatment. **International Journal of Neuroscience**, 2019 Mar; 129(3):283-296. PMID: 30235967. **JIF-2.10**
- 26) Srivastav S, Fatima M, **Mondal AC***. *Bacopa monnieri* attenuates paraquat induced toxicity in *Drosophila* by inhibiting apoptosis through improved mitochondrial function and redox stabilization. **Neurochemistry International**, 2018 Dec; 121:98-107. PMID: 30296463. **JIF-3.75**
- 25) Ahmad MH, Fatima M, Hossain M, **Mondal AC***. Determination of potential oxidative damage, hepatotoxicity and cyto-genotoxicity in male Wistar rats: Role of indomethacin. **Journal of Biochemical & Molecular Toxicology**, 2018 Dec; 32(12): e22226. PMID: 30252991. **JIF-3.64**
- 24) Ahmad MH, Fatima M, Hossain M, **Mondal AC***. Evaluation of naproxen-induced oxidative stress, hepatotoxicity and *in-vivo* genotoxicity in male Wistar rats. **Journal of Pharmaceutical Analysis**, 2018 Dec; 8(6):400-406. PMID: 30595947. **JIF-4.76**
- 23) Anand SK, **Mondal AC***. TrkB receptor antagonism inhibits stab injury induced proliferative response in adult zebrafish (*Danio rerio*) brain. **Neuroscience Letters**, 2018 Apr 13; 672:28-33. PMID: 29471003. **JIF-3.04**
- 22) Anand SK, **Mondal AC***. Cellular and molecular attributes of neuronal stem cell niches in adult zebrafish brain. **Developmental Neurobiology**, 2017 Oct; 77(10):1188-1205. PMID: 28589616. **JIF-3.44**

21) Srivastav S., Fatima M, **Mondal AC***. Important medicinal herbs in Parkinson's disease pharmacotherapy. *Biomedicine and Pharmacotherapy*, 2017 Aug; 92:856-863. PMID: 28599249. **JIF- 6.52**

20) Fatima M, Srivastav S, **Mondal AC***. Prenatal stress and depression associated neuronal development in neonates. *International Journal of Developmental Neuroscience*, 2017 Aug; 60:1-7. doi: 10.1016/j.ijdevneu.2017.04.001. Epub 2017 Apr 4. PMID: 28389369. **JIF- 1.91**

19) Kumar S., Paul A, Kalita S, Kumar A, Srivastav S, Hazra S, Ghosh AK, Mandal B, **Mondal AC***. A Peptide Based Pro-Drug Ameliorates Amyloid- β Induced Neuronal Apoptosis in *in vitro* SH-SY5Y cells. *Current Alzheimer Research*, 2017 Jul; 14 (12) 1293-1304. PMID: 28714389. **JIF-3.04**

18) Paul A, Kumar S, Kalita S, Ghosh AK, **Mondal AC**, Mandal B. A Peptide Based Pro-Drug Disrupts Alzheimer's Amyloid into Non-Toxic Species and Reduces A β Induced Toxicity in vitro, *International Journal of Peptide Research and Therapeutics*, 2018 Jan; 24(1):201-211. **JIF-1.50**

17) Hazra S, Kumar S, Saha GK, **Mondal AC***. Reversion of BDNF, Akt and CREB in Hippocampus of Chronic Unpredictable Stress Induced Rats: Effects of Phytochemical, *Bacopa Monnieri*. *Psychiatry Investigation*, 2017 Jan; 14(1):74-80. PMID: 28096878. **JIF- 2.50**

16) Kumar S, Paul A, Kalita S, Ghosh AK, Mandal B and **Mondal AC***. Protective effects of β -sheet breaker α/β hybrid peptide against amyloid β -induced neuronal apoptosis in vitro. *Chemical Biology and Drug Design*, 2017 Jun; 89(6):888-900. PMID: 27995757. **JIF- 2.81**

