

Curriculum Vitae

Dr. Anil K. Mantha
Associate Professor
Head of the Department (HOD)
Dept. of Animal Sciences
School of Basic and Applied Sciences
Central University of Punjab
Bathinda- 151001
Email Id: anil.mantha@cup.edu.in (or) anilmantha@gmail.com
Phone: + 91-164-2864 142 (O)



Education:

Degree	Institution	Year	Subject
Postdoctoral Training	University of Texas Medical Branch, (UTMB) Galveston, TX, USA	2006-11	Repair and Regulatory Functions of AP endonuclease (APE1)
Ph.D.	Jawaharlal Nehru University (JNU), New Delhi, India	2001-06	Life Sciences
M.Phil.	National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, India	1998-00	Biophysics
M.Sc.	Dr. Babasaheb Ambedkar Maratwada University, Aurangabad, Maharashtra, India	1996-98	Biophysics
B.Sc.	Osmania University, Hyderabad, Andhra Pradesh, India	1993-96	Microbiology, Chemistry and Botany

Experience:

Position Held	Place of Work	Start Date	End Date	Total Experience
Associate Professor	Dept. of Animal Sciences, School of Basic and Applied Sciences, Central University of Punjab, Bathinda (PB)	28-12-2015	Till date	2 Yr. & 1 month
Assistant Professor	Centre for Animal Sciences (formerly known as Centre for Biosciences), School of Basic and Applied Sciences, Central University of Punjab, Bathinda (PB)	31-5-2012	27-12-2015	3 Yr. & 7 months
Adjunct Assistant Professor	Dept. of Biochemistry and Molecular Biology, University of Texas Medical Branch (UTMB), Galveston, Texas, USA	Sep. 2012	Aug. 2016	4 Yr.
Assistant Professor (Non-Tenure Research)	Dept. of Biochemistry and Molecular Biology, University of Texas Medical Branch (UTMB), Galveston, Texas, USA	1-11-2011	25-05-2012	7 Months
Postdoctoral Research Associate	Dept. of Biochemistry and Molecular Biology, UTMB, Galveston, Texas, USA	29-01-2006	31-10-2011	5 Yr. & 9 months

Lecturer in Biophysics	Dept. of Physiology, S.V.S. Medical College, Mahabubnagar (Telangana)	July 2001	Aug. 2001	1 month
Lecturer in Biophysics	Dept. of Physiology, M. R. Medical College, Gulbarga (KA)	Nov. 2000	July 2001	9 months
Lecturer in Biophysics	Dept. of Physiology, Vinayaka Mission's Medical College, Karaikal (UT)	Aug. 2000	Nov. 2000	3 months

Research Grants Operational:

1. **Mantha AK** (PI): Mitochondrial Oxidative DNA Damage-Repair in Alzheimer's Disease: AP-endonuclease (APE1/Ref-1) as a Potential Therapeutic Target, from the **Dept. of Science & Technology** (DST), New Delhi, under the Cognitive Science Research Initiative (CSI-2012). **Rs. 46.6 Lakhs** for 3 years (2014-2017).

Research Grants Completed:

1. **Mantha AK** (PI): Apurinic/Apyrimidinic endonuclease (APE1) as an anti-cancer therapeutic agent for Glioblastoma therapy, from UGC, New Delhi under the BSR-start up grant scheme. **Rs. 6 Lakhs** for 2 years (2013-2015).
2. **Mantha AK** (PI): APE1/Ref-1's Dual Functions Countering Beta Amyloid Induced Genotoxicity, from Alzheimer's Association, USA, **US \$ 99,990** for 2 years (2011-2013, extended as 2012-2015).
3. **Mantha AK** (PI): Identification of APE1-associated proteome during oxidative stress conditions in glioblastoma cell lines, from **Central University of Punjab**, Bathinda as Research Seed Money. **Rs. 3 Lakhs** for 2 years (2014-16).

