

## Curriculum Vitae

### Prasenjit Manna, PhD, FACN, MRSC

#### Contact Info:

---

##### Office Address

Ramalingaswami Fellow  
Department of Biotechnology  
CSIR-NEIST, Jorhat  
Assam, 785006  
INDIA

##### Home Address

Himani Manna  
Abasbari, Tamluk  
Purba Midnapore  
West Bengal, 721636  
INDIA

**Email:** [pmanna2012@gmail.com](mailto:pmanna2012@gmail.com)

**Phone:** 91-8399075829

#### Personal Info:

---

**Date of Birth:** January 6, 1982  
**Sex:** Male

**Marital Status:** Married  
**Nationality:** Indian

#### Personal Statement:

---

Dr. Manna has a successful track record comprising experience, commitment, and high impact publications in understanding basic molecular mechanisms, conducting studies with diabetic animals and drugs as well as environmental toxin-induced organ pathophysiology. Dr. Manna has published **64 articles in peer-reviewed journals** and has an **h-index of 26 (Web of Science, as of May2015)**. Dr. Manna has years of experience in research on streptozotocin-induced type 1 diabetic animal studies. Dr. Manna's work suggested the beneficial role of a bioactive natural product against streptozotocin-induced diabetes and its associated pathophysiology in rats. In addition, he has also investigated the mechanism of environmentally exposed nanostructure-induced organ pathophysiology. He has long experience in isolation and characterization of bio-active molecules (protein, small organic molecules) from traditional Indian medicinal plants. During his postdoctoral fellowship in the lab of Dr. Jain since 2010, Dr. Manna has worked on the role of hydrogen sulfide and glutathione in mediating the effect of L-cysteine and vitamin D in insulin signaling pathways using monocyte, 3T3L1 adipocyte, C2C12 myotube, and L6 myotube cell culture models. Dr. Manna's recent studies have investigated the role of membrane-bound phospholipids in high glucose-induced impaired glucose metabolism, vascular inflammation, and endothelial cell dysfunction.

#### Education:

---

**Doctor of Philosophy** 2010  
Molecular Medicine  
Bose Institute (Jadavpur University), Kolkata, West Bengal, India  
*Thesis:* Phytochemical constituents of *Terminalia arjuna* play protective role in pathophysiology  
*Advisor:* Professor Parames C. Sil

**Master of Science** 2005  
Chemistry (Specialization in Organic Chemistry) (1<sup>st</sup> Class, 70%)  
Jadavpur University, Kolkata, West Bengal, India  
*Thesis:* Synthesis of carbohydrate derived pyrano [2,3-b] naphtha [1,2-e] pyran  
*Advisor:* Professor Rina Ghosh

<b>Bachelor of Science</b> Major: Chemistry; Minors: Physics, Mathematics, Computer Science(1 <sup>st</sup> Class, 70%) Jadavpur University, Kolkata, West Bengal, India	2003
<b>Higher Secondary Education in Science (10+2)</b> (1 <sup>st</sup> Class, 85%) Hamilton High School, Tamluk, West Bengal, India	2000
<b>Secondary Education (10+2)</b> (1 <sup>st</sup> Class, 85%) Hamilton High School, Tamluk, West Bengal, India	1998

### **Fellowship:**

---

Ramalingaswami Re-Entry Fellowship Department of Biotechnology, INDIA	2015-Present
Malcolm Feist Cardiovascular Research Fellowship Louisiana State University Health Sciences Center Shreveport, LA, USA	2011-2015
Postdoctoral Research Fellowship Department of Pediatrics Louisiana State University Health Sciences Center Shreveport, LA, USA	2010-2011
Senior Research Fellowship Council of Scientific and Industrial Research (CSIR) Government of India.	2007-2010
Junior Research Fellowship Council of Scientific and Industrial Research (CSIR) Government of India.	2005-2007
National Scholarship Ministry of Human Resource Development Government of India.	1998-2005

