PRADIP KUMAR SARKAR
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EDUCATION

2014	M.D. (Alternative Medicine)	Indian Board of Alternative Medicine, India
1995	Ph.D. Biochemistry (Thyroid Neuroendocrine Biochemistry)	Bose Institute, University of Calcutta, India
1987	M.Sc. Biochemistry (Spl: Neurochem. & Biochem. Pharmacol.)	University of Calcutta, India.
1984	B.Sc. Major: Chemistry (Honors): Minor: Physics, Math, English	University of Calcutta, India.

APPOINTMENTS

2014 - present	**Professor,** Department of Basic Sciences, **Parker University**, Dallas, TX.
2010 - 2014	**Associate Professor**, Department of Basic Sciences, **Parker University**, Dallas, TX, USA.
2011 – 2017	**Chairperson**, Institutional Animal Care & Use Committee (**IACUC**), **Parker University**, Dallas, TX, USA
2009 - present	Member of Institutional Review Board, **Parker University**, Dallas, TX, USA
2008 - 2010	**Assistant Professor**, Department of Basic Sciences, **Parker University,** Dallas, TX, USA
2009 - present	Member of the Faculty Senate, **Parker University,** Dallas, TX, USA
2009- 2011	Member of the Constitution & Faculty Handbook Committee, **Parker University,** Dallas, TX, USA
2005 - 2008	**Assistant Professor**, Basic Sciences & Research Dept, **New York Chiropractic College**, NY, USA
2005 - 2008	Member of Institutional Review Board, **New York Chiropractic College**, NY, USA
2005 - 2008	Member of Seed Money Grant Committee, **New York Chiropractic College**, New York (NY), USA
2001 - 2008	Member of the Graduate Program Committee, **Rutgers University**, Camden, NJ, USA
2001 - 2005	**Assistant Professor**, Dept. of Biology, **Rutgers University**, Camden, NJ, USA
2000 - 2001	**Postdoctoral Associate & Part Time Lecturer,** Dept. of Biology, **Rutgers University**, Camden, NJ, USA
1999 - 2000	**Postdoctoral Research Fellow**, Dept. of Pathology, **Tufts Univ. School of Medicine**, MA, USA
1998 - 1999	**Postdoctoral Research Fellow and Junior Faculty**, Dept. of Medicine, **Dual appointment** at **Harvard Medical School & Beth Israel Deaconess Medical Center, Harvard University**, MA, USA
1996 - 1998	**Young Scientist (DST)**, Govt. of India, Dept. of Animal Sciences., **Hyderabad University**, India
1994 - 1996	**Scientist (DST)**, Govt. of India, Dept. of Immunotechnology, **Bose Institute**, Calcutta, India
1988 - 1993	Ph. D. Student, Dept. of Animal Physiology, **Bose Institute**, Calcutta, India

AWARDS, FELLOWSHIPS AND HONORS

2014	Awarded Faculty of the Year, Parker University Faculty Senate.
2012- present	Editorial Board Member/Scholarly Reviewer/Faculty Biochemistry in WebmedCentral plus Biochemistry.
2010	**Certificate of Appreciation** for Outstanding Performance and Long Lasting Contribution to: Parker University College of Chiropractic Students, Awarded: March 17, 2010 by Class of April 2012.
2005	**Faculty Academic Service Increment Program (FASIP)**. Rutgers University, New Jersey, USA
2003	**Faculty Academic Service Increment Program (FASIP)**. Rutgers University, New Jersey, USA.
2002	**Summer FIPSE Fellowship**, Teaching Excellence Center, Rutgers University, New Jersey, USA.
1996-1998	***Young Scientist Award,*** Department of Science & Technology (DST), Govt. of India, India.
1990-1993	***Senior Research Fellowship***, Council of Scientific and Industrial Research, Govt. of India.
1989-1990	***Junior Research Fellowship***, Council of Scientific and Industrial Research, Govt. of India.

