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Web of Science ID: E-8804-2012
LiveDNA ID: https://livedna.net/?dna=91.20812

HIGHLIGHTS

- Worked in **"Molecular cardiology"** for more than seven years contributing to cardiology therapy research studies- supports to anti-atherosclerotic effects of Oligomeric proanthocyanidins (components of *Crataegus Oxycantha*) *in vivo*, *in vitro* and *in silico* approaches.
- Background experiences include participation in groundbreaking research in the areas of cardiology: Atherosclerosis, Myocardial infarction, Molecular cell biology and Biochemistry.
- Well experienced in laboratory bench analysis, writing scientific grants, papers and maintaining good laboratory practice.
- Cumulative impact factors of research publications – 44.09.

EDUCATION

- **Doctor of Philosophy** in Biochemistry (2012-2017)- **Thesis highly commended**
  Department of Biochemistry, University of Madras, Chennai, India.
- **Master of Philosophy** in Biochemistry (2010-2011) – **First class with Distinction**
  Department of Biochemistry, University of Madras, Chennai, India
- **Master of Science** in Advanced Biochemistry (2008-2010)- **First class**
  Department of Biochemistry, University of Madras, Chennai, India
- **Bachelor of Science** in Biochemistry-Vocational Biotechnology (2005-2008)- **First class with Distinction,** Justice Basheer Ahmed College for Women, Chennai, Tamilnadu, India

RESEARCH EXPERIENCES

- **CSIR Nehru Post-Doctoral Fellow (August 2018- July, 2020):**

  Title: Studies on the expression and regulation of Hippo pathway during Cholesterol: Cholic acid (CC diet) induced atherosclerosis and remodeling in experimental rat and different microenvironment. Under the supervision of Dr.L.Suguna, Biochemistry and Biotechnology Laboratory, CSIR-CLRI, Chennai.

- **Doctoral Research (Ph. D) (November 2012 to May 2017)**

  Thesis Title: "Molecular mechanism of action of Oligomeric Proanthocyanidins (OPC) isolated from *Crataegus oxyacantha* berries in ameliorating atherosclerotic plaque instability via integrin-Src-FAK complex and PI3K/Akt/mTOR regulation- an *invivo*, *invitro* & *insilico* approach" under the guidance of Dr. S. Niranjali Devaraj, Professor, Department of Biochemistry, University of Madras, Chennai.

- **Senior Research Fellow (SRF)-**UGC-BSR research fellowship in sciences (June, 2016 –May, 2017), Department of Biochemistry, University of Madras, Chennai.

- **Junior Research Fellow (JRF)**-UGC-BSR research fellowship in sciences (June, 2014-May, 2016), Department of Biochemistry, University of Madras, Chennai.
- **Project Fellow**- UGC-CPEPA Project Titled "Development of Drugs from Medicinal Plants And Marine Resources For Human Welfare". Programme- I- "Inventory, Screening, Isolation and Characterization of Antiviral Compounds from Various Species of Phyllanthus against Rotavirus" under the guidance of **Dr. S. Niranjali Devaraj,** Professor, Department of Biochemistry, and **Dr. H. Devaraj,** Professor, Department of Zoology, University of Madras, Chennai **(September, 2012- February, 2014).**
- **Junior Research Fellow** in the NMPB Ayush Project Entitled "Bioactivity Based Screening of Medicinal Plants in South India For Inflammation - Associated Cancer Chemoprevention – *Invitro* And *Invivo* Studied" **(April, 2012- October, 2012),** Department of Biochemistry, University of Madras, Chennai.