### **Awards:**

---

Best Poster Presentation Award Emerging Leaders in Nutrition Science American Society for Nutrition (ASN) Experimental Biology Annual Meeting San Diego, CA, USA	2015
Best Poster Presentation Award American Society for Nutrition (ASN) Experimental Biology Annual Meeting San Diego, CA, USA	2014
Postdoctoral Research Travel Award American Society of Biochemistry and Molecular Biology (ASBMB) Experimental Biology Annual Meeting San Diego, CA, USA	2014
Postdoctoral Research Travel Award American Society of Biochemistry and Molecular Biology (ASBMB)	2013

Experimental Biology Annual Meeting, Boston, MA, USA

Postdoctoral Research Travel Award 2012  
American Society of Biochemistry and Molecular Biology (ASBMB)  
Experimental Biology Annual Meeting  
San Diego, CA, USA

Best Oral Presentation Award 2010  
Delhi Pharmaceutical Sciences and Research University  
Delhi, India

## Research Experience:

---

### *Postdoctoral Training*

**2010 - Present**

- Investigating the role of polyphosphoinositides (PIs) in impaired glucose metabolism and endothelial cell dysfunction in high glucose-treated cells as well as type 1 and type 2 diabetic animals.
- Investigating the role of H<sub>2</sub>S in mediating the effect of L-cysteine or vitamin D on glucose metabolism and vascular inflammation in cells treated with high glucose.
- Investigated the role of micronutrients (L-cysteine, vitamin D) supplementation on the insulin stimulated as well as insulin independent glucose metabolism, markers of vascular inflammation in cells (adipocytes, myotubes, and monocytes) treated with high glucose.

### *Predoctoral Training*

**2005 - 2010**

- Investigated the mechanism of environmentally exposed nanostructure-induced organ pathophysiology.
- Investigated the beneficial role of arjunolic acid (a triterpenoid saponin isolated from the plant *Terminalia arjuna*) in preventing streptozotocin-induced type 1 diabetes and its associated organ pathophysiology in rats.
- Studied the mechanism of drug and environmental toxin-induced organ pathophysiology and protective (preventive/curative) role of the naturally occurring bio-active molecules.
- Isolation and characterization of bio-active molecules from traditional Indian medicinal plants.

### *Master Training*

**2004 - 2005**

- Synthesis of carbohydrate-derived low molecular weight organo gelators.

## Teaching Experience:

---

### **Predoctoral Teaching Assistant, Bose Institute, INDIA**

- Trained 4 postgraduate students in basic and advanced laboratory techniques.
- Revised and evaluated research reports and presentations.

### **Postdoctoral Teaching Assistant, LSU Health Sciences Center, USA**

- Designed and assisted 3 predoctoral students in practical experimental methods
- Revised and evaluated final report and presentation content.

## Professional Membership:

---

- Society for Medicinal Plant and Natural Product Research, GA
- Society for Free Radical Biology and Medicine (SFRBM)
- American Society for Biochemistry and Molecular Biology (ASBMB)
- American Society for Nutrition (ASN)
- Royal Society of Chemistry (RSC)
- American College of Nutrition (ACN)

## Reviewer:

---

1. BMC Pharmacology (BioMed Central)
2. Molecular Biology Reports (Springer)

3. Phytotherapy Research (Elsevier)
4. Journal of Ethnopharmacology (Elsevier)
5. Molecules (MDPI)
6. Journal of Occupational Medicine and Toxicology (BioMed Central)
7. BMC Complementary and Alternative Medicine (BioMed Central)
8. Evidence-Based Complementary and Alternative Medicine (Hindawi)
9. Food and Chemical Toxicology (Elsevier)
10. African Journal of Biochemistry Research (Academic Journals)
11. European Journal of Medicinal Plants (Science Domain International)
12. Lipids in Health and Disease (BioMed Central)
13. British Journal of Medicine and Medical Research (Science Domain International)
14. Allergologia et Immunopathologia (Elsevier)
15. Journal of Translational Medicine (BioMed Central)
16. Nanotoxicology (Informa Healthcare)
17. The Journal of Steroid Biochemistry and Molecular Biology (Elsevier)
18. Pathophysiology (Elsevier)
19. Journal of Functional Foods (Elsevier)
20. Journal of Diabetes and Its Complications (Elsevier)

### Research Interest:

---

- The long term research goal is to discover a relatively low-cost dietary supplement (vitamins, minerals, micronutrients etc) that could be used as an adjuvant therapy for the prevention of impaired glucose metabolism in type 2 diabetes.