SCHOLARLY ACTIVITIES:

- **Reviewer of Grant Proposals**: (1) Wellcome Trust, London, United Kingdom; (2) Seed Money Grant Committee, New York Chiropractic College, USA.
- **Reviewer of Ph. D. Thesis**: Vidyasagar University, West Bengal, India.
- **Reviewer of Master Thesis**: Rutgers University, Camden, New Jersey, USA.
- **Manuscript Peer Reviewer of the following journals:** (1) Neuroscience, USA; (2) Indian Journal of Experimental Biology, India; (3) Medical Science Monitor, New York, USA; (4) Thyroid Science, Florida, USA; (5) WebmedCentral Biochemistry, WebmedCentral Endocrinology, UK; (6) Dove Medical Press Journals, UK: (i) Research and Reports in Biochemistry; (ii) Nutrition and Dietary Supplements; (iii) Journal of Receptor, Ligand and Channel Research; (iv) Research and Reports in Biology.

GRANTS

2005-2008	**Principal Investigator**, *Thyroid Hormone Signaling in Adult CNS,* New York Chiropractic College & ***Foot Levelers Inc***., USA. $80,000.
2007	**Principal Investigator,** Thyroid hormone signaling in adult central nervous system, R15 Grant *Submitted in June 25th, 2007* to NIH. Not funded.
2004-2007	**Co-Principal Investigator**. *Acquisition of Instruments for Biochemistry Research*. ***National Science Foundation***, USA. $306,491. (Co-PI: Dr. Joseph V. Martin).
2003-2004	**Principal Investigator**. *Studies on adrenergic effects of thyroid hormones on adult rat brain synaptosomes*. ***Rutgers Undergraduate Research Fellow Program***. $1500.
2003-2004	**Co-Principal Investigator**. *Non-genomic Metabotropic Effects of Thyroid Hormone in Adult Rat Brain.* ***National Science Foundation Research Experiences for Undergraduates Supplement*** (Co-PI: JV Martin). $14,625.
2002	**FIPSE Grant**, ***Teaching Excellence Center***, Rutgers University, Camden, New Jersey. $3000. For development of web-based course.
2002	**FIPSE Grant**, ***Teaching Excellence Center***, Rutgers University, Camden, New Jersey. $600. For Equipment and software needed for development of web-based course.
2002-2005	**Co-Principal Investigator**. *Scanning Electron Microscope for Collaborative Use at Rutgers-Camden*. ***National Science Foundation***, USA. $165,100 (Co-PI: Dr. Joseph V. Martin).
2002-2003	**Co-Principal Investigator.** *Nongenomic Metabotropic Effects of Thyroid Hormones in Adult Rat Brain*. ***National Science Foundation***, USA. $89,791 (Co-PI: Joseph V. Martin).
1996-1998	**Principal Investigator.** *Thyroid hormone Involvement in Neuronal Plasma Membrane Function in Adult Rat Brain.* ***Dept. of Science & Technology,*** Govt. of India, Rs. 446,000 Indian Currency ($12,388).
1988-1993	**Principal Investigator** for conducting Ph. D. *Thyroid hormone action in adult rat brain*. ***Council of Scientific & Industrial Research***, Govt. of India. Rs. 163,800 Indian Currency ($ 5,118).

TEACHING EXPERIENCES: 16 + years

Teaching: I have about 16+ years of teaching experience and ***taught Masters', Bachelors', Associates' and Doctor of Chiropractic students***. Over several years I have taught, developed, organized, re-arranged and revised few important courses in the major area of biological sciences including laboratories in which I have been the Course Director. I taught these courses at Rutgers University (2000–2005), Camden County Community College (2003–2005), and in Professional Institution, such as New York Chiropractic College (2005–2008), and Parker University (September 2008–till date). The major area of the courses I taught at various levels were on the general discipline of *Biochemistry, Physiology, Immunology, Endocrinology, Neurochemistry, Pathophysiology, Human Anatomy & Physiology, General Biology and Human Biology*. Brief description of these courses are listed and described below:

Web-based Course Development: I previously developed few web-based courses using WebCT, e-racer, and presently using Black Board (web class teaching) and other on-line learning tools in which I was the Course Director.

Publishing books: I published two companion books to guide student learning and developed lecture and laboratory manuals for my courses with continuous update throughout the trimesters.