- **M.Phil (Biochemistry)** submitted dissertation entitled as **"*In vivo* studies on the cardioprotective effect of ethanolic extract of *Crataegus oxycantha* on atherosclerosis"** under the guidance of **Dr. S. Niranjali Devaraj,** Professor, Department of Biochemistry, University of Madras, Chennai. **(August, 2010-September, 2011).**
- **M. Sc (Advanced Biochemistry) submitted dissertation entitled as " Role of L-Proline On Wound Healing In Rats"** under the guidance of **Dr. S. Niranjali Devaraj**, Professor, Department of Biochemistry, University of Madras, Chennai-25 and Dr.L.Suguna, Scientist, CSIR-CLRI, Adyar, Chennai. **(January, 2010-June, 2010).**
- **B.Sc (Biochemistry-Vocational Biotechnology)** submitted dissertation entitled as **"Treatment of Sewage waste water using aquatic plant, water Hyacinth Eichhornia Sp and its reuse For Culture, Growth, Histopathology And Biochemistry Of Fish, Tilapia Mossambica"** under the supervision of **Dr. C. M. Noorjahan,** Assistant Professor, PG and Research Department of Zoology, Justice Basheer Ahamed Sayeed College for Women, Teynampet, Chennai **(June. 2007-May, 2008).**

TECHNICAL EXPERIENCES

- **Cardiology Disease model development:** Well experienced in handling rat induction of hypercholesterolemia, atherosclerosis and myocardial infarction and treatment procedures.
- **Molecular cardiology techniques:** Boyden chamber, Coculture model development using cardiac cells.
- **Molecular biology techniques:** Immunobloting, Immunohistochemistry, Reverse transcriptase-PCR, Electrophoresis techniques, RNA array.
- **Cell culture techniques:** Experience in isolation, handling and maintenance in Primary cells and cell lines.
- **Virology and Genotyping:** Isolation of rotavirus from clinical samples and Genotyping.
- **Bioinformatics tools:** Virtual screening, *in silico* drug design, Simulation, Modeler, Docking tools.
- **Miscellaneous skills:** Python, Image J, Origin, SPSS, Adobe illustrator.

HONORS AND AWARDS

- **Best Oral presentation Award (10th to 11th June, 2021) – for presenting paper entitled as "Amelioration of C - reactive protein and Lectin like Oxidised low density lipoprotein receptor complex induced endothelial dysfunction by Oligomeric proanthocyanidins"** at International Conference on Naturopathy, Nanotechnology, Nutraceuticals and Immunotherapy in Cancer Research-2021, Cresent University, Vandaloor, Chennai.
- Received an honour certificate by publishing a chapter in **"Maximum authors contributing for a Book on COVID19 and its impact"** under **"Indian Book of Record"** & **"Asian Book of Record"** published by ESN publications on 30th January, 2021.
- **Best Oral presentation award (6th February, 2020) –** for presenting paper entitled as **"Oligomeric proanthocyanidins attenuates OxLDL mediated oxidative stress and cardiac remodelling in H9c2 (2-1) cells"** at National Conference on Recent trends on Nutraceuticals and Gene Therapy, 2020, Jaya College of Arts and Science, Chennai**.**
- **Speaker at "Annual Conferences on Atherosclerosis and Clinical Cardiology"** held at Philadelphia, USA, on 11th July-12th July,2016, **presented a paper entitled "Oligomeric proanthocyanidins regulate cholesterol reflux from foam cells via autophagy"** under "**Young Researcher Forum".**
- **"Best Oral presentation award"** for presenting paper entitled as **Genotyping of Rotavirus and Antiviral Activity of *Phyllanthus Amarus* Extracts*, in-vitro", presented at*** National Conference on Biomolecules for the Control of Viral and Multidrug Resistant Pathogens (BCVMP-2015) held at the School of Life Sciences, University of Madras, Guindy Campus, Chennai-600025 on 30th September -1st October 2015.
- **"Best Young Research Scholar" award** from GRABS Educational Trust for the year 2015.
- Ullas Trust **Young Achiever's Scholarship** for the year 2003-2005.