15) Kumar S. and **Mondal AC***. Neuroprotective, Neurotrophic and Anti-oxidative Role of *Bacopa monnieri* on CUS Induced Model of Depression in Rat. *Neurochemical Research*, 2016 Nov; 41(11):3083-3094. PMID: 27506204. **JIF-3.99**

14) Banerjee R, Hazra S, Kumar S, Ghosh AK, **Mondal AC***. Chronic administration of bacopa monniera increases BDNF protein and mRNA expressions: a study in chronic unpredictable stress induced animal model of depression. *Psychiatry Investigation*, 2014 Jul; 11(3):297-306. PMID: 25110503, **JIF- 2.50**

13) Banerjee R, Ghosh AK, Ghosh B, Bhattacharya S, **Mondal AC***. Decreased mRNA and Protein Expression of BDNF, NGF, and their Receptors in the Hippocampus from Suicide: An Analysis in Human Postmortem Brain. *Clinical Medicine Insights Pathology*, 2013 Aug 26; 6:1-11, doi:10.4137/CMPPath.S12530. PMID: 24031163, eCollection 2013.

Papers from post-doctoral research:

12) Ren X, Dwivedi Y, **Mondal AC**, Pandey GN. Cyclic-AMP response element binding protein (CREB) in the neutrophils of depressed patients: *Psychiatry Research*, 2011 Jan 30; 185(1-2):108-12. PMID: 20494459. **JIF- 3.22**

11) Dwivedi Y, Rizavi HS, Zhang H, **Mondal AC**, Roberts RC, Conley RR, Pandey GN. Neurotrophin receptor activation and expression in human post-mortem brain: effect of

suicide: **Biological Psychiatry**, 2009 Feb 15; 65(4):319-28. PMID: 18930453, **JIF-13.38**

10) Dwivedi Y, Rizavi HS, Teppen T, Zhang H, **Mondal AC**, Roberts RC, Conley RR, Pandey GN. Lower Phosphoinositide 3-Kinase (PI 3-kinase) Activity and Differential Expression Levels of Selective Catalytic and Regulatory PI 3-Kinase Subunit Isoforms in Prefrontal Cortex and Hippocampus of Suicide Subjects. **Neuropsychopharmacology**, 2008; 33:2324-2340. **[NPG] JIF- 6.75**

9) Dwivedi Y, **Mondal AC**, Rizavi HS, Faludi G, Palkovits M, Sarosi A, Conley RR, Pandey GN. Differential and brain region-specific regulation of Rap-1 and Epac in depressed suicide victims. **Arch Gen Psychiatry**, 2006 Jun; 63(6):639-48. PMID: 16754837, **JIF- 21.59** [After 2013 new name of the journal is **Jama Psychiatry**]

8) Dwivedi, Y. **Mondal, AC**. Rizavi, HS. and Pandey GN: Suicide brain is associated with decreased expression of neurotrophins: **Biological Psychiatry**, 2005 Aug 15; 58 (4):315-324. PMID: 15939410, **JIF- 13.38**

7) Pandey, GN. Dwivedi, Y. Ren, X. Rizavi, HS. **Mondal, A**. Shukla, PK, Conley RR. Brain region specific alterations in the protein and mRNA levels of protein kinase A subunits in the post-mortem brain of teenage suicide victims. **Neuropsychopharmacology**, 2005 Aug; 30(8):1548-1556. PMID: 15920506 **JIF- 6.75**

6) Dwivedi, Y. **Mondal, AC**. Shukla, PK. Rizavi, HS. Payappagoudar, G. and Pandey GN: Differential regulation of serotonin (5HT) 2A receptor mRNA and protein levels after single and repeated stress in rat brain: role in learned helplessness behavior. **Neuropharmacology**, 2005 Feb; 48(2):204-214. PMID: 15695159, **JIF-5.25**