Teaching Assignments:

No. of Students Guided:

1. **Ph.D.**
Completed – 03
Supervising- 03 & Co-supervising - 02
2. **M.Phil.**
Completed- 07
3. **M.Pharma.**
Completed- 03
4. **M.Sc.** Completed – 12
Supervising - 02

Research Projects

Handled:

M. Sc. Dissertation Supervised:

1. An *In vitro* Study on Oxidative Stress Induced Superoxide Dismutase (SOD) Activity in Human Glioblastoma (U-87 MG) Cells. (**Manbir Kaur**, M.Sc. Biosciences)
2. Assessment of Antioxidant Potential of Phytochemicals in Human Glioblastoma (U-87 MG) Cells. (**Manpreet Kaur**, M.Sc. Biosciences).
3. Pollen Induced Stress in Human Lung Carcinoma A549 Cells. (**Rekha Atri**, M.Sc. Biosciences).
4. To Understand the Role of Cellular Antioxidant Enzymes in Oxidative Stress Environment in Human Glioblastoma (U-87 MG) cells (**Sanju Kumari**, M.Sc. Biosciences).
5. Implications of Signalling Pathways in Pollen Induced Inflammation in A549 Lung Carcinoma Cell line. (**Amrit Pal Kaur**, M.Sc. Biosciences).
6. Synthesis and Characterization of Cationic Polymeric Nanoparticles and Evaluation of their Bioactivities. (**Heerak Chugh**, M.Sc. Biosciences).
7. To Evaluate the Antioxidant Properties of Ethnobotanical Plants of Himachal Pradesh. (Manisha Rani, M.Sc. Biosciences).
8. Understanding the Role of Oxidative Stress and Mitochondrial Functioning in Human Glioblastoma U-87 MG cells. (**Saurabh Kumar**, M.Sc. Biosciences).
9. Evaluation of Role of Curcumin in Modulation of APE1's Expression in Human Neuroblastoma SH-SY5Y Cells. (**Daljeet Kaur**, M.Sc. Biosciences).
10. Effect of Ferulic Acid on the Expression Levels of DNA Repair Enzymes Against A β (25-35) Induced Oxidative Stress in Human Neuroblastoma (SH-SY5Y) cells. (**Tania Devi**, M.Sc. Animal Sciences)
11. Effect of Curcumin on the Expression levels of Different Enzymes Against Oxidative Stress Induced by Chlorpyrifos in Human Neuroblastoma (SH-SY5Y) cells. (**Varinder Singh**, M.Sc. Animal Sciences).
12. Ginkgolide B Modulates BER Pathway enzymes in the presence of Amyloid β (25-35)- induced Oxidative Stress. (**Meenu Saini**, M.Sc. Animal Sciences).

M. Phil. Dissertation Supervised:

1. Effect of Amyloid Beta (25-35) Peptide on Mitochondrial Respiratory Function in Neuronal Cells Over-Expressing APE1. (**Navrattan Kaur**, Biosciences)
2. Understanding the Oxidative Stress Responses and Antioxidants State in Differentiated Neurons. (**Sukhchain Kaur**, Biosciences).
3. *In vitro* Study of Oxidative Stress Induced DNA-damage Responses in Differentiated Neurons. (**Iqbal Kaur**, Biosciences).
4. Dioxorubicin Induced Cardiotoxicity through Mitochondrial Dysfunction. (**Nidhi Sharma**, Biosciences)
5. Evaluation of Antioxidant Potential Against A β (25-35) Induced Oxidative Stress Response in Human Neuroblastoma (SH-SY5Y) Cells (**Sharanjot Kaur**, Biosciences).

6. To Study the Expression Pattern of Key Neuronal Proteins Modulated by Ferulic Acid Against A β (25-35) Induced Oxidative Stress in SH-SY5Y Cells (**Aditi Dhawan**, Biosciences).
7. Identification of Oxidative Stress Induced Neoantigen in Human Lung Cancer A549 Cell Line. (**Saurabh Vaish**, Biosciences)

M. Pharma. Dissertation Co-Supervised:

1. Design and synthesis of APE1 inhibitors as putative anticancer agents (**Gagandeep Kaur**).
2. Synthesis of Some Piperazine Containing Scaffolds as Potential MAO Inhibitors (**Sheetal Menia**).
3. Design, Synthesis and Screening of Phenylpiperazine Derivatives as Putative MAO Inhibitors (**Bhupinder Kumar**).

Ph. D. Research:

1. Oxidative Stress Induced Cell Proliferation and DNA Repair Mechanisms in Glioblastoma Cells: Role of ENPP2 and APE1. (**Ravi P. Cholia**).
2. A Biochemical Study to Evaluate the Role of Apurinic/Apyrimidinic Endonuclease 1 (APE1) in Lung Cancer Progression. (**Shweta Thakur**)
3. Organophosphate Pesticides Pester A β -Induced Genotoxic Responses In Cultured Neuronal Cells: APE1/Ref-1 Mediated Intervention. (**Bibekananda Sarkar**).

