

# Curriculum Vitae of Dr. N. Sivaprasad

## Personal Information:

**Name:** Dr. N. Sivaprasad

**Designation:** Former Senior General Manager, Radiopharmaceutical Production, BRIT

## Address (Residence):

2, Century Apartment, Road No 5,  
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## Current position:

**Senior General Manager**  
(Radiopharmaceuticals)  
Board of Radiation and Isotope Technology [BRIT]  
Dept Atomic Energy

## Education:

Title	Year of passing	Institution	Major field of work
Post Doctoral Fellowship	1989-1991	University of Alberta, Edmonton Canada	Preparation of Bispecific monoclonal antibody by hybrid-hybridoma and radiolabelling of antibodies for immunoscintigraphy
PhD Chemistry	1987	University of Bombay,	Thesis title - Radioimmunoassay of polypeptide hormones
Diploma in Computer Management	1981	SIES Institute of Management Studies	Computer program (BASIC, FORTRAN and COBAL) Operation Research and Management Science.
Training in Chemistry at BARC	1975	BARC Training School [18 <sup>th</sup> Batch]	Sub: Radiochemistry, Nuclear Chemistry Radio-analytical chemistry, Radiation chemistry, Analytical chemistry, statistics, Instrumentation

			Application of radioisotopes Health physics etc
MSc (Chemistry)	1974	University of Kerala	1. Physical chemistry 2. Inorganic Chemistry 3. Organic Chemistry 4. Theoretical chemistry
BSc (Chemistry)	1969	University of Kerala	1. Chemistry-(Main) 2. Physics- (Subsidiary) 3. Mathematics (Subsidiary)

### Work Experience & Current Responsibilities in BRIT:

- Research & Development** activities in the areas of:
  - Radiopharmaceuticals
  - Labelled compounds
  - Labeled biomolecules
  - Immunoassays
  - Hybridoma and
  - Deuterium isotope labelling.
- Management** of production, in process control and supply of:
  - Radiopharmaceuticals
  - Radioimmunoassay kit and
  - Labelled Compounds
- Management** of:
  - Labelled Biomolecules Lab
  - Jonaki Lab (Regional Centre of BRIT and located in CCMB, Hyderabad) and
  - Supply of labelled biomolecules & molecular biology kits to research institutes and universities for research
- Responsible for management** of safe handling of more than **2,500 Ci** of radioactive material such as  $^{99}\text{Mo}$ ,  $^{131}\text{I}$ ,  $^{32}\text{P}$ ,  $^{14}\text{C}$  3H,  $^{35}\text{S}$ ,  $^{125}\text{I}$   $^{51}\text{Cr}$  etc. per year
- Responsible for maintenance** of GMP condition for the preparation of injectable radiopharmaceuticals products
- Development** of new products, reagents and new kit formulations

This group of activity involves leading a team of **60 Scientists (including 12 PhDs holders)** and **30 Technical staff**

### Other Responsibilities

- Member of Radiopharmaceuticals Committee (RPC)- a committee with representation from FDA Maharashtra and Drug controller General of India for approving manufacture of Radiopharmaceuticals
- Member Review Committee of Heavy Water Board, Dept Atomic Energy- to review and for R&D initiatives for deuterium labeled compounds & drugs
- Member of Sub-Committee of Board of Research in Nuclear Science (BRNS) ó Radiation Technology Application Committee (RTAC) ó a funding agency for scientific research in nuclear science

- Chairman, Safety Committee, BRIT
- Chairman, Apex Pricing Committee, BRIT
- Chairman, Stores & Equipment Committee, BRIT
- Member BARC Selection, Committee (Medical Sub-Committee) for interviewing DAE scientific officers for promotion up to Scientific Officer Grade SOC and recruitment of medical doctors for BARC hospital
- Chief Collaborator BRNS Projects óCARRT, Mangalore University
- Served as Vigilance Officer in BRIT (2003-2012)
- Member, Indian Pharmacopeia Committee for Radiopharmaceuticals