Teaching strategies: My teaching strategies include but not limited to application of basic concepts followed by clinical and applied approach. As a Tri 1 and Tri 2 Faculty I took and actively participated in Parker University Quality Enhancement Plan (QEP) workshops, Black Board workshops, Lecture Tools and ECHO360 workshops to engage students and enhance students learning and achievement in last couple of years (2011 – 2012), implemented QEP in my courses and continuously monitoring, evaluating and taking active and continuous challenges to improve from peer review observations and critiques.

Mentoring students: I also mentored few students to prepare their Masters' Thesis, projects, seminars, manuscripts, and conference presentations.

LIST OF COURSES TAUGHT & CURRENTLY TEACHING:

A. <u>As Full Time Faculty and Course Director</u>

(1) ***<u>Department of Basic Sciences</u>***, Parker University, Dallas, Texas, USA

- **Biochemistry-I (**3 credits):Spring, Summer & Fall (enrollment: ~ 60 – 120 students)
- **Biochemistry II** (3 credits): Spring, Summer & Fall (enrollment: ~ 60 – 120 students)
- **Physiology I** (5 credits with lab): Team-taught course (Co-Instructor): Spring, Summer & Fall (enrollment: ~ 60 – 120 students)

(2) ***<u>Department of Basic Sciences and Research</u>***, New York Chiropractic College, New York, USA

- **Systems Physiology** (5 credits with laboratory): Spring, Summer & Fall (enrollment: ~30-100 students)

(3) ***<u>Department of Biology</u>***, Rutgers University, Camden, New Jersey, USA.

- ***Neurochemistry*** (3 credits) to graduate **Masters** (**MS**) students with Biology Major; *enrollment 15-20*
- ***Mammalian Physiology*** (3 credits) to graduate **MS** students with Biology Major, *enrollment 15-20*
- ***Immunology*** (3 credits) to graduate **MS** students with Biology Major*; enrollment 15-20*.
- ***Endocrinology*** *(3 credits) to graduate* ***MS*** *students with Biology Major; enrollment 8-10.*
- ***Pathophysiology*** (3 credits) to undergraduate **Bachelors (BS)** nursing students; *enrollment 50-60*.
- ***Facts of Life*** (3 credits), an introductory biology course for undergraduate **BS** students with Non-Science Major; *enrollment 150 (day class), 120 (evening class)*. .
- <u>Six *Teaching Excellence Courses*</u> for "smart class room teaching" *including web class teaching* (*WebCT*) organized by Teaching Excellence Department, Rutgers University, USA.

B. <u>As Adjunct Faculty & Course Director</u>

(1) ***<u>Department of Chemistry</u>***, Rutgers University, Camden, New Jersey, USA

- **General Biochemistry II** (4 credits with laboratory). Graduate **MS** and Undergraduate **BS**

(2) ***<u>Department of Biology</u>***, Camden County College, Camden, New Jersey, USA

- **Biology I** (4 credits with laboratory): **Associate degree**
- **Anatomy & Physiology I** (4 credits with laboratory) : **Associate degree**
- **Human Biology** (3 credits) : **Associate degree**

C. <u>As Research Advisor</u>: *<u>Total 16 students</u>*: 4 White Americans, 6 Asians, 1 Canadian, 5 African-Americans

- **Graduate Masters' Thesis (completed):** 3 (Rutgers University, Camden, New Jersey)
- **Graduate Masters' Thesis (Incomplete, on-going):** 1 (Rutgers University, Camden, New Jersey)
- **Graduate Lab Rotation:** 1
- **Undergraduates Research (completed):** 7 (Rutgers University, Camden, New Jersey)
- **Work Study Students':** 4 (New York Chiropractic College, Seneca Falls, New York)

Teaching Portfolio available on request.

Memberships in Professional Societies

- American Association for the Advancement of Science (1999 – 2008).
- Society for Neuroscience (2000 – present)
- International Brain Research Organization (2005 – present)
- Science Advisory Board (2000- present)
- Community of Science (COS) (1998 – present)

- Index Copernicus Scientists (2005 – present)
- WebmedCentral Biochemistry Editorial Board Member, UK (2011 – present).