Under Supervision:

1. *In vitro* evaluation of Anti-cancer potential of Essential oil of *Vitex Negundo* Linn. Towards Glioblastoma Therapy. (**Nandini Gautam**, EVST).
2. An *In Vitro* Study to Evaluate the Effect of *Viola pilosa* and *Glycerrhiza glabra* Extracts on Doxorubicin Induced Cardiotoxicity in H9c2 Cardiomyocytes. (**Shishir Upadhyay**, Animal Sciences).
3. Evaluation of Amyloid Beta (A β)-Induced Mitochondrial Dysfunction: Neuroprotective Role of Apurinic/Apyrimidinic Endonuclease 1 (APE1) Via its Interaction with Cysteamine Dioxygenase (ADO). (**Navrattan Kaur**, Animal Sciences).
4. **Iqbal Kaur**, Animal Sciences
5. **Kunj Bihari Gupta**, Biochemistry and Microbial Sciences

Professional Recognition /Awards / Scholarship:

Scholarships:

2003-05	Senior Research Fellowship (SRF), Indian Council for Medical Research, New Delhi, India.
2002-03	Senior Research Fellow , UGC-Excellence project, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India.

1998-2000	NIMHANS Fellowship , National Institute of Mental Health and Neuro Sciences, Bangalore, India.
-----------	---

Awards:

2018	Recipient of Faculty Research Award - 2018 from CUPB (under the category cumulative Impact Factor more than 15 of research publications in the academic year 2016-17).
2011	Postdoctoral travel award to attend the American Society for Biochemistry and Molecular Biology (ASBMB) 2011 Annual Meeting, held in conjunction with Experimental Biology, in Washington, DC, April 8-13, 2011 (not availed).
2010	Young Investigator travel award from the Alzheimer's Drug Discovery Foundation (ADDF) , USA (not accepted).
2009	Young Investigator award from the Alzheimer's Drug Discovery Foundation (ADDF) , USA.
2004	Travel award for attending the International Brain Research Organization (IBRO) Advanced School on Neuroscience - "Receptors, Channels, Messengers" at Yalta, Ukraine, from CSIR, New Delhi, India.

Peer Recognition:

2014 – Till date	Editorial board member, Austin Journal of Proteomics, Bioinformatics & Genomics , USA
2010 - Till date	Reviewed manuscripts for highly reputed International Journals
2016 – 2017	Editorial board member, Journal of Alzheimer's Disease , USA
2012 – 2014	Editorial board member, Journal of Biotechnology and Biomaterials
2013 – Till date	Life member, Indian Association of Neurosciences
2011 - 2015	Alzheimer's Association , USA
2003 - 2004	Indian Biophysical Society

Area specializations/Research Interest:

My research interest underscores examining various DNA repair and regulatory proteins to understand the molecular mechanisms and pathways through which the processes associated with onset of aging, age related, and neurodegenerative disorders in developing potential therapeutic targets. I am currently working on regulatory and repair functions of AP-endonuclease (APE1) in mammalian genomes. APE1 is the main apurinic/aprimidinic endonuclease in eukaryotic cells playing a central role in the Base Excision repair (BER) pathway of all DNA lesions (uracil, alkylated and oxidized and abasic sites) including single-strand breaks and has role in co-transcriptional activation of TFs such as AP-1, NF- κ B, TP53 and HIF1 α , and named redox effector factor-1 (Ref-1). APE1/Ref-1 is a vital protein with its biological activities located in two functionally distinct domains. The N-terminus, containing the nuclear localization signal (NLS) region, is principally devoted to the redox activity and protein-protein interactions, while the C-terminus exerts the enzymatic activity on the AP sites of DNA. My own interest lies in elucidating the neuro-protective role of APE1/Ref-1 in neurological disorders e.g., Alzheimer's disease (AD) and Parkinson's disease (PD). Due to its multi-functional nature; it is proving

to be a critical target in neuronal cancer therapy for “Glioblastoma”. APE1/Ref-1’s role as a neuro-protector is an unexplored field of neurodegenerative disorders. Furthermore, the expression of APE1/Ref-1 and its sub-cellular localization is still poorly investigated in case of AD and PD. My research work is mainly focused to understand and elucidate the molecular mechanisms of genotoxicity associated with amyloid beta (A β) protein deposits in human brain tissue and role of APE1/Ref-1 as a potential candidate for therapeutic intervention in AD using neuronal cell lines as model system.