### **Research Experience:**

**35 years research experience** in the following areas:

- Radioimmunoassay
- Radiopharmaceuticals (Diagnostics and Therapeutics)
- Radiolabelling (particularly radio- iodination of peptides and proteins)
- Polyclonal antibody production in laboratory animals
- Hybridoma and Hybrid- Hybridoma techniques & cell culture ( for Preparation of monoclonal antibodies and bispecific monoclonal antibodies )
- Preparation of drug resistant cell lines
- Development of analytical technique based on radiotracer

### **Other major experience and projects:**

- Established clean room facility in Atomic Energy Research Establishment Dhaka, Bangladesh for  $^{99m}\text{Tc}$  cold kit production ( IAEA project)
- Established Hybridoma facility at Nuclear research Centre Teheran Iran (IAEA Project)
- Set up  $^{99}\text{Mo}$ - $^{99m}\text{Tc}$  generator production facility in BRIT (XI plan project)
- Established clean room facility for  $^{99m}\text{Tc}$  cold kit production in BRIT
- Served as project manager for  $^{99m}\text{Tc}$  gel generator production plant
- Commissioned automated antibody coated machine in BRIT
- Initiated R&D on deuterium labelling in BRIT
- Established radio analytical laboratory in BRIT for testing water and food for estimation of radioactivity
- Team member in designing and establishing CARRT laboratory in MU

### **Product Development Experience:**

Production and management of Radiopharmaceuticals,  $^{99m}\text{Tc}$ -Cold Kits and Radioimmunoassay kits for medical use and radiolabelled biomolecules for research use.

Hands-on experience in the following fields of product development:

- Preparation of immunoassay reagents including antibody, tracer, standards & quality control samples and their characterization & evaluation.
- Development, optimization, assay validation and quality control of Radioimmunoassay and Immuno-radiometric assay systems and kit formulations

- Characterization of the labelled compounds using various analytical techniques
- Preparation of bio/immuno affinity matrices for biomolecule purification and separation
- Biological evaluation of radiolabelled compounds such as immuno-affinity determination, cell receptor binding assay, bio-distribution etc.
- Handling laboratory animals such as mouse and rabbits for antibody production work such as immunization, bio-distribution and production of monoclonal antibodies.
- Cell culture and production of monoclonal antibody for immunoassay and immuno-scintigraphy (organ imaging )
- Served as Project Manger in the initial stage of Setting up of production facility for the production of  $^{99}\text{Mo}$ - $^{99\text{m}}\text{Tc}$  generators for medical use.

#### **Academic Experience:**

- Served as supervisor for the IAEA trainees in Radiopharmaceuticals and Radioimmunoassay.
- Served as one of the principal faculty members for the **International Atomic Energy Agency (IAEA)** , Vienna training course organized in **China** and in **India**
- Served as principal investigator of a Co-ordinated Research Project (CRP) of IAEA on **“Development of  $^{99\text{m}}\text{Tc}$  radiopharmaceuticals for CNS (Central Nerve System) receptor imaging”**
- **Organized national training & up-date programs on “Radioimmunoassay”** in BARC & BRIT, Mumbai
- **Organized international training programs on “Radioimmunoassay”** for IAEA
- **Member of Radiopharmaceutical Committee** ó a national committee (A Govt. body having representation from **Food and Drug Administration (FDA)** for approving the production and supply of Radiopharmaceuticals and RIA kits for human use in India.
- **National coordinator of Indian Nuclear Science (INS) conference on “Recent advances in Molecular imaging and Radiation Oncology”** RAMIRO-2009 in Mumbai (Jan 16-17) and Bangalore (Jan 18-19)
- **Convener – Indian Pharmaceuticals Association (IPA) seminar on “Radiopharmaceuticals” 2008**, Mumbai
- **Convener - National Association for Radioisotope and Radiation Technology In Industry (NAARRI) International Conference –“Applications of isotopes –new horizon”**

- **Invited by Abu Salam Center for Theoretical Physics, Italy to deliver a talk on “Application of Labelled Compound for Drug Discovery”**

#### **Post-Doctoral Experience:**

Worked as **Post-Doctoral Fellow** for two years in **the University of Alberta, Edmonton, Canada** in the area of **Development of monoclonal and bi-specific monoclonal antibodies for radioimmuno-scintigraphy** during 1989- 1991.