Citizenship activities/Services to Institution and Community:

- Chairperson, Institutional Animal Care and Use Committee (IACUC), Parker University, USA (2011 -2017)
- Faculty Mentor for AATP students, Parker University, Dallas (2014 – present)
- Faculty Advisor for Parker University Students' Nutrition Club (2012 – present)
- Member of the Parker University Quality Enhancement Plan Advisory Committee (2012 - present).
- Member of Institutional Review Board at Parker University, Dallas (2009- Present)
- Participation in Parker University Student Orientations and Open House (2008 – present)
- Participation in Faculty-In-Services, Departmental and Center Meetings, and Assemblies (2008- Present)
- Member of the Faculty Senate, Parker University, Dallas, Texas (2008 - present)
- Participation in Faculty-In-Service Meetings, Parker University, USA (2008 – present)
- Participation in Parker University Student Orientations and Open House (2008 – present)
- Participation in Faculty-In-Services, Departmental and Center Meetings, and Assemblies (2008- Present)
- Member of the Parker University Admissions Committee (2013)
- Member of the Parker University Faculty Senate Judiciary Committee (2012-2013)
- Site-Team Visitor of the Council of Chiropractic Education (CCE), USA (2010-2013):
- Member of the Constitution & Faculty Handbook Committee, Parker University, Dallas (2009- 2011)
- Member of Seed Money Grant Committee, New York Chiropractic College (NYCC) (2005-2008)
- Member of Institutional Review Board, NYCC (2005-2008)
- Member of Research Committee, NYCC (2005-2008)
- Member of Institutional Animal Care and Use Committee, NYCC (2005 – 2008)
- Member of Faculty Senate, NYCC (2005-2008)
- Participation in Faculty-In-Service Meetings, NYCC (2005-2008)
- Participation in Departmental Meetings in Basic Sciences and Research Departments, NYCC(2005-2008)
- Participation in Institutional Faculty Meetings, NYCC (2005-2008)
- Participation in Annual Research Symposium Meetings, NYCC (2005-2008)
- Examiner of Ph. D. Thesis from Vidyasagar University, India
- Examiner of MS thesis at Rutgers University, New Jersey.
- Judge, Poster session for Medical Graduate Students, Univ. of Medicine & Dentistry, New Jersey, Stratford (2004).
- Judge, Science Fair for K12 School Students, in Biochemistry by Corriell Institute, Camden, New Jersey (2003).

INVITED LECTURES:

1. Bose Institute, Calcutta, India (August 2004): Thyroid hormone action on $GABA_A$ receptor pharmacology.
2. Chicago State University, Dept. of Biology (September, 2004): Thyroid Hormone Signaling in Adult Mammalian Brain.
3. William Patterson University, Dept. Biology, New Jersey (February, 2005): A Novel Biomatrix from Bovine Liver.
4. Auburn University, Dept. of Biology, Montgomery, Alabama (March, 2005): Neuroactive Role of Thyroid Hormones in Adult Mammalian Brain.
5. New York Chiropractic College, Department of Basic Sciences, Seneca Falls, New York (April 2005): A Novel Mechanism of Thyroid Hormones Action in Mature Rat Brain.
6. Gloucester County College, New Jersey (April 2005): Cell: Structure & Function.
7. Bose Institute, Calcutta, India (August 2007): Neuroactive role of thyroid hormone and protein phosphorylation in adult rat brain.
8. Texas A & M University, Dept. of Biology, Commerce. (November 2007): Thyroid hormone-protein interactions transduce neuronal signals.
9. Parker University, Department of Basic Sciences, Dallas, Texas (April 2008): Membrane potentials
10. Mississippi University of Women, Dept. of Biology, Mississippi (April 2008): Kidney: A major vertebrate excretory and fluid balance organ.

11. Guest Speaker in *International Forum of Neuroscience Conference* in Nanjing, China: Nongenomic actions of L-triiodothyronine modulate calcium and calmodulin-dependent protein phosphorylation in mature rat cerebrocortical synaptosomes. (July 8-10, 2011).
12. Guest Speaker in the Department of Chemistry and Biochemistry, University of Arlington, Arlington, Texas: Thyroid hormone action in adult mammalian brain: Neuronal membrane as a novel site. (December 5, 2012).
13. Chair of the Session and Guest Speaker. In: Session 2-3: Thyroid Disease and Cancer, 4th World Congress of Endobolism (WCE-2014), Haikou, China: L-Triiodothyronine-second messenger interaction mediates neuronal signaling in adult rat brain synaptosomes (Nov. 13-16, 2014).