### Book Chapter:

---

**Manna P, Jain SK.** In Tropical and subtropical Fruits: Flavors, Colors, and Health Benefits. Beneficial role of L-cysteine and H<sub>2</sub>S rich fruits and vegetables in diabetic pathophysiology. Chapter 9, Page 147-157. B. Patil Eds.; ACS Symposium Series, American Chemical Society, Volume 1129, 2013.

### Peer-Reviewed Journal Publications:

---

#### Original Research Articles

---

#### Major Contributing Author

1. **Manna P, Jain SK\***. Phosphatidylinositol-3,4,5-triphosphate and cellular signaling: implications for obesity and diabetes. **Cellular Physiology and Biochemistry**. 2015;35:1253-1275. [PMID: 25721445]
2. **Manna P, Gungor N, McVieR, Jain SK\***. Decreased cystathionine- $\gamma$ -lyase (CSE) activity in livers of type 1 diabetic rats and peripheral blood mononuclear cells (PBMC) of type 1 diabetic patients. **Journal of Biological Chemistry** 2014; 289:11767-11778. [PMID: 24610811]
3. Manna P, Jain SK. Effect of PIP3 on Adhesion Molecules and Adhesion of THP-1 Monocytes to HUVEC Treated with High Glucose. **Cellular Physiology and Biochemistry** 2014;33:1197-1204. [PMID: 24752192]
4. **Manna P, Jain SK\***. L-Cysteine and hydrogen sulfide increase PIP3 and AMPK/PPAR $\gamma$  expression and decrease ROS and vascular inflammation markers in high glucose treated human U937 monocytes. **Journal of Cellular Biochemistry** 2013;114:2334-2345. [PMID: 23733596]
5. **Manna P, Jain SK**. PIP3 but not PIP2 increases GLUT4 surface expression and glucose metabolism mediated by AKT/PKC $\zeta/\lambda$  phosphorylation in 3T3L1 adipocytes. **Molecular and Cellular Biochemistry** 2013;381:291-299. [PMID: 23749168]
6. **Manna P, Jain SK\***. Vitamin D upregulates glucose transporter 4 (GLUT4) translocation and glucose utilization mediated by cystathionine- $\gamma$ -lyase (CSE) activation and H<sub>2</sub>S formation in 3T3L1 adipocytes. **Journal of Biological Chemistry** 2012; 287:42324-42332. [PMID: 23074218]
7. Jain SK\*, **Manna P**, Micinski D, Lieblong BJ, Kahlon G, Morehead L, Hoeldtke R, Bass PF 3rd, Levine SN. In African American Type 2 Diabetic Patients, Is Vitamin D Deficiency Associated with Lower Blood Levels of