1. Oxidative Stress and Cancer Biology.
2. DNA Damage-Repair (Single-Strand Base Repair via Base Excision Repair (BER)-pathway) and Human Diseases.
3. DNA Repair and Regulatory Functions of Apurinic/Apyrimidinic Endonuclease (APE1/Ref-1).
4. Amyloid Beta (A β) Neurotoxicity and Alzheimer’s Disease (AD).

Publications:

<http://www.ncbi.nlm.nih.gov/pubmed/?term=mantha+ak>

Research Papers (#Corresponding Author, *Equal Authors)

1. List of Publications (Research papers, books, book chapters:

S. No.	Authors, title, journal, volume, page numbers	Impact Factor	ISSN No	UGC Sr. No
Research Articles				
1.	Kumar B, Sheetal, Mantha AK , Kumar V. Synthesis, Biological Evaluation and Molecular Modeling Studies of Phenyl-/Benzhydrylpiperazine Derivatives as Potential MAO Inhibitors. <i>Bioorganic Chemistry</i> . 2018 (Available online 16 January 2018).	3.231	00452068	
2.	Thakur S, Dhiman M, and Mantha AK* . APE1 Modulates Cellular Responses to Organophosphate Pesticides Induced Oxidative Damage in Non-small Cell Lung Carcinoma A549 cells. <i>Molecular and Cellular Biochemistry</i> . 2017 Sep 8. doi: 10.1007/s11010-017-3186-7	2.669	03008177	31515
3.	Sarkar B, Dhiman M, Mittal S, and Mantha AK* . Curcumin Revitalizes Amyloid Beta (25-35)-Induced and Organophosphate Pesticides Pestered Neurotoxicity in SH-SY5Y and IMR-32 Cells via Activation of APE1 and Nrf2. <i>Metabolic Brain Disease</i> . 2017 Aug 31. doi: 10.1007/s11011-017-0093-2	2.269	08857490	6082
4.	Cholia RP, Kumari S, Kumar S, Kaur M, Kaur M, Kumar R, Dhiman M, Mantha AK* . An in vitro Study Ascertaining the Role of H ₂ O ₂	2.269	08857490	6082

	and Glucose Oxidase in Modulation of Antioxidant Potential and Cancer Cell Survival Mechanisms in Human U-87 MG Cells. <i>Metabolic Brain Disease</i> . 2017 Jul5. doi:10.1007/s11011-017-0057-6.			
5.	Sengupta S, Mantha AK , Song H, Roychoudhury S, Nath S, Ray S, Bhakat KK. Elevated level of acetylation of APE1 in tumor cells modulates DNA damage repair. <i>Oncotarget</i> . 2016 Sep 19. doi: 10.18632/oncotarget.12113.	5.168	19492553	27388
6.	Roychoudhury S, Nath S, Song H, Hegde ML, Bellot LJ, Mantha AK , Sengupta S, Ray S, Natarajan A, Bhakat KK. Human Apurinic/Apyrimidinic Endonuclease (APE1) Is Acetylated at DNA Damage Sites in Chromatin, and Acetylation Modulates Its DNA Repair Activity. <i>Mol Cell Biol</i> . 2017 Mar 1;37(6).	4.398	02707306	31516
7.	Gill I, Kaur S, Kaur N, Dhiman M, and Mantha AK* . Phytochemical Ginkgolide B attenuates A β (1-42)- induced oxidative damage and altered cellular responses in human neuroblastoma SH-SY5Y cells. <i>Journal of Alzheimer's Disease</i> ; 2017; 60(s1):S25-S40. doi: 10.3233/JAD-161086.	3.731	13872877	26398
8.	Hegde ML, Dutta A, Yang C, Mantha AK , Hegde PM, Pandey A, Sengupta S, Yu Y, Calsou P, Chen D, Lees-Miller SP and Mitra S. Scaffold attachment factor A (SAF-A) and ku temporally regulate repair of radiation-induced clustered genome lesions. <i>Oncotarget</i> . 2016 Aug 23;7(34):54430-54444.	5.168	19492553	27388
9.	Bhakat KK, Sengupta S, Adeniyi VF, Roychoudhury S, Nath S, Bellot LJ, Feng D, Mantha AK , Sinha M, Qiu S, Luxon BA. Regulation of limited N-terminal proteolysis of APE1 in tumor via acetylation and its role in cell proliferation. <i>Oncotarget</i> . Apr 19;7(16):22590-604	5.168	19492553	27388
10.	Kaur N, Dhiman M, Perez-Polo, JR, and Mantha AK . Ginkgolide B Revamps Neuroprotective Role of APE1 and Mitochondrial OXPHOS Against A β (25-35)-Induced Neurotoxicity in Human Neuroblastoma Cells. <i>Journal of Neuroscience Research</i> . 2015. 93: 938-947.	2.481	03604012	24845
11.	Tsutakawa SE, Shin DS, Mol CD, Izumi T, Arvai AS, Mantha AK , Szczesny B, Ivanov IN, Hosfield DJ, Frankel KA, Hitomi K, Cunningham RP, Mitra S, Tainer JA. Conserved structural chemistry for incision activity in structurally non-homologous apurinic/aprimidinic endonuclease APE1 and endonuclease IV DNA repair enzymes. <i>J. Biological Chemistry</i> . 2013. 288(12):8445-55.	4.125	00219258	21606
12.	Sengupta S, Chattopadhyay R, Mantha AK , Mitra S, and Bhakat KK. Regulation of mouse-renin gene by apurinic/aprimidinic-endonuclease 1 (APE1/Ref-1) via recruitment of histone deacetylase 1 corepressor complex. <i>J. of Hypertension</i> . 2012. 30(5): 917-925.	4.085	02636352	28561