Brief Research Experiences: 25+ years

- Molecular mechanism of thyroid hormone action and signal transduction in adult rat brain with special reference to thyroid hormone binding to a novel neuronal plasma membrane receptor followed by activation of second messenger systems and subsequent protein phosphorylation mechanisms mediated through protein kinases and protein phosphatases.
- Thyroid hormone induced modulation of γ-aminobutyric acid (GABA) binding to ionotropic $GABA_A$ receptor.
- Immune cell mediated signal transduction: role of transcription factor, TF II-I.
- Isolation and characterization of basement membrane proteins and their potential role in anti-angiogenesis, integrin-binding to cell surface receptors, cell apoptosis and integrin-mediated signal transduction.
- Anti-carcinogenic action of Protein A and role of hormones.
- Isolation and characterization of protein kinases and protein phosphatases from *Leishmania donovani*.

Major Scientific Expertise and Techniques known

- Animal Handling (Rat, Mice, Guinea pig, rabbit), Brain and animal organ dissection and tissue collection, subcellular fractionation, Cell culture
- Assay of biogenic amines and their metabolites.
- Assay of enzyme activities and enzyme kinetics
- Protein chemistry: Purification and characterization of proteins by SDS-PAGE, column chromatography
- Immunological techniques: Radioimmunoassay (RIA), ELISA, Immunofluroscence, Immunoblotting (Western blot), immunoprecipitation.
- Receptor Binding: Structure-function analysis of receptors; Radio-isotopic receptor-ligand interaction
- Determination of calcium flux, and chloride flux in brain
- Signal transduction: Use of receptor agonists and antagonists, G protein signaling, protein kinase assay, protein phosphorylation and autoradiography, Phosphoimaging.
- Molecular biology: Transfection, PCR, primer labeling, restriction digestion, Northern/Southern blot
- Stereotaxic implantation of cannulae in rat brain and intracranial injection of drugs
- Electroencephalography (EEG); Electromyography (EMG).

Major Research Interests: Mechanism of Thyroid Hormone Action in Adult Mammalian Brain

My research is in the area of basic neuroendocrinology. My primary research goal is to identify the mechanism of thyroid hormone action in adult mammalian brain.

Background information: Thyroid hormones have profound effects in growth and development in brain tissues. The classical mechanism of thyroid hormone action is mediated via activation of thyroid hormone nuclear receptors leading to gene expression followed by protein synthesis. However, this mechanism does not exist in adult humans. Several neurological and psychological abnormalities, like anxiety, depression, mood disorders, senile type of Alzheimer's disease etc., occur during thyroid hormone disorders produced in adult humans after the brain maturation is completed. These situations can be corrected by proper adjustment of circulatory thyroid hormone. Recently thyroid hormones are used by many psychotherapists as an anti-depressant. Although the mechanism of action of thyroid hormones is not clear in adult humans, recent ideas of nongenomic actions of thyroid hormones are generating interests. The present focus of the research is to unveil the mechanism of action of thyroid hormone in adult mammalian nervous system. The underlying signal transduction mechanism of thyroid hormones is being studied in this laboratory. For example, protein phosphorylation is one of the important mechanisms to study neural functions. Since thyroid hormones have structural similarities with the classical neurotransmitters, such as, norepinephrine and dopamine, it may have also neurotransmitter-like functions or may act as neurotransmitter itself. Our investigation will lead to search for mechanism of action of thyroid hormones in mature mammalian brain. Present

research is focused on to study G protein linked signal transduction mechanisms, involvement of second messenger molecules, protein phosphorylation, measurement of thyroid hormones at different stress conditions and its modulatory activities, if any, as well as during neuroinflammation. We will also determine if thyroid hormones have any influence in pain perception, especially during neuroinflammations.

Research Goal: The purpose of the experiments proposed is to examine the following sets of questions designed to clarify a novel non-genomic mechanism of action of thyroid hormones (TH) in adult mammalian brain and search for potential neuroactive role of TH in relation to higher mental functions in humans. Particularly, the possible neurotransmitter-like effects of TH on metabotropic neuronal membrane receptor to stimulate a second messenger pathway leading to neuronal protein phosphorylation is being investigated.