#### **International Exposure:**

Served as **Expert and Consultant** for IAEA projects and in IAEA consultant meetings on Radiopharmaceuticals, Radioimmunoassay and Hybridoma technique in the following countries:

- London **UK**
- Beijing, **China**
- Damascus **Syria.**
- Dalat **Vietnam**
- Bangkok **Thailand**
- Cairo, **Egypt**
- Tehran, **Iran**
- Athens **Greece**
- Dresden **Germany**
- Monte Video , **Uruguay**
- Vienna **Austria**
- Dhaka **Bangladesh**
- Trieste, **Italy**

#### **Membership in Professional Societies/Organisations:**

Life Member	Indian Nuclear Society (INS)
Life Member	Society of Nuclear Medicine (SNM), India (Served as executive committee member during (2000-02)
Life Member	Association of Clinical Biochemists of India (ACBI)
Life Member	Indian Association for Cancer Research (IACR)
Life Member	Indian Society of Analytical Chemists
Founder Member:	Indian College of Nuclear Medicine
Life Member:	Indian Pharmaceuticals Association (IPA) (Member of the Executive Council IPA Maharashtra State Branch)
Associate Member:	Institute of Chemists
Fellow Member:	International Congress of Chemistry and Environment (FICCE)
Life Member	The Endocrine Society of India
Life Member	Indo French Technical Association
Life Member	Indian Association of Nuclear Chemists and Allied scientist( IANCAS) (Member Executive Committee)
Founder Member	Indian Society for Nuclear Technology in Animal Science (ISNUTAS)
Vice President	Indian Association for Application Of Radiation and Radioisotopes in Industry (NAARRI),
Life Member	Association of Chemistry Teachers, Mumbai
Life Member	Endocrine Society of India
President	Lions Club of Phirojshanagar, Vikhroli

**Patents:**

Two patents right have been granted by Indian patent office, Mumbai on "Preparation and method of production of magnetisable cellulose particles" for immunoassay diagnostic kit application

- 1. An improvement in process for the preparation of magnetisable cellulose**
- 2. Composition of magnetisable microcrystalline cellulose particles**

**Awards:**

- Indian Nuclear Society Award for the year 2005
- Sheth Medical College Oration Award by "Association of Clinical Biochemist of India (ACBI)" ACBI Annual Conference, 1996. Kottayam, Kerala
- Fellow of ISNUTAS Award 2005 awarded by Indian Society for Nuclear Technology in Animal Science

**Department of Atomic Energy (DAE) Group Achievement Awards:**

- 2011- Research & development and establishing production of <sup>99m</sup>Tc cold kit for formulation of radiopharmaceuticals for nuclear imaging of vital organs
- 2010 Development of production of <sup>131</sup>I MIBG for treatment of neuroendocrine tumor
- 2009- development of magnetisable particles for RIA & IRMA kit formulation
- 2008 "Development of novel radiation synovectomy agent based on Samarium <sup>32</sup>P phosphate colloid

**Certificates:**

1. "Financial Management for Non Financial Executives" (Institute for Financial Management and Research, Chennai, India)
2. "Project Management" (Conducted by Jamnalal Bajaj Institute of Management Studies, University of Mumbai India)