13.	# Mantha AK , Dhiman M, Taglialatela G, Perez-Polo JR and Mitra S. Proteomic study of amyloid beta (25-35) peptide exposure to neuronal cells: Impact on APE1/Ref-1's protein-protein interaction. <u><i>J. of Neuroscience Research</i></u> . 2012. 90(6): 1230-123.	2.481	03604012	24845
14.	Oezguen N*, Mantha AK* , Izumi T, Schein CH, Mitra S and Braun W. MD simulation and experimental evidence for Mg ²⁺ binding at the B site in human AP endonuclease 1. <u><i>Bioinformation</i></u> . 2011: 7(4):184-190.	--	09732063	N/A
15.	Sengupta S, Mantha AK , Mitra S and Bhakat KK. Human AP-endonuclease (APE1/Ref-1) and its acetylation regulate YB-1/p300 recruitment and RNA polymerase II loading in the drug induced activation of multidrug resistance gene MDR1. <u><i>Oncogene</i></u> . 2010: 30(4):482-93.	7.519	09509232	27369
16.	Barnes T, Kim WC, Mantha AK , Kim SE, Izumi T, Mitra S, Lee CH. Identification of apurinic/aprimidinic endonuclease APE1 as the endoribonuclease that cleaves c-myc mRNA. <u><i>Nucleic Acids Research</i></u> . 2009: 37(12):3946-58.	10.162	03051048	27034
17.	Bhakat KK, Mantha AK and Mitra S. Transcriptional Regulatory Functions of Mammalian AP-endonuclease (APE1/Ref-1), an Essential Multifunctional Protein. <u><i>Antioxidant Redox Signaling</i></u> . 2009; 11(3): 1-17.	6.337	15577716	N/A
18.	Mantha AK , Oezguen N, Izumi T, Braun W and Mitra S. Unusual role of a cysteine residue in substrate binding and activity of human AP-endonuclease1. <u><i>Journal of Molecular Biology</i></u> . 2008; 379(1):28-37.	4.632	00222836	24678
19.	Dike A, Chandrashekar IR, Mantha AK , Baquer NZ and Cowsik SM. Pharmacophore Pattern Identification of Tachykinin Receptor Selective Peptide Agonists: Implications in Receptor Selectivity. <u><i>American Journal of Biochemistry & Biotechnology</i></u> . 2007; 3 (4): 180-186.	--	15533468	3441
20.	Mantha AK , Moorthy K, Cowsik SM and Baquer NZ. Membrane associated functions of neurokinin B (NKB) on A β (25-35) induced toxicity in aging rat brain synaptosomes. <u><i>Biogerontology</i></u> . 2006 b; 7 (1): 19-33.	3.231	13895729	14660
21.	Mantha AK , Moorthy K, Cowsik SM and Baquer NZ. Neuroprotective role of neurokinin B (NKB) on β - amyloid (25-35) induced toxicity in aging rat brain synaptosomes: Involvement in oxidative stress and excitotoxicity. <u><i>Biogerontology</i></u> . 2006 a; 7(1):1-17	3.231	13895729	14660