As Research Advisor & Advisory Committee Member: Graduate (Masters)/Undergraduate (Bachelors)

Graduate Masters' Thesis (completed): 5 (Rutgers University, Camden Campus, New Jersey, USA):

PLAN A. Experimental Laboratory-based Research: Master Degree Thesis

1) ***Kadiri, Adnan*** (**student**), Martin JV (Co-Advisor & Thesis Co-Director), **Sarkar PK (Co-Advisor & Thesis Co-Director)** (2004): In search for specific ligand(s) that modulate nongenomic effect of thyroid hormone in adult rat brain: radioligand binding assay. Rutgers University, Camden, New Jersey, USA.

2) Morris, Jason J (**student**), Martin JV (Co-Advisor & Thesis Co-Director), **Sarkar PK (Co-Advisor & Thesis Co-Director)** (2005): In vitro actions of thyroid hormone on protein phosphorylation in a nucleus-free subcellular fraction from adult rat brain. Rutgers University, Camden, New Jersey, USA.

3) Biswas, Avijit (**student**), Martin JV (Co-Advisor & Thesis Co-Director), **Sarkar PK (Co-Advisor & Thesis Co-Director)** (2006): Effect of thyroid hormones on Na^+-K^+-ATPase specific activity of cerebrocortical synaptosomes from adult rat brain. Rutgers University, Camden, New Jersey, USA.

PLAN B. Theoretical Literature-based Research: Master Degree Thesis

4) Garcia, Deborah (student), Dr. Lee H (Committee member), Dr. Joslyn DJ (Advisor), **Dr. Sarkar PK (Committee member)** (Fall 2002**)**: *How is genomic imprinting regulated?* Rutgers University, Camden, New Jersey, USA.

5) Ouyang, Wayne (student), Dr. Lee H (Committee member), Dr. Joslyn DJ (Committee member), **Dr. Sarkar PK (Advisor & Thesis Director)** (Fall 2002): *The properties of 3,4-methylenedioxy-methamphetamine (MDMA) & its profound effects on the human body.* Rutgers University, Camden, New Jersey, USA.

6) Austin, James (**student**), Dr. Martin JV (Committee member), Dr. **Sarkar PK** (**Committee member**), Dr. McIlroy PJ (Advisor) (Fall 2003): *Cartilage metabolism in the synovial joint.*

7) Rosenmann, Jeffery S (**student**), Dr. Shain D (Co-advisor & Thesis Director) **Dr. Sarkar PK (Co-Advisor & Thesis Co-Director)** (Spring 2006): Periodontal diseases.

- **Graduate Masters' Thesis in Experimental Research (Incomplete, on-going): Natasha Durga (student).**1 (Rutgers University, Camden Campus).

- **Undergraduate Lab Rotation: 5** (one semester in Spring 2004):

    1). Nyree Adams (2004): Rotation (one semester)
    2). Maham Saleem (2004): Rotation (one semester)
    3). Kevin Patel (2004): Rotation (one semester)
    4). Anita Balan (2004- 2005)
    5). Jenny Yuen (2004 – 2005)

- **Undergraduate Research (completed): 5** (Rutgers University, Camden Campus)

    1) Jenny Yuen (2004-2005)
    2) Anita Balan (2004 – 2005)
    3) Natasha Durga (2002-2003)
    4) Jason J Morris (2002-2003)
    5) Adnan Kadiri (2002-2003)

- **Work Study Students' in Research: 6** (New York Chiropractic College, Seneca Falls, New York). Doctor of Chiropractic students.

    1). Keith Lavalliere (January 2006 – January 2007)
    2). Jill Deveau (January 2006 – August 2006)
    3). Katelyn Thomas (January 2007- January 2008)
    4). David Chicoine (January 2008 – September 2008)
    5). Sorayya Tulue (January 2007 – September 2008)
    6). James Toldi (January 2007 – September 2007)

Students' Training: Students were trained in basic biochemical laboratory techniques:

- Subcellular fractionation from brain tissues: preparation of synaptosomal (neuronal), mitochondrial, cytosolic and membrane fractions.
- Protein chemistry: Protein assay using spectrophotometer; gel electrophoresis
- Immunological techniques: Western blot for protein transfer; Immunoblotting with specific antibody probes, and detection of proteins in blots and in X-ray films
- Enzyme assay using spectrophotometer
- General biochemistry research laboratory training: pH measurement and calibration; micro-pipetting; preparation of buffer solutions and various laboratory reagents; centrifugation processes.