- Hydrogen Sulfide and Cyclic Adenosine Monophosphate, and Elevated Oxidative Stress? **Antioxidants and Redox Signaling** 2012; 18:1154-1158. [PMID: 22852873]
8. **Manna P**, Jain SK\*. Decrease in hepatic phosphatidylinositol-3,4,5-triphosphate (PIP3) levels may be linked to impaired glucose homeostasis in type 1 and type 2 diabetic rats. **Cellular Physiology and Biochemistry** 2012;30:1363-1370. [PMID: 23108060]
  9. **Manna P**, Sil PC\*. Impaired redox signaling and mitochondrial uncoupling contributes vascular inflammation and cardiac dysfunction in type 1 diabetes: Protective role of arjunolic acid. **Biochimie** 2012;94:786-797. [PMID: 22155371]
  10. **Manna P**, Ghosh M, Ghosh J, Das J, Sil PC\*. Contribution of nano copper particles to in vivo liver dysfunction and cellular damage: Role of IκBα/NF-κB, MAPKs and mitochondrial signal. **Nanotoxicology**. 2012;6:1-21. [PMID: 21319953]
  11. **Manna P**, Jain SK\*. Hydrogen sulfide and L-Cysteine increase PIP3 and glucose utilization by inhibiting PTEN and activating PI3K/ AKT/ PKCζ/λ in 3T3L1 adipocytes. **Journal of Biological Chemistry** 2011; 286:39848-39859. [PMID: 21953448]
  12. **Manna P**, Bhattacharyya S, Das J, Ghosh J, Sil PC\*. Phytomedicinal role of *Pithecellobium dulce* against CCl<sub>4</sub>-mediated Hepatic Oxidative Impairments and Necrotic Cell Death. **Evidence Based Complementary and Alternative Medicine** 2011;2011:832805. [PMID: 21869899]
  13. **Manna P**, Das J, Ghosh J, Sil PC\*. Contribution of type 1 diabetes to rat liver dysfunction and cellular damage via activation of NOS, PARP, IκBα/NF-κB, MAPKs and mitochondria dependent pathways: Prophylactic role of arjunolic acid. **Free Radical Biology and Medicine** 2010;48:1465-1484. [PMID: 20188823]
  14. **Manna P**, Das J, Ghosh J, Sil PC\*. Streptozotocin induced activation of oxidative stress responsive splenic cell signaling pathways: Protective role of arjunolic acid. **Toxicology and Applied Pharmacology** 2010;244:114-129. [PMID: 20053369]
  15. **Manna P**, Sinha M, Sil PC\*. Prophylactic role of arjunolic acid in response to streptozotocin mediated diabetic renal injury: Activation of polyol pathway and oxidative stress responsive signaling cascades. **Chemico Biological Interactions** 2009;181:297-308. [PMID: 19682444]
  16. **Manna P**, Sinha M, Sil PC\*. Protective role of arjunolic acid in response to streptozotocin-induced type-I diabetes via the mitochondrial dependent and independent pathways. **Toxicology** 2009;257:53-63. [PMID: 19133311]
  17. **Manna P**, Sinha M, Sil PC\*. Taurine plays a beneficial role against cadmium-induced oxidative renal dysfunction. **Amino Acids** 2009;36:417-428. [PMID: 18414974]
  18. Sinha M, **Manna P**, Sil PC\*. Induction of necrosis in cadmium-induced hepatic oxidative stress and its prevention by the prophylactic properties of taurine. **Journal of Trace Elements in Medicine and Biology** 2009;23:300-313. (**Equal contribution**). [PMID: 19747626]
  19. **Manna P**, Sinha M, Sil PC\*. Cadmium induced testicular pathophysiology: Prophylactic role of taurine. **Reproductive Toxicology** 2008;26:282-291. [PMID: 18926901]
  20. **Manna P**, Sinha M, Sil PC\*. Amelioration of cadmium-induced cardiac impairment by taurine. **Chemico Biological Interactions** 2008;174:88-97. [PMID: 18561905]
  21. **Manna P**, Sinha M, Sil PC\*. Protection of arsenic-induced testicular oxidative stress by arjunolic acid. **Redox Report** 2008;13:67-77. [PMID: 18339249]
  22. **Manna P**, Sinha M, Sil PC\*. Arsenic-induced oxidative myocardial injury: protective role of arjunolic acid. **Archives of Toxicology** 2008;82:137-149. [PMID: 18197399]
  23. Sinha M, **Manna P**, Sil PC\*. Terminalia arjuna protects mouse hearts against sodium fluoride-induced oxidative stress. **Journal of Medicinal Food** 2008;11:733-740. (**Equal contribution**). [PMID: 19053867]
  24. Sinha M, **Manna P**, Sil PC\*. Taurine protects the antioxidant defense system in the erythrocytes of cadmium treated mice. **BMB Reports** 2008;41:657-663. (**Equal contribution**). [PMID: 18823590]
  25. Sinha M, **Manna P**, Sil PC\*. Protective effect of arjunolic acid against arsenic-induced oxidative stress in mouse brain. **Journal of Biochemistry and Molecular Toxicology** 2008;22:15-26. (**Equal contribution**). [PMID: 18273903]
  26. Sinha M, **Manna P**, Sil PC\*. Cadmium-induced neurological disorders: prophylactic role of taurine. **Journal of Applied Toxicology** 2008;28:974-986. (**Equal contribution**). [PMID: 18548748]
  27. Sinha M, **Manna P**, Sil PC\*. Arjunolic acid attenuates arsenic-induced nephrotoxicity. **Pathophysiology** 2008;15:147-156. (**Equal contribution**). [PMID: 18434106]
  28. **Manna P**, Sinha M, Sil PC\*. Protection of arsenic-induced hepatic disorder by arjunolic acid. **Basic and Clinical Pharmacology and Toxicology** 2007;101:333-338. [PMID: 17910617]
  29. **Manna P**, Sinha M, Sil PC\*. Arjunolic acid, a triterpenoid saponin, ameliorates arsenic-induced cyto-toxicity in hepatocytes. **Chemico Biological Interactions** 2007;170:187-200. [PMID: 17854788]