PEER REVIEWED PUBLICATIONS IN INTERNATIONAL JOURNALS

- Vineesh Suresh, Kirankumar S.I, Shahjahan A, **Sankar Jamuna,** Kirubakaran Rangasamy, Dannie Macrin and KN ArulJothi (2024) . Systematic Detoxification of Copper-induced Toxicity by Methanolic Extracts of Anacyclus pyrethrum (L) in Zebrafish Model. The Natural Products Journal. Accepted. DOI: 10.2174/0122103155308142240602120718.
- Saravanakumar, S., Prabakaran, N. N., Ashokkumar, R., & Jamuna, S. (2023). Unlocking the Gut's Treasure: Lipase-Producing Bacillus subtilis Probiotic from the Intestine of Microstomus kitt (Lemon sole). *Applied Biochemistry and Biotechnology*, 1-14.
- Trisha Raghunathan, Subhiksha Srinivasan, **Sankar Jamuna** (2023). Neuroprotective effect of ethanolic extract of *Scoparia dulcis* on Acrylamide induced Neurotoxicity in Zebrafish model. Appl Biochem Biotechnol. (Accepted).
- Jamuna, S., Ashokkumar, R., Raja, I.S. et al. Anti-Atherogenic Protection by Oligomeric Proanthocyanidins via Regulating Collagen Crosslinking Against CC Diet-Induced Atherosclerosis in Rats. Appl. Biochem. Biotechnol. 195, 4881–4892 (2023). Impact factor: 3.0.
- **Sankar Jamuna**, Rathinavel Ashokkumar and Sivasitambaram Niranjali Devaraj (2022). Amelioration of C - reactive protein and Lectin like Oxidised low density lipoprotein receptor complex induced endothelial dysfunction by Oligomeric proanthocyanidins. Applied Biochemistry and Biotechnology. *Appl Biochem Biotechnol.* https://doi.org/10.1007/s12010-021-03792-6. Impact Factor: 3.0.
- Mohamed Shaibi K.M., Leeba Balan, **Sankar Jamuna** and Ramesh Babu (2021). Phytochemical Analysis, In

Vitro Antioxidant and Wound Healing Activities of Turbinaria ornata (Turner) J. Agardh from Gulf of Mannar, India. Applied Biochemistry and Biotechnology. *Appl. Biochem. Biotechnol.* 10.1007/s12010-021-03752-0. Online ahead of print. Impact factor: 3.0.

- **Sankar Jamuna**, Gopika Selvakumar Lonchin Suguna (2019). Nanoscience and Nanotechnology: A Review. International Journal of Nanobiotechnology. 5(1), 19-31.

- **Sanker J,** Selvakumar G, Suguna L. Epithelial and Mesenchymal Transition Pathway (EMT) and Hepatocellular Carcinoma: A Mini Review. Clin Oncol. 2019; 4: 1617.

- **Sankar Jamuna**, Ashokkumar Rathinavel, Sakeena Sadullah Mohammed Sadullah, and Sivasitamparam Niranjali Devaraj. Oligomeric proanthocyanidins and Epigallocatechin gallate aggravate autophagy of foam cells through the activation of Class III PI3K/Beclin1- complex mediated cholesterol efflux. Biofactors, 2019;45(5):763-77. **Impact factor: 6.0**

- **Jamuna S,** Rathinavel A, Mohammed Sadullah SS, Devaraj SN. *In silico* approach to study the metabolism and biological activities of oligomeric proanthocyanidin complexes. Indian J Pharmacol 2018; 50:242-50. **Impact factor: 2.4**

- **Sankar J**, Rathinavel A, Sakeena Sadullah MS, Devaraj SN. Oligomeric proanthocyanidins mitigate cholesterol and cholic acid diet–induced hepatic dysfunction in male Sprague Dawley rats. J Biochem Mol Toxicol. 2018; e22234. **Impact Factor: 3.568**

- Rathinavel Ashokkumar, **Sankar Jamuna**, M.S. Sakeena Sadullah, S. Niranjali Devaraj (2018). Vitexin protects isoproterenol induced post myocardial injury by modulating hipposignaling and ER stress responses. BBRC, 496 (2), 731–737. **Impact Factor: 3.1**

- Ashokkumar Rathinavel, **Sankar Jamuna**, Sakeena Sadullah Mohammed Sadullah, Sivasitambaram Niranjali Devaraj Oligomeric proanthocyanidins protect myocardium by mitigating left ventricular remodeling in Isoproterenol induced post-myocardial infarction. Fundamental and clinical pharmacology.32, (1), 51-59. **Impact factor: 2.87**