**Visiting faculty:**

- Served as visiting faculty, C.U Shah College of Pharmacy, SNDT University, Mumbai (2003-2005)  
(Subject: Radiopharmaceuticals, quality control and radioanalytical chemistry)
- V.B Patel Pharmaceutical Education & Research Development Centre, Ahmedabad, India (1993-1997)
- Bombay College of Pharmacy (Subject: Statistics for M. Pham Students)
- Goa College of Pharmacy (1996-2000) (Subject: Radiopharmaceuticals, radio-analytical techniques)

**Guide/Supervisor:**

- **MSc (Applied Biology)** University of Mumbai India
- **PhD (Life Science)** University of Mumbai, India
- Served as Examiner **PhD & M Tech** (Biomedical Engineering) Indian Institute of Technology (IIT) , Bombay India,
- Served as Examiner **PhD** for Engineering Faculty, Jadavpur University, Kolkata

**Editorial committees:**

- Served as Member of the editorial committee of Indian Journal of Nuclear Medicine
- Member Editorial Advisory Board of Research J. of Chemistry and Environment
- Member Editorial Board Pharma Times

**Publications:**

- Co-authored **Training Manual on Radioimmunoassay** Published for the IAEA's Train the Trainers Course, Beijing, China 1986
- Guest Editor **Application of Radioisotopes in Healthcare** NAARRI Bulletin 2005
- Edited : **Radioimmunoassay Up-date** BRIT 1992
- Publications in international and national journals and conference proceedings: (List enclosed)

## List of Publications:

### I. International and National Journals

Grace Samuel, **N. Sivaprasad**, K.B Shah, R.S Mani, Solid phase radioimmunoassay of human placental lactogen in serum, *Clinical Chemistry*, Vol. 29 (1983), page 168.

**N. Sivaprasad**, Grace Thomas K.B Shah, R.S Mani, Radioimmunoassay of human placental lactogen, *J.Radioanaly.Chem*, Vol. 53, (1979) page 351

**N. Sivaprasad**, G Samuel, R.S Mani, Human Placental Lactogen in pathological pregnancy, *Ind. J. Med.Res.* 85, 594, 1986.

G.Samuel, **N. Sivaprasad**, R.S Mani, Radioimmunoassay of phenytoin, *J.Radioanaly. Nucl.Chem.* 149, 1991

K.K Kotari, V.Meera, P.D Soman ,R.Lal, **N. Sivaprasad**, Development of heterogeneous radioimmunoassay for prolactin, *Ind.J.Nucl.Med.* 6, 27, 1991.

G Samuel, **N. Sivaprasad**, V Meera, P.D Soman R,Roy P.Vavia, H,L Bhalla, RIA of drugs: Phenytoin, Theophylline, Clonidine, *Proce. Int.Symp. RIA and related Procedures: Perspectives in developing countries. Int.Atomic Energy Agency & WHO Vienna 26-30 Aug 1991.*

A,G. Sapre, Ramji Lal, **N. Sivaprasad**, P.R Vavia, Synthesis of an immunogen and a novel radiotracer of estradiol, *J.Radioanaly.Nucl.Chem. Letters* 241 (4) 291-302 (1996).

S.D Borkute **N. Sivaprasad**, S.A Balakrishnan, Isoniazide óa drug for tuberculosis (TB)- Mini review article, *Indian Drugs* 34(1), 1997.

B.Prem kumar, David, R. Vijaya Kumar, K.S Planiswami, V.B kadwad and **N. Sivaprasad**, Estimation of thyroid hormone in animal samples, *Ind. Vet J.* 75, 1998: 565-566.

H.L Bhalla, R.Mathew, Grace Samuel, **N. Sivaprasad**, Preparation of radiolabelled clonidine for use in radioimmunoassay, *J.Radioanaly. Nuc.Chem.* Vol. 221, Nos. 1-2 (1997) 93-95.

Prabudda kumar Kundu, **N. Sivaprasad**, Debatosh Data, Monoclonal antibody : High density culture of hybridoma cell and downstream processing for IgG recovery, *In. J.Exp. Biology* Vol. 36, 1998, pp 125-135.