30. **Manna P**, Sinha M, Sil PC\*. Phytomedicinal activity of Terminalia arjuna against carbon tetrachloride induced cardiac oxidative stress. **Pathophysiology** 2007;14:71-78. [PMID: 17611085]
31. **Manna P**, Sinha M, Sil PC\*. A 43 kD protein isolated from the herb Cajanus indicus L attenuates sodium fluoride-induced hepatic and renal disorders in vivo. **Journal of Biochemistry and Molecular Biology** 2007;40:382-395. [PMID: 17562290]
32. **Manna P**, Sinha M, Sil PC\*. Galactosamine-induced hepatotoxic effect and hepatoprotective role of a protein isolated from the herb Cajanus indicus L in vivo. **Journal of Biochemistry and Molecular Toxicology** 2007; 21:13-23. [PMID: 17366529]
33. Sinha M, **Manna P**, Sil PC\*. Taurine, a conditionally essential amino acid, ameliorates arsenic-induced cytotoxicity in murine hepatocytes. **Toxicology In Vitro**. 2007;21:1419-1428. (Equal contribution). [PMID: 17624716]
34. Sinha M, **Manna P**, Sil PC\*. Attenuation of cadmium chloride induced cytotoxicity in murine hepatocytes by a protein isolated from the leaves of the herb Cajanus indicus L. **Archives of Toxicology** 2007;81:397-406. (Equal contribution). [PMID: 17262218]
35. Sinha M, **Manna P**, Sil PC\*. Aqueous extract of the bark of Terminalia arjuna plays a protective role against sodium-fluoride-induced hepatic and renal oxidative stress. **Journal of Natural Medicine** 2007;61: 251-260. (Equal contribution).
36. Sinha M, **Manna P**, Sil PC\*. Amelioration of galactosamine-induced nephrotoxicity by a protein isolated from the leaves of the herb, Cajanus indicus L. **BMC Complementary and Alternative Medicine** 2007; 7: 11. (Equal contribution). [PMID: 17456244]
37. Sinha M, **Manna P**, Sil PC\*. A 43kD protein from the herb, Cajanus indicus L., protects against fluoride induced oxidative stress in mice erythrocytes. **Pathophysiology**. 2007; 14: 47-54. (Equal contribution). [PMID: 17403599]
38. **Manna P**, Sinha M, Sil PC\*. Aqueous extract of Terminalia arjuna prevents carbon tetrachloride induced hepatic and renal disorders. **BMC Complementary and Alternative Medicine** 2006;6:33. [PMID: 17010209]