22.	Moorthy K, Yadav UCS, Siddiqui MR, Mantha AK , Cowsik SM, Sharma D, Basir SF and Baquer NZ. Effect of hormone replacement therapy in normalizing age related neuronal markers in different age groups of naturally menopausal rats. <i><u>Biogerontology</u></i> . 2005; 6(5): 345-356.	3.231	13895729	14660
23.	Mantha AK , Chandrashekar IR, Baquer NZ and Cowsik SM. Three-dimensional structure of the mammalian tachykinin peptide neurokinin B bound to lipid micelles. <i><u>Journal of Biomolecular Structure and Dynamics</u></i> . 2004; 22(2): 137-148.	3.123	07391102	21655
24.	Moorthy K, Yadav UC, Mantha AK , Cowsik SM, Sharma D, Basir SF and Baquer NZ. Estradiol and Progesterone treatments change the lipid profile in naturally menopausal rats from different age groups. <i><u>Biogerontology</u></i> . 2004; 5 (6) 411-419.	3.231	13895729	14660
Research Abstracts				
25.	Tagliatalata, G., Woltjer, R., Reese, L., Bjorklund, N., & Mantha, AK . (2012). Absence of BETA-AMYLOID oligomers at mitochondria in the hippocampus of individuals with Alzheimer's disease neuropathology who remain cognitively intact. <i><u>Alzheimer's & Dementia: The Journal of the Alzheimer's Association</u></i> , 8(4), S783-S783.	9.478	15525260	N/A
26.	Mantha, A. K. , Dhiman, M., Mitra, S., & Perez-Polo, R. J. (2012). Proteomic analysis of APE1/Ref-1 regulation of A β (23-35)-induced neurotoxicity in cultured PC12 and SH-SY5Y cells. <i><u>International Journal of Developmental Neuroscience</u></i> , 30(8), 685.	2.046	07365748	2855
27.	Bhakat KK, Chattopadhyay R, Tadahide I, Mantha AK , and Mitra S. Acetylated APE1 is a repressor in calcium-mediated down regulation of the human renin gene. <i><u>Circulation</u></i> . 2006; 114 (18): 129.	19.309	00097322	18643
28.	Chandrashekar IR, Mantha AK , Dike A and Cowsik SM. Three-dimensional structure of lipid induced NK-2 selective tachykinin agonists. <i><u>Journal of Biomolecular Structure and Dynamics</u></i> . 2003; 20 (6).	3.123	07391102	21655
Review Articles				
29.	Sarkar B, Kulharia M, and Mantha AK . Understanding human thiol dioxygenase enzymes: structure to function and biology to pathology. <i><u>International Journal of Experimental Pathology</u></i> ; 2017. Apr;98(2):52-66	1.78	09599673	3017

30.	Mittal S, Kaur H, Gautam N, Mantha AK . Biosensors for breast cancer diagnosis: A review of bioreceptors, biotransducers and signal amplification strategies. <i>Biosens Bioelectron</i> . 2017 Feb 15;88:217-231. doi: 10.1016/j.bios.2016.08.028.	7.780	09565663	14886
31.	Kumar B, Sheetal, Mantha AK , and Kumar V. Recent Developments on the Structure-Activity Relationship Studies of MAO Inhibitors and Their Role in Different Neurological Disorders. <i>RSC Adv</i> , 2016. DOI: 10.1039/C6RA00302H.	3.108	20462069	23625
32.	Cholia RP, Kumar R, and Mantha AK[#] . Understanding the Multifaceted Role of Ectonucleotide Pyrophosphatase/Phosphodiesterase 2 (ENPP2) and its Altered Behavior in Human Diseases. <i>Current Molecular Medicine</i> . 2015. 15(10), 932-943.	2.345	15665240	14260
33.	Thakur S, Dhiman, M, Tell G, and Mantha AK[#] . A Review on Protein-Protein Interaction Network of APE1/Ref-1 and its Associated Biological Functions. <i>Cell Biochemistry & Function</i> . 2015. 33, 101-112.	2.186	02636484	5225
34.	Kaur G, Cholia RP, Mantha AK[#] , Kumar R. DNA repair and redox activities and inhibitors of APE1/Ref-1: A comparative analysis and their scope and limitations toward anticancer drug development. <i>Journal of Medicinal Chemistry</i> . 2014. 57(24), 10241-10256.	6.259	0222623	24572
35.	Gautam N, Mantha AK[#] , Mittal S. Essential Oils and their Constituents as Anti-cancer Agents: A Mechanistic View. <i>BioMed Research International</i> . 2014. DOI: 10.1155/2014/154106	2.476	23146133	14762
36.	Thakur S, Sarkar B, Cholia RP, Gautam N, Dhiman M, Mantha AK[#] . APE1/Ref-1 as an Emerging Therapeutic Target for Various Human Diseases: Phytochemical Modulation of its Functions. <i>Experimental Molecular Medicine</i> . 2014. DOI: 10.1038/emm.2014.42	5.063	12263613	29076
37.	Mantha AK[#] , Sarkar B, Tell G. A short review on the implications of base excision repair pathway for neurons: Relevance to neurodegenerative diseases. <i>Mitochondrion</i> . 2013. May; 16: 38-49. DOI: 10.1016/j.mito.2013.10.007.	3.704	15677249	31393
38.	Mantha AK[#] . APE1: A Molecule of Focus with Neuroprotective and Anti-Cancer Properties. <i>J. of Biotechnology & Biomaterials</i> . 2013: 3(3).	--	2155952X	N/A
39.	Hegde ML, Mantha AK , Hazra TK, Bhakat KK, Mitra S, and Szczesny B. Oxidative genome damage and its repair: Implications in aging and neurodegenerative diseases. <i>Mechanism of Aging and Development</i> . 2012. 133(4): 157-168.	3.087	00476374	N/A