5) Dwivedi, Y. **Mondal, AC**. Shukla, PK. Rizavi, HS. Prakasam, S. and Pandey GN: Single and repeated stress-induced modulation of phospholipase C catalytic activity and expression: role in LH behavior. **Neuropsychopharmacology**, 2005 March; 30(3):473-483, PMID: 15536495, **[NPG]. JIF-6.75**

4) Dwivedi, Y. **Mondal, AC**. Shukla, PK. Rizavi, HS. Lyons J. Altered protein kinase A in brain of learned helpless rats: effects of acute and repeated stress. **Biological Psychiatry**, 2004 Jul 1; 56(1):30-40. PMID: 15219470, **JIF-13.38**

Papers from Pre-doctoral research:

3) Ghosh, MC. **Mondal, AC**. Basu, S. Banerjee, S. Majumder, J. Bhattacharya, D. Dasgupta, PS. Dopamine inhibits cytokine release and expression of tyrosine kinases, Lck and Fyn in activated T cells. (*Authors 1 & 2 have equal contribution*) **International Immunopharmacology** 2003 Jul; 3 (7):1019-1026. PMID: 12810359, **JIF- 4.93**

2) Saha, B. **Mondal, AC**. Basu, S. Dasgupta, PS. Circulating dopamine level, in lung carcinoma patients, inhibits proliferation and cytotoxicity of CD4+ and CD8+ T-cells by D1 dopamine receptors: an in vitro analysis. **International Immunopharmacology** 2001 Jul; 1 (7):1363-1374. PMID: 11460316, **JIF- 4.93**

1) Saha, B. **Mondal, AC**. Majumder, J. Basu, S. Dasgupta, PS. Physiological concentrations of dopamine inhibit proliferation and cytotoxicity of human CD4+ and CD8+ T cells in vitro: a receptor-mediated mechanism. **Neuroimmunomodulation** 2001; 9 (1):23-33. PMID: 11435749, **JIF- 2.49**

Total Citations 1712, h-index-22, i10-index-31

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Orcid Id: 0000-0003-0491-7804



Google Scholar Id: 3kK9vEkAAAAJ



Scopus Id: 7101751569

<https://jnu.irins.org/profile/166177> Vidwan-ID: 166177

Published Book

1. *Role of Plasma DA in Chronic Anxiety & Depression* Published by LAP LAMBERT Academic Publishing GmbH & Co. KG Heinrich-Böcking-Str. 6-8 66121, Saarbrücken, Germany ISBN-13: 978-3-659-15335-8 ; ISBN-10: 3659153354; Date of online publication: 11-06-2012

<https://www.lap-publishing.com/.../role-of-plasma-da-in-chronic-anxiety...>

2. *Role of miRNA in Major Depressive Disorder* in the e-book entitled Major Depressive Disorder Published by **Avid Science**, Borsigstr. 9, 10115 Berlin, Germany. 2017

3. Impact of CRISPR based gene editing in Environmental Biotechnology in the book titled "**Emerging Trends in Environmental Biotechnology**" by S. Mondal, S. P. Singh and Y. K. Lahir. The book published by **Centre for Agriculture and Bioscience International (CABI), UK**.

4. Impact of NGF signaling in neuroplasticity during depression: Insights in neuroplasticity dependent therapeutic approaches in the book titled "**The Neuroscience of Depression: Genetics, Cell Biology, Neurology, Behaviour and Diet**" Editor Prof. Victor R. Preedy, School of Medicine, Kings College London, Stamford Street, London SE1 9NU, UK. The book published by **Academic Press**, an imprint of Elsevier.

Referred Papers Published in Conference Proceedings

53) **A.C. Mondal** presented an invited talk entitled "Neuroprotective role of a synthetic peptide targeting Alzheimer's disease" at AIIMS, New Delhi on 19th Nov, 2019 for XXVIII IAN meeting

52) S.K. Anand and **A.C. Mondal** presented a paper entitled "The cellular and molecular attributes of adult neurogenesis and brain regeneration in zebrafish (*Danio rerio*)" at SFN, Chicago, IL, USA from 19th to 23rd of October, 2019. (**Awarded Int. travel grants from SERB**).