### Co-author

---

1. Bhattacharya S, **Manna P**, Gachhui R, Sil PC\*. D-Saccharic acid 1,4-lactone protects diabetic rat kidney by ameliorating hyperglycemia-mediated oxidative stress and renal inflammatory cytokines via NF- $\kappa$ B and PKC signaling. **Toxicology and Applied Pharmacology** 2013 ; 267:16-29. [PMID: 23261973]
2. Pal PB, Pal S, **Manna P**, Sil PC\*. Traditional extract of Pithecellobium dulce fruits protects mice against CCl<sub>4</sub> induced renal oxidative impairments and necrotic cell death. **Pathophysiology**. 2012;19:101-114. [PMID: 22424982]
3. Das J, Ghosh J, **Manna P**, Sil PC\*. Taurine protects rat testes against doxorubicin-induced oxidative stress as well as p53, Fas and caspase 12-mediated apoptosis. **Amino Acids**. 2012; 42:1839-1855. [PMID: 21476075]
4. Sarkar A, Das J, **Manna P**, Sil PC\*. Nano-copper induces oxidative stress and apoptosis in kidney via both extrinsic and intrinsic pathways. **Toxicology**. 2011;290:209-218. [PMID: 22000994]
5. Bhattacharya S, **Manna P**, Gachhui R, Sil PC\*. d-saccharic acid-1,4-lactone ameliorates alloxan-induced diabetes mellitus and oxidative stress in rats through inhibiting pancreatic beta-cells from apoptosis via mitochondrial dependent pathway. **Toxicology and Applied Pharmacology** 2011; 257:272-283. [PMID: 21982801]
6. Bhattacharya S, Chatterjee S, **Manna P**, Das J, Ghosh J, Gachhui R, Sil PC\*. Prophylactic role of D-saccharic acid-1,4-lactone in tertiary butyl hydroperoxide induced cytotoxicity and cell death of murine hepatocytes via mitochondria-dependent pathways. **Journal of Biochemistry and Molecular Toxicology** 2011;25:341-354. [PMID: 21538728]
7. Datta P, Mukhopadhyay AP, **Manna P**, Tiekink ER, Sil PC, Sinha C\*. Structure, photophysics, electrochemistry, DFT calculation, and in-vitro antioxidant activity of coumarin Schiff base complexes of Group 6 metal carbonyls. **Journal of Inorganic Biochemistry** 2011;105:577-588. [PMID: 21419093]
8. Bhattacharya S, **Manna P**, Gachhui R, Sil PC\*. Protective effect of kombucha tea against tertiary butyl hydroperoxide induced cytotoxicity and cell death in murine hepatocytes. **Indian Journal of Experimental Biology** 2011;49:511-524. [PMID: 21800502]
9. Das J, Ghosh J, **Manna P**, Sil PC\*. Taurine suppresses doxorubicin-triggered oxidative stress and cardiac apoptosis in rat via up-regulation of PI3-K/Akt and inhibition of p53, p38-JNK. **Biochemical Pharmacology** 2011; 81:891-909. [PMID: 21295553]