Book Chapters				
40.	Kaur S, Dhiman M, and Mantha AK* . Ferulic Acid: A Natural Antioxidant with Applications toward Neuroprotection against Alzheimer's disease. <i>Functional foods and Human Health</i> . 2017. Springer Publishers.	--	--	--
41.	Upadhyay S, Gupta KB, Kaur S, Rubal, Kumar S, Mantha AK and Dhiman M. Resveratrol: A Miracle Drug for Vascular Pathologies. <i>Functional foods and Human Health</i> . 2017. Springer Publishers.	--	--	--
42.	Kaur N, Sarkar B, Gill I, Kaur S, Mittal S, Dhiman M, Padala PR, Perez-Polo JR, and Mantha AK . Indian herbs and their therapeutic potential against Alzheimer's disease: What makes them special? <i>Neuroprotective Effects of Phytochemicals in Neurological Disorders</i> . 2016. Wiley Publishers.	--	--	--
43.	Kaur N, Sarkar B, Mittal S, Dhiman M, Taglialatela G, Perez-Polo RJ, Mantha AK# . Oxidative Stress Events and Neuronal Dysfunction in Alzheimer's Disease: Focus on APE1/Ref-1 Mediated Survival Strategies. <i>Free Radicals in Human Health and Disease, Oxidative Stress and Human Health</i> . 2014. Springer publishers.	--	--	--
44.	Dhiman M, Thakur S, Upadhyay S, Kaur A, Mantha AK. Oxidative Stress and Inflammation in Cardiovascular Diseases: Two Sides of the Same Coin. <i>Free Radicals in Human Health and Disease, Oxidative Stress and Human Health</i> . 2014. Springer publishers.	--	--	--

Workshop/Conferences:

Organized

1. One day national symposium on "Recent Trends in Biological Sciences" on 29th March 2016, Bathinda.
2. Earth day celebration in collaboration with Punjab Pollution Control Board, May 2016.
3. One day national Workshop on "Training the Teachers - Water Quality and Health" on Feb.11, 2015, Bathinda

Attended

Oral Presentations:

1. Oxidative Stress Stimulates Metastatic Potential via Activation and Cross-talk between the Enzymes APE1, PKM2, and ENPP2 in Rat C6 and Human U-87 MG Glioblastoma Cells, at the

“International Symposium on Cancer Prevention and Treatment”, February 9 - 10, 2018, JNU, **New Delhi**, India.