51) **A.C. Mondal** presented an invited talk on "Parkinson's disease, its different experimental models, and current therapeutic approaches" at ISLS-BHU, Varanasi on 12th Sept, 2019 for IBRO-APRC Neuroscience School on Molecular Basis of Neuroinflammation Mediated Neurodegeneration from September 01-14, 2019.

50) S.K. Anand and **A.C. Mondal** presented a paper entitled "Adult neurogenesis and brain regeneration in zebrafish (*Danio rerio*)" at 2019 World Neuroscience and Psychiatry Conference on 11th Sept, 2019 at Singapore. **(Awarded Int. travel grants).**

49) **A.C. Mondal** presented an invited talk entitled "Basics of Parkinson's disease and modern therapeutic approaches" at DIPSAR, Puspah Vihar, New Delhi on 12th March, 2019 for AICTE approved XXVIII QIP on "Recent Advances in Pharmaceutical Sciences".

48) M.H. Ahmad and **A. C. Mondal** presented a paper at International Conference on Advances in Zoological Research entitled "Neuroprotective role of naringenin in substantia nigra and striatum in paraquat induced rat model of parkinsonism" on 9-10 March, 2019 at AMU, Aligarh (U.P.). Page No. 162 (Abstract)

47) **S. K. Anand** and A.C. Mondal presented a paper entitled "BDNF/TrkB system mediates the reparative brain regeneration in zebrafish (*Danio rerio*)" at EMBO Conference on Molecular neuroscience on 04th to 7th Feb, 2019 organized by NCBS, Bangalore.

46) **A.C. Mondal** presented an invited talk entitled "Parkinson's disease and therapeutic approaches" at BIT, Mesra, Ranchi on 16th Jan, 2019. on AICTE approved QIP on the topic "Cutting Edge & Emerging Technologies in Pharmaceutical Education and Research".

45) **S. K. Anand** and A.C. Mondal presented a paper entitled "Involvement of BDNF in mediating the reparative regeneration in adult zebrafish (*Danio rerio*) brain" at 38th Annual Scientific Meeting of the Australasian Neuroscience Society", Brisbane, Queensland, Australia, organized by the Australasian Neuroscience Society (ANS) from 3rd to 6th, Dec, 2018. **(Awarded travel grants).**

44) **A.C. Mondal** presented an invited talk entitled "*Bacopa monnieri* attenuates paraquat induced toxicity in *Drosophila* by inhibiting apoptosis through redox stabilization and improved mitochondrial function" at PHYSIOCON-2018 Conference at Serampore College, on 22-24th Nov, 2018. Page No. 67 (Abstract)

43) **A.C. Mondal** presented a paper entitled "Alzheimer's disease: Fundamental concepts and therapeutic outcomes of β - breaker peptide" at ICREB-2018 Int. Conference at GGU, Koni, Bilaspur (CG), on 29-30th Oct, 2018. Page No. 125 (Abstract)

42) **A.C. Mondal** presented an invited talk entitled "Prodrug peptide: A potential therapeutic agent for treatment of Alzheimer's disease at AIIMS, Rishikesh on 15th Oct, 2018.

41) **S. K. Anand** and A.C. Mondal presented a paper entitled "Involvement of BDNF/TrkB signaling in regulation the injury induced regeneration response in adult zebrafish (*Danio rerio*) brain" at 22nd Int. Conference on Neurology & Neurophysiology, Rome, Italy on 23-24 April, 2018. J. Neurol Neurophysiol. 2018, Volume-9, Page No. 74 (Abstract) (DOI: 10.4172/2155-9562-C2-065) **(Selected for Travel grant & best poster award to SKA)**

40) **S. K. Anand** and **A.C. Mondal** presented a paper entitled “TrkB receptor antagonism inhibits stab injury induced proliferative response in adult zebrafish (*Danio rerio*) brain” at Biosparks, SLS, JNU, New Delhi on 23-24 Feb, 2018. Page No. 22 (Abstract).