- **S. Jamuna**, Sakeena Sadullah M.S, R. Ashokkumar, Gokul Shanmuganathan, Senguttuvan Sivan Mozhi, Niranjali Devaraj. S. (2017). Potential antioxidant and cytoprotective effects of essential oil extracted from *Cymbopogan citratus* on OxLDL and H2O2 LDL induced Human Peripheral Blood Mononuclear Cells (PBMC). Food Science and Human Wellness.6,60-69. **Impact Factor: 8.08**

- Nikita Daga, **Sankar Jamuna**, Sakeena Sadullah M. S., V. S. Sankaranarayanan, S. Srinivas, H. Devaraj, S. Niranjali Devaraj (2016) "Prevalence of Group A rotavirus genotype G1P [8] in Chennai, South India". *Int. J. Contemp Pediatr*. 3(4):1362-1366.

- Thiruchenduran Mohana, Alukkathara Vijayan Navin, **Sankar Jamuna**, Mohammed Sadullah Sakeena Sadullah, Sivasithamparam Niranjali Devaraj, (2015). Inhibition of differentiation of monocyte to macrophages in atherosclerosis by oligomeric proanthocyanidins – *in-vivo and in-vitro* study. Food and Chemical Toxicology. Food and Chemical Toxicology 82 (2015) 96–105.**Impact factor: 5.572**

- Noorjahan CM and **Jamuna S** (2015) Biodegradation of Sewage Waste Water Using Azolla Microphylla and Its Reuse for Aquaculture of Fish Tilapia Mossambica IOSR Journal of Environmental Science, Toxicology and Food Technology 9 (3), 75-80. **Impact factor: 1.823.**

- Thangavel Ponrasu, **Sankar Jamuna**, Arulanandham Mathew, Karuppanan Natarajan Madhukumar, Moorthy Ganesh Kumar, Kuttalam Iyappan Lonchin Suguna (2013). Efficacy of L-proline administration on the early responses during cutaneous wound healing in rats. Amino Acids.45, 179-189. **Impact Factor: 3.5.**

- Noorjahan, C.M. and **Jamuna, S**. (2012). Physico-chemical characterisation of brewery effluent and its degradation using native fungus - *aspergillus niger*, aquatic plant - *Water hyacinth- Eichhornia sp* and green mussel - *Perna viridis. J. Environ. Earthsci. 2(4)*,31-40.

- **Jamuna, S** and Noorjahan, C.M. (2009). "Treatment of sewage waste water using water hyacinth – *Eichhornia sp* and its reuse for fish culture" *Toxico. Int*., 16(2): 103-106.

BOOK(S) CHAPTERS PUBLISHED

- Leeba Balan, **Jamuna Sankar,** Sriram Chanderasekar, Sugumari Vallinayagam (2021). Biodegradation and Biodeteroration at the nanoscale level. Chapter 7: Enzyme encapsulated nanoparticles for biodegradation of materials. Iqbal-BBN-1632749, Edition I, pp.no: 137-148. Elsevier publishers.
- **Jamuna Sankar** (2021). Nutraceutical and atherosclerosis-A Review, Biomedical nanotechnology, ISBN 978-81-950305-1-4, EDN 1, Page No: 340-348.

EXTRACURRICULAR EXPERIENCES

- **Adhoc Reviewer-** Frontiers Journals
- **Adhoc Reviewer-** Bentham Sciences Journals
- Editorial Board Member for the Journal- Advances in Biochemistry http://www.advinbiochem.org/editorialboard
- **Associate editor** for the journal "Open Access Journal of Cardiology". https://medwinpublishers.com/OAJC/editorial-board.php
- **Eminent Reviewer** for the journal "Open Journal of Cardiology & Heart Diseases".
- **Adhoc Reviewer-** Indian Journal of Biochemistry and Biophysics.
- **Adhoc Reviewer-** Biodegradation, Springer.
- **Adhoc Reviewer** - International journal of peptide research and therapeutics
- Member of the **Board of studies for the academic year, 2015-2016,** Department of Biochemistry, JBAS College.
- Worked as a **"Lecturer "**in M.N.College of Optometry from June 2017 to June 2018.
- Worked as a Guest faculty for **"Add on course Bioinformatics"** in JBAS from December, 2011- November, 2012.
- Worked as a **Sub-editor** for the journals (Indian Journal of Drugs and Diseases & Indian Journal of Health and Medicine) from December, 2011 to November, 2012.