Prabudda kumar Kundu, **N. Sivaprasad**, S.E.Electricwala, Raghav Varma, Debatosh Dutta, Getting higher yield of Monoclonal antibody in culture, *J.Physical Pharmacol.* 1998, 42 (2) 155-171.

Prabudda kumar Kundu, S.E Bharmal, **N. Sivaprasad**, Debatosh Data Scale óup culture of stimulated hybridoma cell AE9D6, *Indian Chemical Engineer Section A* Vol. 41 No. 4, (1999).



S.D.Borkute and **N. Sivaprasad**, Use of bovine immunoglobulin-G (IgG) as a sample matrix for radioimmunoassay for triiodothyronin (T3) and total thyroxin (T4), *Ind.J. Nuc. Med (IJNM)* Vol 14 No3 284-288, 1999.

P.C Vrinda , S.N Paradkar, U.H Nagvekar ,G.Samuel and **N. Sivaprasad**, Solid phase inclusive immunoradiometric assay for human chorionic gonadotropin using monoclonal antibodies, *J.Radioanaly. Nuc. Chem.* Vol. 266, No. 2, (2005) 277-283.

T.Karir,G.Samuel, **N. Sivaprasad**, V.Meera, M.R.A Pillai, Development of coated tube RIA for serum T3 (tri-iodothyronin) for production scale, *J Radioanaly Radiochem* 28, 77-87, 2005.

Ravi Seshan Mathew K. Mathai, Parasmeshwaran V.K. Unny and **N. Sivaprasad**, A facile solvent free synthesis of high specific activity potassium [ $^{14}\text{C}$ ] a formate under irradiation, *J.Chemical Research* Jan , 2006 , 27-28.

R.krishna Mohan, Vijay Kadwad Grace Samuel,V.Merra , **N. Sivaprasad**, Development of radioimmunoassay for testosterone in human serum using antibody coupled to magnetisable cellulose, *J Radioanaly.Nucl Chem.* 2006.

Tanveen karir Grace Samuel, kachan kotari, **N. Sivaprasad**, V.Meera, Studies on the influence of the structural modification in the tracer on the immunoassay of progesterone, *J.Immunoassay* 2006.

K.Devika, R.Chanderika, Srirupa Mukerjee, V.K.P Unny and **N. Sivaprasad**, Simultaneous preparation of tritiated uracil and uridine *J.Radioanaly.Nuc. Chrm.* Vol. 267, No. 3 (2006) 581-583.

T.karir U.H Nagvekar G Samuel **N. Sivaprasad**, P.Chudhuri, A.Samad, Estimation of progesterone in buffalo milk by radioimmunoassay, *J.Radioanaly. Nuc.chem.* Vol. 267, No 2 (2006) 321-325.

T karir,G Samuel, **N. Sivaprasad** and V.Meera, Development of coated tubes RIA for serum T3 for production scale, *J Immunoassay and Immunochemistry* 26, 77-87, 2005.

S.V.Asokar, **N. Sivaprasad**, Alka Desphande, K.B Shah, R.S Mani, Radioimmunoassay of growth hormone and its application in pituitary dysfunction studies, *J Radioanalytical Chemistry* Vol. 65, No. 1-2 (1981) 297-305.

Omathnu Pillai, Naresh Kumar, Chinmoy Sankar Dey , Suresh Borkute, **N. Sivaprasad**, Ramesh Panchgula, Transdermal iontophoresis of Insulin Part 1: A study on the tissue associated with the use of platinum electrodes on rat skin, *JPP (J.Pharmacy and Pharmacology)* 2003, 55, 1505-1513.

Joshi Sangeeta and **N. Sivaprasad**, Radioassay for estimation of hIgG using staphylococcal protein A as a binding agent, *Indian Drugs* 35(8), 1998.

**N. Sivaprasad**, Miss Grace Thomas K.S Shah , R.S Mani, Radioimmunoassay of human placental lactogen, *J.Radioanalytical Chemistry*, Vol. 53, No 1-2 (1979) 351 -358.