39) **A.C. Mondal** presented a paper entitled “A peptide based pro-drug ameliorates amyloid beta induced neuronal apoptosis in in vitro SH-SY5Y cell” at World Neurocongress-2017, organized by IBRC and IAN, Aligarh Muslim University, Aligarh on 09-10 Dec, 2017. Souvenir cum Abstract Book, Page No. 52 (Abstract).

38) **A.C. Mondal** presented a paper entitled “Neuroprotective and antioxidative effects of *Bacopa monnieri* on CUS induced model of depression in rat” at ICBAFM-2017: 2nd International Conference on Biotechnological advances in free radical biology and medicine-2017, organized by Dept. of Bioscience, Integral University, Lucknow on 23-25 Jan, 2017. Proceedings of ICBAFM-2017, Page No. 23 (Abstract).

37) **A.C. Mondal** presented a paper entitled “Cognitive enhancement and neuroprotective effects of *Bacopa Monnieri* in Alzheimer’s disease model” at PHYSIOCON-2016: National Conference on Classical & Molecular approaches to life style management to environmental changes, organized by Dept. of Physiology, Midnapore College on 18-20 Nov, 2016. Proceedings of PHYSIOCON-2016, Page No. 60 (Abstract).

36) **A.C. Mondal** presented a paper entitled “Effects of β -sheet breaker α/β peptide against amyloid β -induced neuronal apoptosis in human neuroblastoma cells SHSY5Y cells” at IABMS-2016: National Conference on “Current Advances in Integrated Biomedicine for Healthcare, organized by Shobhit University, Meerut, (U.P.) on 3-6 Nov, 2016. Proceedings of IABMS-2016, Page No. 54 (Abstract). **[Dr. A. Namasivayam Award given to A. C. Mondal]**

35) **A.C. Mondal** “Effects of chronic foot shocks on nerve growth factor content in rat brain” at Neurocon-2015: International Conference on “Development, Degeneration and Regeneration of Neurons: Neurochemistry to Clinical Neurology, Organized by CSIR-IICB, IPGME&R & ICARE Institute of Medical Science & Research on 7-10 Jan, 2015. P.19

34) S Kumar, S Hazra, **A.C. Mondal** “Resveratrol, a Phytoalexin has a Neuroprotective Role in Animal Model of Alzheimer Disease” Neurocon-2015 at International Conference on Neurodegenerative and Neurodevelopmental Disorders: Translational Aspects, Organized by CSIR-IICB, IPGME&R & ICARE Institute of Medical Science & Research on 7-10 Jan, 2015. P. 61

33) **A.C. Mondal** “Effects of chronic multiple stress on learning and memory and the expression of Fyn, BDNF, TrkB in the hippocampus of rats” on PHYSICON-2014 at Berhampore Girls College on 19-21 December, 2014. P.20

32) S Kumar, S Hazra, **A.C. Mondal** “Chronic Administration of *Bacopa Monnieri* Increases Expression Level of TrkB, Erk1/2, p-Erk $\frac{1}{2}$ and Ameliorates Depression Like Behavior of Rats” on PHYSICON-2014 at Berhampore Girls College on 19-21 December, 2014. P. 85