LIST OF PUBLICATIONS

Papers:

1. **Sarkar PK,** Ray AK (1992): A simple biochemical approach to differentiate synaptosomes and non-synaptic mitochondria from rat brain. ***Methods and Findings in Experimental and Clinical Pharmacology*, 14**(7): 493-497.
2. **Sarkar PK,** Ray AK (1993): Synaptosomal action of thyroid hormone: Changes in Na^+-K^+-ATPase activity in adult rat cerebral cortex. ***Hormone and Metabolic Research***, **25**: 1-3.
3. **Sarkar PK,** Ray AK (1994): Synaptosomal T_3 content in cerebral cortex of adult rat in different thyroid states. ***Neuropsychopharmacology*, 11**: 151-155.
4. **Sarkar PK,** Ray AK (1998): Specific binding of triiodothyronine modulates Na^+-K^+-ATPase activity in adult rat cerebrocortical synaptosomes. ***Neuroreport*, 9**:1149-1152.
5. Chaudhuri A, Krishnan N (**graduate student**), **Sarkar PK**, Sinha AK, Sinha SS, Ray AK (1998): Octopamine titer in the circulating fluid of tropical tasar silkworm Antheria mylitta Drury (Lepidoptera: Saturniidae) and its response to injected estrogen during critical phase of diapause termination. ***Current Science,* 74**: 695-699.
6. Collorado P, Torre A, Kamphaus G, Maeshima Y, Hopfer H, Takahashi K, Volk R, Zamborsky ED, Herman S, **Sarkar PK**, Ericksen MB, Dhanabal M, Simons M, Post M, Kufe DW, Weichselbaum RR, Sukhatme VP, Kalluri R (2000): Anti-angiogenic cues from vascular basement membrane collagen. ***Cancer Research***, **60**(9): 2520-2526.
7. **Sarkar PK** and Ray AK (2001): Possible involvement of thyroid hormone in cholinergic neurotransmission in adult rat brain. ***Hormone and Metabolic Research* 33**: 270-275.
8. Chaudhuri A, Krishnan N (**graduate student**), **Sarkar PK**, Ray AK (2001): Octopamine regulated diapause termination and its response to exogenous L-DOPA during critical phase of pupal diapause in Tasar silkworm *Antheraea mylitta Drury* (Lepidoptera: Saturniidae). ***Entomon* 26**: 198-206.
9. **Sarkar PK** (2002): A quick assay for Na^+-K^+-ATPase specific activity. ***Zeitschrift fur Naturforschung***, **57C** (5/6): 562-564.
10. McDonald GA, **Sarkar PK**, Rennke H, Unemori E, Kalluri R, Sukhatme VP (2003): Relaxin increases ubiquitin dependent degradation of fibronectin *in vitro* and ameliorates renal fibrosis *in vivo*. ***American Journal of Physiology* (*Renal Physiol)* 285**: F59-F67.
11. **Sarkar PK,** Ray AK (2003): Calcium mobilization within hypothyroid adult rat brain synaptosomes. ***Hormone and Metabolic Research* 35 (9)**: 562-564.
12. **Sarkar PK**, Dey SS, Koley BN, Koley J, Ray AK (2004): Putative L-triiodothyronine receptors in the liver nuclei of mature tropical toad, *Bufo melanostictus*. ***Zeitschrift fur Naturforschung* 59 C*:*** *123-126*.
13. **Sarkar PK**, Durga ND (**graduate student**), Morris JJ (**graduate student**), Martin JV (2006): *In vitro* thyroid hormone rapidly modulates protein phosphorylation in cerebrocortical synaptosomes from adult rat brain. ***Neuroscience* 137** (1): 125-132.
14. Zeisberg M, Kramer K, Sindhi N, **Sarkar PK**, Upton M, Kalluri R (2006): De-differentiation of primary human hepatocytes depends on the composition of specialized liver basement membrane. ***Molecular and Cellular Biochemistry* 283**(1-2): 181-189.
15. **Sarkar PK** (2008): L-Triiodothyronine differentially and nongenomically regulates synaptosomal protein phosphorylation in adult rat brain cerebral cortex: role of calcium and calmodulin. ***Life Sciences* 23**: 82(17-18): 920-927.
16. **Sarkar PK** (2010): Subcellular levels of thyroid hormones in adult rat brain cerebral cortex. ***Thyroid Science* 5 (4)**: CLS 1-4.
17. **Sarkar PK,** Morris JJ (graduate student), Martin JV (2011): Calmodulin-dependent rapid nongenomic effect of L-triiodothyronine on synaptosomal protein phosphorylation in adult rat cerebral cortex. ***Indian Journal of Experimental Biology 49 (3):*** 169-176.
18. Das RN, **Sarkar PK** (2012): Lifestyle characteristics and dietary impact on plasma concentrations of beta-carotene and retinol. ***Biodiscovery* 3 (3):** 1- 12**;** DOI:10.7750/BioDiscovery.2012.3.3.
19. **Sarkar PK**, Biswas A, Ray AK, Martin JV (2013): Mechanisms of L-triiodothyronine-induced inhibition of synaptosomal Na^+-K^+-ATPase activity in young adult rat brain cerebral cortex. ***Journal of Thyroid Research***. 2013 (2013), Article ID 457953, 1-9. doi: http://dx.doi.org/10.1155/2013/457953.