10. Ghosh M, **Manna P**, Sil PC\*. Protective role of a coumarin-derived schiff base scaffold against tertiary butyl hydroperoxide (TBHP)-induced oxidative impairment and cell death via MAPKs, NF- $\kappa$ B and mitochondria-dependent pathways. **Free Radical Research** 2011;45:620-637. [PMID: 21391895]
11. Ghosh J, Das J, **Manna P**, Sil PC\*. The protective role of arjunolic acid against doxorubicin induced intracellular ROS dependent JNK-p38 and p53-mediated cardiac apoptosis. **Biomaterials**. 2011;32:4857-4866. [PMID: 21486680]
12. Ghosh J, Das J, **Manna P**, Sil PC\*. Hepatotoxicity of di-(2-ethylhexyl)phthalate is attributed to calcium aggravation, ROS-mediated mitochondrial depolarization, and ERK/NF- $\kappa$ B pathway activation. **Free Radical Biology and Medicine** 2010;49:1779-1791. [PMID: 20854900]
13. Das J, Ghosh J, **Manna P**, Sil PC\*. Protective Role of Taurine against Arsenic-Induced Mitochondria-Dependent Hepatic Apoptosis via the Inhibition of PKC $\delta$ -JNK Pathway. **PLoS One**. 2010;7:5(9). [PMID: 20830294]
14. Das J, Ghosh J, **Manna P**, Sil PC\*. Acetaminophen induced acute liver failure via oxidative stress and JNK activation: Protective role of taurine by the suppression of cytochrome P450 2E1. **Free Radical Research** 2010;44:340-55. [PMID: 20166895]
15. Mandal J, **Manna P**, Chakraborty P, Roy I, Gupta-Bhattacharya S\*. Clinical and immunobiochemical characterization of airborne Delonix regia (Gulmohar tree) pollen and cross-reactivity studies with Peltophorum pterocarpum pollen: 2 dominant avenue trees from eastern India. **Annals of Allergy Asthma and Immunology** 2009;103:515-24. [PMID: 20084846]
16. Das J, Ghosh J, **Manna P**, Sil PC\*. Taurine protects acetaminophen-induced oxidative damage in mice kidney through APAP urinary excretion and CYP2E1 inactivation. **Toxicology** 2010; 269:24-34. [PMID: 20067817]
17. Ghosh J, Das J, **Manna P**, Sil PC\*. Acetaminophen induced renal injury via oxidative stress and TNF-alpha production: Therapeutic potential of arjunolic acid. **Toxicology** 2010; 268: 8-18. [PMID: 19922764]
18. Ghosh J, Das J, **Manna P**, Sil PC\*. Arjunolic acid, a triterpenoid saponin, prevents acetaminophen (APAP)-induced liver and hepatocyte injury via the inhibition of APAP bioactivation and JNK-mediated mitochondrial protection. **Free Radical Biology and Medicine** 2010;48:535-553. [PMID: 19969075]
19. Roy A, **Manna P**, Sil PC\*. Prophylactic role of taurine on arsenic mediated oxidative renal dysfunction via MAPKs/NF-kappaB and mitochondria dependent pathways. **Free Radical Research** 2009;43:995-1007. [PMID: 19672740]
20. Ghosh J, Das J, **Manna P**, Sil PC\*. Taurine prevents arsenic-induced cardiac oxidative stress and apoptotic damage: Role of NF-kappaB, p38 and JNK MAPK pathway. **Toxicology and Applied Pharmacology** 2009; 240: 73-87. [PMID: 19616567]
21. Das J, Ghosh J, **Manna P**, Sinha M, Sil PC\*. Taurine protects rat testes against NaAsO<sub>2</sub>-induced oxidative stress and apoptosis via mitochondrial dependent and independent pathways. **Toxicological Letters** 2009;187:201-210. [PMID: 19429265]
22. Das J, Ghosh J, **Manna P**, Sinha M, Sil PC\*. Arsenic induced oxidative cerebral disorders: Protection by taurine. **Drug and Chemical Toxicology** 2009;32:93-102. [PMID: 19514944]
23. Ghosh J, Das J, **Manna P**, Sil PC\*. Cytoprotective effect of arjunolic acid in response to sodium fluoride mediated oxidative stress and cell death via necrotic pathway. **Toxicology In Vitro** 2008; 22:1918-1926. [PMID: 18845235]
24. Das J, Ghosh J, **Manna P**, Sil PC\*. Taurine provides antioxidant defense against NaF-induced cytotoxicity in murine hepatocytes. **Pathophysiology** 2008;15:181-190. [PMID: 18676123]

## Review Articles:

---

1. **Manna P**, Das J, Sil PC\*. Role of sulfur containing amino acids as an adjuvant therapy in the prevention of diabetes and its associated complications. **Current Diabetes Reviews** 2013;9:237-248. [PMID: 23547683]
2. **Manna P**, Sil PC\*. Arjunolic Acid: Beneficial role in type 1 diabetes and its associated organ pathophysiology. **Free Radical Research** 2012;46:815-830. [PMID: 22486656].