ADD ON SKILLS

- Bioinformatics training courses: R- Language, Python
- U.G.C sponsored "Career Oriented program in Bioinformatics" 2007- 2008.
- Diploma in Microsoft Office, C. C++ and UNIX programming language.

PAPERS/POSTERS PRESENTED

- **S.Jamuna And S.Niranjali Devraj (2021) "Virtual Screening Of Active Constituents Of Crataegus Oxyacantha And The Molecular Signaling Network Against Non-Coronary Atherosclerosis During Ischemic Stroke – An Insilico Approach"** Virtual International Conference On Novel And Alternative Therapeutics For Neurodegenerative Diseases Mediated Through Unfolded Protein Response (UPR), Cresent University, Vandaloor, Chennai.

- **S.Jamuna and S.Niranjali Devraj (2021) "Amelioration of C - reactive protein and Lectin like Oxidised low density lipoprotein receptor complex induced endothelial dysfunction by Oligomeric proanthocyanidins"** at **International Conference on Naturopathy, Nanotechnology, Nutraceuticals and Immunotherapy in Cancer Research-2021**, Cresent University, Vandaloor, Chennai.
- **S.Jamuna**, S.Gopika and L.Suguna **"Oligomeric proanthocyanidins attenuates OxLDL mediated oxidative stress and cardiac remodelling in H9c2 (2-1) cells" at** National Conference on Recent trends on Nutraceuticals and Gene Therapy, 2020, Jaya College of Arts and Science, Chennai**.**
- **Sankar Jamuna,** R. Ashokkumar and S. Niranjali Devaraj (2016) **Oligomeric proanthocyanidins regulate cholesterol reflux from foam cells via autophagy at "Annual Conferences on Atherosclerosis and Clinical Cardiology"** held at Philadelphia, USA, on 11th July-12th July 2016. Proceeding published (S. Jamuna et al., J Clin. Exp. Cardiolog. 2016, 7:6 (Suppl) http://dx.doi.org/10.4172/2155-9880.C1.029).
- Jamuna Sankar, Nikita Daga, Sakeena Sadullah, S. Niranjali Devaraj, H. Devaraj, V. S. Sankaranarayanan and S. Srinivas (2015). **Genotyping of Rotavirus And Antiviral Activity of *Phyllanthus Amarus* Extracts, *in-vitro, presented at* "** National Conference on Biomolecules for the Control of Viral and Multidrug Resistant Pathogens (BCVMP-2015) held at the School of Life Sciences, University of Madras, Guindy Campus,Chennai-600025 on 30th September -1st October 2015.
- **Jamuna Sanker**, Thangavel Ponrasu, Arul Mathew, Lonchin Suguna 2012.Effects of L-proline on wound healing in rats: a biochemical, biophysical and histopathological analysis, presented at "**National conference on Evolutionary trends in Biochemistry and Molecular Biology – Biotrendz- 2012 & 1st Annual Seminar on Alzhiemer's disease – ALZINFO – 2012"** held during September 20th & 21st, 2012 organized by Department of Biochemistry, Bharathidasan University, Tiruchirappali – 24, Tamil Nadu, India.
- **S. Jamuna**, R. Ashokkumar, M.S. Sakeena Sadullah and S. Niranjali Devaraj (2016) **Oligomeric proanthocyanidins mediated antioxidant intervention of the OxLDL-induced oxidative stress in H9c2 rat cardio myoblasts at** International Conference on Cardiovascular Translational Research & 13th Annual Conference of International Society for Heart Research (Indian Section) held at Department of Biotechnology, IITM, Chennai on 22nd January 2016 to 24th January 2016. Published as a proceeding in Journal of the Practice of Cardiovascular Sciences, April-2016, Volume 2, Supplement 1.
- Nikita Daga, **Jamuna Sankar,** S. Niranjali Devaraj & H. Devaraj 2014. **Invitro Antiviral activity of *Phyllanthus amarus* extracts against rotavirus in the** "**International Conference on *Drugs for the Future: Infectious Diseases:* Antimicrobial Drug**