- 31) **A.C. Mondal** “A study on evaluation of anxiolytic-antidepressant activity of Bramhi: CUS induced animal model of depression” on International Seminar on Molecular Biology and its applications at Jadavpur University, Kolkata on 14th & 15th February, 2014. P. 27
- 30) S Kumar, R Banerjee, S Hazra, **A.C. Mondal** “Neurotrophins: the positive regulator of Alzheimer’s Disease” on International Seminar on Molecular Biology and its applications at Jadavpur University, Kolkata on 14th & 15th February, 2014. P. 57
- 29) **A.C. Mondal** “Brain-derived neurotrophic factor and tyrosine kinase B receptor signaling in post-mortem brain of teenage suicide victims” on Kolkata Neuroscience Conference Organized by CSIR-IICB, IPGMER & Manovikas Kendra on 31 Jan-01 Feb, 2014. P. 22
- 28) S Kumar, R Banerjee, S Hazra, **A.C. Mondal** “Influences of CMS on behavioral and neurotrophins levels in rat hippocampus” on Kolkata Neuroscience Conference Organized by CSIR-IICB, IPGMER & Manovikas Kendra on 31 Jan-01 Feb, 2014. P. 25
- 27) R. Banerjee, AK Ghosh, B Ghosh & **A.C. Mondal**: “Dysregulation of Neurotrophins mediated signaling milieu in the Hippocampus from Suicide: An Analysis in Human Postmortem Brain” on XX World Congress on Parkinson’s Disease and related disorders, Organized by Kenes International, Switzerland held on 8-11 December, 2013, Geneva, Switzerland. **[Travel Grant awarded to R. Banerjee]**
- 26) **A.C. Mondal** “Chronic administration of BM increases BDNF protein and mRNA expressions: a study in CUS induced animal model of depression” on International Symposium on “Emerging Trends and Challenges in Neuroscience” organized by IAN at Allahabad held on 25-27 Oct, 2013. *Annals of Neurosciences* 20: (Suppl).2013, P.10
- 25) R. Banerjee, AK Ghosh, B Ghosh & **A.C. Mondal**: “Role of neurotrophins in pathophysiology of suicide” on International Symposium on “Emerging Trends and Challenges in Neuroscience” organized by IAN at Allahabad held on 25-27 Oct, 2013. *Annals of Neurosciences* 20: (Suppl).2013, P. 34 **[Awarded Tulsibai Somany prize for best paper]**
- 24) S. Hazra, R. Banerjee, S. Kumar & **A.C. Mondal**: “Bacopa Monniera treatment reverses CUS induced depressive like behavior by increasing expression of neurotrophins in rat brain” on International Symposium on “Emerging Trends and Challenges in Neuroscience” organized by IAN at Allahabad held on 25-27 Oct, 2013. *Annals of Neurosciences* 20: (Suppl).2013, P. 61
- 23) **A.C. Mondal** “Reduced Expression of Hippocampal BDNF, NGF and their Cognate Receptors in Postmortem Brain of Suicide Victims” on XXI World Congress of Neurology (WCN-2013) Organized by Kenes International, Switzerland at Vienna, Austria held on 21-26 Sept, 2013. *Journal of the Neurological Sciences* 333 (2013) e1–e64, Page No. e715 (Abstract) [doi:10.1016/j.jns.2013.07.2465](https://doi.org/10.1016/j.jns.2013.07.2465) **[Travel Grant awarded to Dr. A.C. Mondal]**
- 22) **A.C. Mondal**, R. Banerjee & S. Hazra: “*Bacopa monniera* reverses the effects of chronic unpredictable stress on behavior, the HPA axis, BDNF protein and mRNA

expressions” on a National Seminar Organized by VURSA, VU, Midnapore, held on 19 Mar, 2013. P.34

21) R. Banerjee, S. Hazra & **A.C. Mondal**: “Neurochemical aspects of depression in postmortem brain of suicide victims”. at Neurocon- 2013 International Conference on Neurodegenerative and Neurodevelopmental Disorders: Translational Aspects, Organized by IPGME&R, Kolkata, held on 17-20 Jan, 2013. P. 72

20) **A.C. Mondal**, R. Banerjee & S. Hazra: “Effects of *Bacopa monnieri* on chronic unpredictable stress-induced changes in Behavior and Brain BDNF in rats”. at Neurocon- 2013 International Conference on Neurodegenerative and Neurodevelopmental Disorders: Translational Aspects, Organized by IPGME&R, Kolkata, held on 17-20 Jan, 2013. P.71