## Academic Conference Presentations:

---

1. **Manna P**, Jain SK. Vitamin D (VD) prevents oxidative stress via regulating NOX4/Nrf2/Trx signaling cascade and upregulates SIRT1-mediated AMPK/IRS1/GLUT4 pathway and glucose uptake in high glucose treated 3T3L1 adipocytes. Experimental Biology Annual Meeting, Boston, MA, 2015. **(Oral Presentation)**
2. **Manna P**, Jain SK. SIRT1 dependent IRS1 phosphorylation mediates the effect of vitamin D (VD) on GLUT4 translocation and glucose utilization via PI3K/PTEN/PTP1B/ PIP3/AKT/PKC $\zeta$ / $\lambda$  signaling cascade in high glucose treated 3T3L1 adipocytes. Experimental Biology Annual Meeting, San Diego, CA, 2014. **(Oral Presentation)**
3. **Manna P**, Jain SK. Decreased cystathionine- $\gamma$ -lyase (CSE) activity in livers of type 1 diabetic rats and peripheral blood mononuclear cells (PBMC) of type 1 diabetic patients. Experimental Biology Annual Meeting, San Diego, CA, 2014. **(Accepted for Travel Award)(Poster Presentation)**.
4. **Manna P**, Jain SK. Vitamin D receptor (VDR) activation, H<sub>2</sub>S formation, and ROS inhibition mediate the effect of vitamin D on glucose transporter 4 (GLUT4) translocation and glucose utilization in high glucose treated 3T3L1 adipocytes. American Diabetes Association Annual Meeting, Chicago, IL, 2013. **(Poster Presentation)**.
5. **Manna P**, Jain SK. Cystathionine- $\gamma$ -lyase (CSE) activation and H<sub>2</sub>S formation mediate the effect of vitamin D on glucose transporter 4 (GLUT4) translocation and glucose utilization in high glucose treated 3T3L1 adipocytes. Experimental Biology Annual Meeting, Boston, MA, 2013. **(Accepted for Travel Award)(Poster Presentation)**.
6. **Manna P**, Jain SK. Vitamin D supplementation increases glucose metabolism mediated by cystathionine- $\gamma$ -lyase (CSE) activation and glucose transporter 4 (GLUT4) translocation in high glucose treated 3T3L1 adipocytes. LSU Health Graduate Research Day, Shreveport, LA, 2013. **(Oral Presentation)**
7. **Manna P**, Jain SK. H<sub>2</sub>S and L-Cysteine Increase the Glucose Utilization via the PIP3 Mediated Insulin Dependent (PI3K/AKT) and the Insulin Independent (SIRT1/AMPK/PPAR $\gamma$ ) Signaling Cascades in U937 Human Monocytes Exposed to High Glucose (HG). Experimental Biology Annual Meeting, San Diego, CA, 2012. **(Accepted for Travel Award)(Poster Presentation)**.
8. **Manna P**, Jain SK. H<sub>2</sub>S and L-Cysteine Increase the Glucose Utilization via the PIP3 Mediated Insulin Dependent (PI3K/AKT) and the Insulin Independent (SIRT1/AMPK/PPAR $\gamma$ ) Signaling Pathways in U937 Monocytes and 3T3L1 Adipocytes. LSU Health Graduate Research Day, Shreveport, LA, 2012. **(Poster Presentation)**.
9. **Manna P**, Jain SK. PIP3 but not PIP2 increases insulin stimulated glucose uptake and glucose utilization mediated by the activation of PKC $\zeta$ / $\lambda$ /GLUT4 signaling pathway in type 2 diabetic rat liver and 3T3L1 adipocytes. American Diabetes Association Annual Meeting, Philadelphia, PA, 2012. **(Poster Presentation)**.
10. **Manna P**, Jain SK. Hydrogen sulfide and L-cysteine increase PIP3 and glucose utilization by inhibiting PTEN and activating PI3K/ AKT/ PKC in 3T3L1 adipocytes. Society for Free Radical Biology and Medicine Annual Meeting, Atlanta, GA, 2011. **(Oral Presentation)**
11. **Manna P**, Sil PC. Prophylactic role of *Terminalia arjuna* in toxin induced cardiac pathophysiology and diabetic cardiomyopathy. Delhi Pharmaceutical Sciences and Research University, Delhi, India, 2010 **(Best Oral Presentation Award)**
12. **Manna P**, Sil PC. Prophylactic role of *Terminalia arjuna* in organ pathophysiology and type 1 diabetes as well as its associated complications. INSA Platinum Jubilee International Symposium on Research in Molecular Medicine Based on Natural Resources and Traditional Knowledge, National Chemical Laboratory, Pune, India, 2009. **(Poster Presentation)**.
13. **Manna P**, Sil PC. Prophylactic role of *Terminalia arjuna* in Pathophysiology. International Symposium on Perspectives of Cell Signaling and Molecular Medicine, Bose Institute, Kolkata, India, 2008. **(Poster Presentation)**.