Invited Review.

20. **Sarkar PK** (2002): In quest of thyroid hormone function in mature mammalian brain. ***Indian Journal of Experimental Biology***, **40**: 865-873.

Ph. D. Thesis:

21. **Sarkar, Pradip K.** (1995): Thyroid hormone action in synaptosome of adult rat brain, **Bose Institute**, ***University of Calcutta, India***.

Popular Science Article:

22. De AK, **Sarkar PK** (1987): Heroin: Use and misuse. ***Science Reporter*****,** November issue, p. 597-598.

Invited Book Chapter:

23. Ray AK, **Sarkar PK** (1997): The action of thyroid hormone in adult mammalian neuron: Synaptosome as a novel site. In: ***Frontiers in Environmental and Metabolic Endocrinology*****,** pp. 229-239. Ed. S. Maitra, University of Burdwan.

24. Sarkar PK (2012): "Quo Vadis?" Deciphering the code of nongenomic action of thyroid hormones in mature mammalian brain. In: "***Thyroid Hormone***", pp. 1-36. ISBN 980-953-307-179-9. Ed. N.K. Agarwal. Publisher: Intech, Croatia.

25. Sarkar PK (2014)**:** On the trail of thyroid hormone receptor epigenetics. In "**Gene Regulation, Epigenetics and Hormone Signaling"**, edited by Dr. S. Mandal. Publishing Editor: Gregor Cicchetti, Wiley-VCH in Weinheim, Germany. (accepted).

Scholarly Reviews/Comments of Articles:

26. Sarkar PK (June 9, 2012): Verification of the relationship among the reproductive hormones and thyroid dysfunction in polycystic ovarian syndrome. [Review of the article 'Reproductive Hormone and Thyroid Hormone Profile in Polycystic Ovarian Syndrome ' by Malik I]. ***WebmedCentral Endocrinology*** 3(6):WMCRW001894.

27. Sarkar PK (July 3, 2012): Impact of induction of dietary stress by diabetes and starvation on adrenocortical anatomy and energy metabolism. [Review of the article ' Dietary Stress and Energy Metabolism: Evaluation of the Adrenal Cortex ' by Shotunde D]. ***WebmedCentral*** 3(7):WMCRW002020.

28. Sarkar PK (July 3, 2012): Awareness to improve educational aspects on prevalence of diabetes and its management: An assessment study of diabetes mellitus in India and Nepal. [Review of the article 'Assessment of Diabetes Mellitus in India and Nepal ' by Kalai R]. ***WebmedCentral Biochemistry*** 3(7):WMCRW002021.

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