19) S. Hazra, R. Banerjee & **A.C. Mondal**: “Evaluation of Antidepressant activity of *Bacopa monnieri* in rat: A study in Animal Model of Depression” 100th Indian Science Congress Association Conference, organized jointly by ISCA & University of Calcutta, held on 03-07 Jan, 2013.Part-II, P. 265

18) R. Banerjee, S. Hazra & **A.C. Mondal**: “Effect of chronic inescapable foot shock and antidepressant treatment on BDNF/Trk B levels in rat Hippocampus.” 100th Indian Science Congress Association Conference, organized jointly by ISCA & University of Calcutta, held on 03-07 Jan, 2013. Part-II, P. 264

17) **A.C. Mondal**, R. Banerjee & S. Hazra: “Reduced Expression Profile of Neurotrophins and their Cognitive Receptors in the Hippocampal Region of Postmortem Suicidal Brain” 100th Indian Science Congress Association Conference, organized jointly by ISCA & University of Calcutta, held on 03-07 Jan, 2013. Part-II, P.123

16) **A.C. Mondal**, R. Banerjee, A. K. Ghosh & B. Ghosh: “Effect of chronic inescapable footshocks and Antidepressant treatment on PI-3 kinase and MAP Kinase signaling in rat brain” in 23rd Annual National Conference of PSI- PHYSICON-2011, NRI Medical College, Guntur, (A.P.) held on 21-23 December, 2011, Proceedings of PHYSICON-2011, P.121 [**Awarded best Abstract presentation and received a certificate & cash prize**]

15) R. Banerjee, A. K. Ghosh, B. Ghosh & **A.C. Mondal**: “Impairment of ERK1/2 and PKC-delta mediated Signal Transduction in the Hippocampus in LH model of depression is sensitive to Chronic AD treatment” in UGC Sponsored National Level Seminar on exploration of biological processes through chemical sciences, N.D. College, Howrah held on 07-08 December, 2011, P. 34-35

14) **A.C. Mondal**, R. Banerjee, A. K. Ghosh & B. Ghosh: “Stress: The Negative Modulator of NGF” in UGC Sponsored National Level Seminar on exploration of biological processes through chemical sciences, N.D. College, Howrah held on 07-08 December, 2011, P. 33

13) **A.C. Mondal**, R. Banerjee & A. K. Ghosh: “Stress induced dysregulation of BDNF-TrkB signaling cascade in hippocampus of LH model of rats” in International Conference on Molecules to system Physiology: 100 Years Journey, Kolkata held on 21-23 Sept, 2011, P.78

12) R. Banerjee, **A.C. Mondal** & M. Das: "Effects of long-term stress recovery on behavioral, physiological and neurochemical aspects in male and female rats" in 18th West Bengal State Science and Technology Congress, organized jointly by WBSS&T & RKM residential College Narendrapur, Kolkata held on 28 Feb - 01 March, 2011, P.175

11) R. Banerjee & **A.C. Mondal**: "Differential Gender Specific Vulnerability to Depression Induction in Learned Helpless model of rat" 98th Indian Science Congress Association, organized jointly by ISCA & SRM University Chennai, held on 03-07 Jan, 2011, Section III, P. 89

10) **A.C. Mondal** & R. Banerjee: "Single and repeated stress induced alteration of neurotrophins in rat brain: Role in learned helpless behavior" 98th Indian Science Congress Association Conference, organized jointly by ISCA & SRM University Chennai, held on 03-07 Jan, 2011. Part II, P.138

9) **A.C. Mondal**: "Effect of learned helplessness on plasma levels of monoamines in animal model of depression" An International Conference on Integrative Physiology: Modern perspective and platinum Jubilee Celebration of PSI, Organized by PSI, Science City, Kolkata, held on 12-14 Nov, 2009. P.290

8) **A.C. Mondal**: "Volume of Red blood cell to Pubescent Athletes: A comparative Study" to the UGC Sponsored State level Seminar on "Recent Trends in Sports Physiology" organised by the Department of Physiology, Bhairab Ganguly College, Belghoria, Kolkata-56 held on the 10th December, 2008. P. 52