**N. Sivaprasad**, Kachen Kotari, K.B Shah, R.S Mani, Simultaneous assay of Human placental lactogen and human chorionic gonadotropin, Radiochemi. Radioanaly. Letters 48/1/9-14/1981.

P.K Kundu, **N. Sivaprasad** and D.Datta, Immunoabsorbent based artificial organs: Variability of monoclonal antibody in high density culture Ind.Chem Engeers Section A, Vol. 42, No. 2 (2000).

S.M Mirapurkar, .Jyotsna, **N. Sivaprasad**, Radioimmunoassay of Triiodothyronine (T3) using magneisable cellulose, Ind J Nucl.Med (IJNM) Vol.14, No. 3 280-283,1999

Kanchan Kothari **N. Sivaprasad** R.S Mani, Shaking polystyrene beads during coating with antibody:Effect on the precision profile of enzyme immunoassay of triiodothyronine, Clinical Chemistry, Vol. 35, No. 4, (1989) 701.

S.P Patil, D.B Kalgutkar,V.K.P Unny, **N. Sivaprasad**, Synthesis of ammonium [<sup>14</sup>C] thiocyanate, J Radioanaly, Nucl.Chemi Vol. 258, No. 3 (2003) 453-455.

**N. Sivaprasad**, R.S. Mani, Studies on the calibration curve of radioimmunoassay of human placental lactogen, Ind. J.Nucl.Med. (IJNM) Vol. 4, No. 1, (1989) 30-32.

T Karir, N.Pal, **N. Sivaprasad**, Radioimmunoassay kit formulation and its validation for serum progesterone using progesterone radiotracer purified by gel filtration, J.Radianaly. Nucl.Chem. Vol. 256, No. 1, (2003) 127-131.

T.K Karir Yojana Singh, N.Jyotsna , **N. Sivaprasad**, Radioiodination of Low potency human growth hormone and its clinical application, Ind.J.Nucl.Med Vol. 12, No. 1, Jan 1997, 16-19.  
T.KKarir S,M Mirapurkar, N.Jyotsna, **N. Sivaprasad**, Radioiodination of recombinant human growth hormone and its use in radioimmunoassay, J Radioanaly. Nucl Chem Vol. 240, No 1, (1999) 343-347.

S.Ravi, K.M. Mathew, V.K.P.Unny and **N. Sivaprasad**, Synthesis of carboxyl <sup>14</sup>C ólabelled phenylglycine under microwave condition, J Radioanaly Nucl. Chem Vol. 220, No. 1, (1997) 73-76.

R.K Mohan V.kadwade G.samuel, **N.Sivaprasad**, Solid phase radioimmunoassay for testosterone in human serum using antibody coupled magnetisable cellulose, J. Radioanaly. Nuclear Chem. Vol. 206.

Subhangi Mirapurkar, G Samuel, U.H. Nagvekar, **N. Sivaprasad**, Solid phase immunometric assays for human thyroid stimulating hormone, Indian J Radiation Research 4 (2):82-97:2007.

S. Mirapurkar,U.H. Nagvekar and **N. Sivaprasad**, Polyreactivity of Monoclonal Antibodies produced against thyroid stimulating hormone (hTSH), J. Immunoassay and Immunochemistry.

S.Ravi, K.M Mathew, V.K.P Unny, **N. Sivaprasad**, A facile synthesis of racemic carboxyl <sup>14</sup>C labelled phenylglycine under microwave irradiation, J.Radioanaly. and Nuclear Chemistry vol 274, no1, 9 (2007) 61-62.

G.Prabhakar, Satibir S.Satchdav, S Umamaheswari, N. **Sivaprasad**, Manohar,H Bhatia,Pradip R Chudhari, srikant V Solav, Development of Samarium 32P phosphate colloid for radiosynovirthisis application: Preparation , biological and preliminary clinical studies experience, Applied radiation and isotope, 65 (2007)1309, 1313.