2. Neuroprotective role of Curcumin against Amyloid Beta (25-35)-Induced and Organophosphate Pesticides Pestered Neurotoxicity in SH-SY5Y and IMR-32 Cells via Activation of APE1 and Nrf2-mediated Pathways, October 29 – November 3, 2017, Ravenshaw University, **Cuttack**, India.
3. Biology of Amyloid Beta-induced Oxidative Stress in Alzheimer’s Disease: An association of Mammalian Thiol Dioxygenase, ADO with the Human AP-Endonuclease 1 (APE1) Towards Neuroprotection, February, 10-11, 2017, JNU, **New Delhi**, India.
4. Understanding the role of oxidative stress in GBM progression and development of phytochemical based therapeutic interventions. CRCA-International Symposium on Role of Herbals in Cancer Prevention and Treatment, February 9-10, 2016, JNU, **New Delhi**, India.
5. Accentuating the role of multifunctional enzyme APE1/Ref-1 in renovation of mitochondrial functioning by Ginkgolide B against Amyloid β -mediated mitochondrial dysfunction in Alzheimer’s disease. IBRO School on Mitochondria and Neurodegeneration, October 26th -30th, 2015, **Chandigarh**, India.
6. Understanding the neuroprotective role of APE1/Ref-1 and it’s interaction with ADO against Amyloid β -mediated mitochondrial dysfunction in Alzheimer’s disease. XXXIII - IAN conference at Punjab University, October 31st – November 2nd, 2015, **Chandigarh**, India.
7. Oxidative Stress Induced Modulation of SOD and APE1: Key Towards Survival of Glioblastoma Cells. **Allahabad**, October, 24-27, 2013.

Poster Presentations:

1. Kaur M, Kaur M, Dhiman M, **Mantha AK**. Assessment of Antioxidant Potential of Phytochemicals in Human Glioblastoma (U-87 MG) Cells. **Bhubaneswar**, Dec. 18-21, 2014.
2. **Kaur N**, Dhiman M, Perez-Polo JR, and **Mantha AK**. Phytochemical modulation of APE1-mediated neuronal survival along with mitochondrial OXPHOS against A β -induced neurotoxicity: A synergistic mechanism of neuroprotection. **Bengaluru**, Nov. 1-3, 2014.
3. **Mantha AK**, Dhiman M, Taglialatela G. Amyloid beta induced genotoxicity: what protects neurons? **Cuttak**, Nov. 9-11, 2013.
4. **Mantha AK**, *Dineley KT*, Perez-Polo JR and *Mitra S*. Neuroprotective Role of APE1/Ref-1 in Amyloid Beta Mediated Genotoxicity in Neuronal Precursor PC12 Cells. November 12, 2009 at UTMB, **Galveston**, TX, USA.

5. **Mantha AK**, Oezguen N, Izumi T, Bhakat KK, Mitra S and Braun W. Does the APE1 Double Mutant E96Q, D210N Bind Mg²⁺ in the Active Site? February 19 to 24, 2009 at **Galveston, TX, USA**.
6. **Mantha AK**, Chandrashekar IR, Dike A, Moorthy K, Baquer NZ and Cowsik SM. Role of Neurokinin B and Ab-protein fragment 25-35 on aging rat brain synaptosomes. The XXIst International Conference on Magnetic Resonance in Biological Systems, January 16 to 21, 2005 at **Hyderabad, India**.
7. **Mantha AK**, Chandrashekar IR, Moorthy K, Baquer NZ and Cowsik SM. Tachykinin NK-3 Receptor and its Agonist Neurokinin B (NKB) Interactions: Shedding Light on Aging Brain Functions. IBRO Advanced School on Neuroscience “Receptors, Channels, Messengers”, September 16 to 28, 2004 at **Yalta, Ukraine**.
8. **Mantha AK**, Chandrashekar IR, Dike A, Baquer NZ and Cowsik SM. Three-dimensional structure of the mammalian tachykinin peptide neurokinin B bound to lipid micelles: A NK3 receptor agonist of mammalian origin involved in neuroprotection and Aging. NMRS 2004 [National Magnetic Resonance Society] Symposium on NMR Drug Design & Bioinformatics, February 17 to 20, 2004 at **Kolkatta, India**.
9. Vidyasagar S, **Mantha AK** and Kulkarni SG. Evaluation of radiation exposure doses from television. National Symposium on Radiation and Molecular Biophysics, Bhabha Atomic Research Centre (BARC), January 21 to 24, 1998 at **Mumbai, India**.

Other Achievements:

1. University 2nd Rank in M.Sc. Biophysics (1998)

Collaboration:

1. Dept. of Neuroscience & Cell Biology, University of Texas Medical Branch, Galveston, TX, USA.
2. Dept. of Biochemistry & Molecular Biology, University of Texas Medical Branch, Galveston, TX, USA.
3. Dept. of Medical and Biological Sciences, University of Udine, 33100 Udine, Italy.
4. Centre for Environmental Science and Technology, Central University of Punjab, Bathinda, India.
5. Centre for Biochemistry and Microbial Sciences, Central University of Punjab, Bathinda, India.
6. Centre for Chemical and Pharmaceutical Sciences, Central University of Punjab, Bathinda, India.

Last updated: 20-03-2018