7) **A.C. Mondal**: "Altered expression of PKC in learned helpless (LH) rats: A study in the behavioral model of depression". A State level UGC-Sponsored Seminar, organized by the Dept. of Physiology, RPMC, 16-17 Dec, 2005. Page No. 74-78 (full paper)

6) **A. C. Mondal**, H.S. Rizavi, P.K. Shukla, X. Ren, G.N. Pandey & Y. Dwivedi: Single and repeated stress differentially regulate protein kinase C in brain of learned helpless Rats. 34th Soc for Neuroscience meeting, San Diego, USA, Oct 23-27, 2004

5) P.K. Shukla, **A.C. Mondal**, H.S. Rizavi, G. Payappagoudar, S. Prakasam, G.N. Pandey, & Y. Dwivedi: Antidepressant effects on HPA-axis mediated changes in protein kinase A in rat brain. 34th Soc for Neuroscience meeting, San Diego, USA, Oct 23-27, 2004

4) Y. Dwivedi, H.S. Rizavi, **A.C. Mondal**, R.R. Conley & G.N. Pandey: Neurotrophic factors in postmortem brain of suicide victims. 34th Soc for Neuroscience meeting, San Diego, USA, Oct 23-27, 2004

3) Y. Dwivedi, H.S. Rizavi, **A.C. Mondal**, G.V. Payappagoudar, R.R. Conley & G.N. Pandey: Altered expression of RAP1 in postmortem brain of suicide victims. 43rd Annual Meeting of American College of Neuropsychopharmacology, Puerto Rico, USA, 29, Suppl. 179, 2004

2) Y. Dwivedi, **A.C. Mondal**, H. Rizavi, J. Lyons & G. N. Pandey: Effect of learned helplessness on catalytic activity and expression of Phospholipase C in rat brain. 33rd Soc. For Neuroscience, New Orleans, USA, Nov 8-12, 2003

1) **A.C. Mondal**, B. Saha, S. Banerjee & P.S. Dasgupta: "Dopamine an endogenous regulator of Acute Lymphocytic Leukemia (ALL)": 87th Indian Science Congress meeting from 3rd Jan to 7th Jan, 2000 at Pune University, India. Young Scientist Award Division, P. 56-57 [**Selected for Young Scientist Award by ISC**]

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3. Bose Institute, Kolkata
4. Chittaranjan National Cancer Institute (Kolkata)

Postdoctoral Project supervision

1. Dr. Saurabh Srivastav, SERB-N-PDF
Project Title: To study and elucidate common molecular cross talk between Parkin, p53 and JNK mediated apoptosis in both familial and sporadic Parkinson's disease using *Drosophila* model.
Funding Agency: SERB
2. Dr. Mahino Fatima, SERB-N-PDF
Project Title: Effect of maternal chronic unpredictable mild stress (CUMS) on sonic hedgehog signaling, BDNF expression and DNA damage in the hippocampus and pre frontal cortex of neonatal and adult offspring.
Funding Agency: SERB

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Thesis Title: Evaluation of expression of Neurotrophins and their Receptors in rat brain: An analysis of the Molecular basis of Depression.
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2. Somoday Hazra- Ph.D. Thesis submitted on 2017 (Calcutta University)
Thesis Title: Evaluation of *Bacopa monniera* on chronic unpredictable stress induced behavioral and molecular changes: a study in rat model of depression.
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3. Sourav Kumar- Ph.D. Thesis submitted on 2017 (Jadavpur University)
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3. Ms. Rhea Subba-2017, SLS, JNU
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5. Mr. Divyam Singh- 2018, Amity University
6. Mr. Sandeep 2018- SLS, JNU
7. Md. Abu Nasar, 2019 (Biochemistry, Jamia Millia Islamia),
8. Anjali, 2019 (Biochemistry, Jamia Millia Islamia),
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