S. Ravi, K M Mathew, N. **Sivaprasad**, A rapid microwave induced synthesis of [carboxyl-14C] nicotinic acid and [carbonyl 14C] nicotinamide using K14CN, J radio Nucl Chem 275(2) 441-444, 2008.

KM Mathew, S Ravi, DPadmanabhan, VKP Unny and N. **Sivaprasad**, A rapid microwave assisted synteisis of ring [U 14C] isorbide and ring [14C] dimethyl isosorbide from [14c] glucose, J labeled comp and Radiopharm 49,333-337, 2006.

S.Ravi,KM Mathew VKP Unny N. **Sivaprasad**, Syntesis of 14C labeled mandelic acid under microwave condition, J radio Nucl Chem 230 (30), pp. 651-652, 2006.

S Ravi, KM Mathew, D Padmanabahan, VKP Unny, N. **Sivaprasad**, A facile synthesis of <sup>14</sup>C labeled pyriithiobac ósodium, J Radiolabel Comp Radiopharm 49, 339-343, 2006.

KM Mathew S Ravi, VKP Unny, N **Sivaprasad**, A facile solven free synthesis of high specific activity potassium 14C formate and ethyl 14C formate under microwave irradiation, J Chem Res 27-28, 2006.

KM Mathew, S Ravi, VJP Unny, N. **Sivaprasad**, Microwave assisted synthesis of (RS) methyl-2-([2-14C] 4, 6-dimthoxy-pyrimidin-2`-yloxy-2-phnyl[1-14C ] ethanoate, J lab Comp Radiopharm 49,699-705, 2006.

KM Mathew, S Ravi, VJP Unny, N. **Sivaprasad**, VN Ramraj, BN Vyas, KM Mistry, A facile synthesis of sod. 2-chloro-6-(4,6-dimethoxy-2-pirimidinyltho) benzene in multi molar scale under microwave condition, Asian Chemistry letters 10 (4) 129-132, 2006.

Anjani Rundekar, PC Vrinda, N. **Sivaprasad**, Solid Phase immunoradiometric assay for CA125 antigen levels in blood using monoclonal antibodies, J radioanly Nucl chem. 288, (1) 31-36, 2011.

G Prbhakar S S sachdev, S Umamaheswri, N. **Sivaprasad**, h Bhatia, R Chaudari, S Solav Development of Sm [32P] phosphate colloid for radiosynoviorthesis application : Preparation, biological and preliminary clinical studies experience, Applied Radio isot.65, 1309-1313, 1999, 2007.

G Prabhakar, SS Sachave, N.**Sivaprasad**, Radiation synovectomy as effective radiotherapy using radiopharmaceuticals for the treatment of inflammatory joint disorder, Pharma Times 41 (6) June 2009.

G Prabhakar, A.Mathur, G Shunmugam, T D Teje, S S Sachdev, N. **Sivaprasad**, Efficient production of therapeutic doses of 131I-MIBG (meta iodo benzyl guanidine) for clinical use, Appl.radiat.Isot. 69, 63-67, 2011.

Yojana Singh, Jyotsna, **N. Sivaprasad**, Formulation and evaluation of radioimmunoassay kit for angiotensin -1 angiotensin-1BSA antibody, Ind. J.Nucle.Med. Vol. 11, No. 4, 1996, Page 219 (Abstract).

T.karir, P A Hassan, S K Kulsheshta, G Samuel, **N. Sivaprasad**, Surface modification of polyanilin nano structure bimolecular adhesion in RIA, J Radioanaly Nucl Chem 76, 3577-3582, 2006.

PC Vrinda, S N Paradkar, UH Nagvekar, G Samuel, **N. Sivaprasad**, Solid phase inclusive IRMA for HCG using monoclonal antibody, J Radioanaly Nucl Chem 266 (2) 277-283, 2005.

S.Solav, **N. Sivaprasad**, S Ape, G Prabhakar, SS Sachdev, Radiation synovectomy using indigenously produced colloidal (32P)phosphate, Hemophilia 12 (S2) 2006 (Abstract).

CV Sontake, SP Patil, VKP Unny, **N. Sivaprasad**, Conversion synthesis of D[dichloroacetyl [1-14C] Chlorompinicol, J Labelled Comp Radiopharm 48 1055-1058 2005.

## II. Presentation in International conference and meetings

Grace Samuel Taveen Karir, Kanchan kotari Sangeeta Joshi, **N. Sivaprasad**, Development of radioimmunoassay of progesterone in bovine serum, IAEA-Tec Doc. (In Press) IAEA Vienna

**N. Sivaprasad**, R.Geetha, A.S Ghodke, S.S.Sachdav, P.kumar, N.M.Parkar, C.Arjun, G.Shanmugam, D.V Ranganath, Studies on the development of <sup>99</sup>Tc<sup>m</sup> labelled serotonin receptor avid molecules In *“development of agents for imaging central neural systems receptors based on <sup>99m</sup>tcö* final report of co-ordinated research project 1995-2001 Int. Atomic Energy Agency (IAEA), Vienna 2002.

K Kotari, M. Venkatesh, K Korde, M.R.A Pillai, **N. Sivaprasad**, Development of enzyme immunoassay for determination of triiodothyronine, thyroxin and human placental lactogen in serum samples and comparison with radioimmunoassay, IAEA-SM-324/20 Proce. Int.Symp. RIA and related Procedures: Perspectives in developing countries. Int.Atomic Energy Agency & WHO Vienna 26-30 Aug 1991.

S.V Solov S Magar, B.Kumar S.A Apte, S Lohade A Lalwani, S.S Sachdev, S umamaheshwari, Chudhari P. R. **N. Sivaprasad**, Radiation synovectomy using indigenously produced colloid phosphorous -32, World Federation of hemophilia Conf. 2006.

## III. Abstract of presentation in Conference and Workshops

Yojana S, S.A Balakrishnan, N.Ramamoorthy, **N. Sivaprasad**, Evaluation of indigenous magnetic rack using prolactin and T-4 assay as model, Ind.Assoc. Nucl. Chemists and Allied Scientists, Annual Conf. NUCAR 1999.

J.W Campell, **N. Sivaprasad** M.Suresh and D.F Biggs, Estimation of Anti substance P antibodies in guinea pig sera by ELISA, Faculty of Pharmacy and Pharmaceuticals Science Research Day Seminar Oct 1990, University of Alberta, Edmonton Canada (poster presentation).

T.K karir, Yojana Singh, N. Jyotsna, **N. Sivaprasad**, C.N Desai, Radio iodination of low potency human growth hormone & its characterization, Annual Conference of Society of Nuclear Medicine, 1994.

Grace Samuel, **N. Sivaprasad**, R.S Mani, Radioimmunoassay for phynetoin using two different tracers, Radiochemistry and radiation Chemistry Symposium, kalpakkam Jan 4-7 1989.

Kanchan Kothari, **N. Sivaprasad**, Evaluation of solid phase system in radioimmunoassay of triiodothyronin, Radiochemistry and radiation Chemistry Symposium, kalpakakam Jan 4-7 1989.

N.Jyotsna, Shalaka N.P Vrinda P.C. **N. Sivaprasad**, The development of hFSH Immunoradimetric assay based on antibody coupled magnetisabe cellulose, XXII Annual Conference of Assoc. Clinical Biochemist of India, Kottayam Kerala, Dec 27-30, 1996.

R.Geetha, **N.Sivaprasad**, N.Ramamoorthy, Development of and solid phase radioimmunoassay for triiodothyronin (T3) using indigenous polystyrene tube, XXII Annual Conference of Assoc. Clinical Biochemist of India, Kottayam, Kerala, Dec 27-30, 1996.

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