

CURRICULUM VITAE

Gangasani Jagadeeshkumar,
Mobile No: 7799979696, C/o Dr. V.G.M. Naidu,
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CAREER OBJECTIVE:

To enhance my professional skills in a dynamic role, utilize my knowledge and skills in the best possible way for achieving the organization's goals.

RESEARCH INTERESTS:

My core interest is towards interdisciplinary science to apply my knowledge and skills to new facets of research. I wish to envisage research with applicative synthesis of novel biologically active molecules for lifestyle, tropical and subtropical diseases.

RESEARCH EXPERIENCE AND SKILLS:

Working as Research Associate from June 2019 to till date at National Institute of Pharmaceutical Education and Research Guwahati (NIPER-G), under the supervision of Dr. V.G.M. Naidu on project title "***NATIONAL CENTRE OF PHARMACOENGINEERING (NCPE) FOR DESIGNING INNOVATIVE DELIVERY STRATEGIES TO FIGHT AGAINST NEGLECTED DISEASES***".

As a Research Associate Job Contract from Nov'2018 to May 2019 at Council of Scientific and Industrial Research-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, India, under the supervision of Dr. B. Nagendra Babu, Senior Scientist, FAC Division and on project titled "***SYNTHESIS OF BIOACTIVE HETEROCYCLIC COMPOUND AND BIOLOGICAL EVALUATION***".

As a Project assistant from Nov'2017 to Oct' 2018 at CSIR-IICT, Hyderabad, NIPER-Guwahati, India, under the supervision of Prof. Dr. V. Jayathirtha Rao, CSIR-Emeritus scientist, FAC Division and on project titled "***SYNTHESIS OF BIOCONJUGATES AND BIOLOGICAL EVALUATION***".

As a Senior Project fellow/ Project assistant from May'2016 to Oct'2017 at CSIR-IICT, Hyderabad, India, under the supervision of Prof. Dr. V. Jayathirtha Rao, Chief Scientist, Head, CPC Division, on project titled "***DESIGN, SYNTHESIS OF HETERO CYCLIC COMPOUNDS AND BIOLOGICAL EVALUATION***".

As a Project assistant from November'2015 to May'2016 at CSIR-IICT Hyderabad, India, under the supervision of Prof. Dr. V. Jayathirtha Rao, Chief Scientist, Head, CPC Division, on project titled "***DESIGN, SYNTHESIS OF HETERO CYCLIC COMPOUNDS AND BIOLOGICAL EVALUATION***".

As a Project assistant from October'2012 to October'2015 at National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad and CSIR-IICT, Hyderabad, India, under the supervision of Prof. Dr. V. Jayathirtha Rao, Chief Scientist, Head, CPC Division, on project titled "***DESIGN, SYNTHESIS OF HETERO CYCLIC COMPOUNDS AND BIOLOGICAL EVALUATION***".

I am well versed with organic chemistry techniques like synthesis, separation and isolation of pure organic compounds and their characterization with spectroscopic and spectrometric techniques like ¹HNMR, ¹³CNMR, IR, ESI-MS, HRMS, handling of UV, fluorescence spectrometers, purity profiling by HPLC and molecular modeling. Also possess hands on experience on screening protocols of NCEs for their biological activity. Skilled in using MS word, excel, power point, chemdraw, chem 3D and expertise in preparation of research reports and manuscripts.

EDUCATIONAL QUALIFICATIONS:

- **PhD (Biological Sciences):** AcSIR, CSIR- Indian Institute of Chemical Technology (IICT), Hyderabad, India.
Research guide: Prof. Dr. V. Jayathirtha Rao and Co-guide: Dr. B. Nagendra Babu
Title of the thesis: "***Design, Synthesis and Biological Evaluation of Novel 2-Pyridone and s-Triazine Heterocyclic Derivatives as PDE3A and Autophagy Inhibitors***"
- **M.S. (Pharm.) Medicinal Chemistry (Aug 2010- Jun 2012):** 7.98/10 CGPA, National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad, India.
Title of the thesis: "***Design, Docking studies, Synthesis and Biological Evaluation of Novel s-Triazine Derivatives as PI3K Inhibitors***"
Research guide: Prof. Dr. V. Jayathirtha Rao, FRSC.
- **B.Pharm (Oct 2006- July 2010):**72.66%, Bapatla College of Pharmacy, Bapatla, Jawaharlal Nehru Technological University (JNTU), Kakinada, India.
Title of the thesis: "***Formulation and Evaluation of Control Release Microcapsules of Aceclofenac***"
Research guide: Dr. T. Venkateswara Rao, Assistant professor.
- **Intermediate:** 88.9%, Andhra Pradesh Residential Junior College, Nagarjuna Sagar, Andhra Pradesh, India.
- **Secondary School Certificate:** 86%, Andhra Pradesh Residential School, Lepakshi, Andhra Pradesh, India.

ACADEMIC ACHIEVEMENTS:

- Qualified NIPER JEE -2010 and Graduate Pharmacy Aptitude Test-2010.
- Received fellowship for M.S Pharm from Depart of Pharmaceuticals, Ministry of Chemicals and Fertilizers Government of India.

PhD THESIS ABSTRACT

Heterocycles are an important class of compounds and are present in a wide variety of drugs, most vitamins, many natural products, biomolecules, and biologically active compounds, including antitumor, antibiotic, anti-inflammatory, antidepressant, antimalarial, anti-HIV, antimicrobial, antibacterial, antifungal, antiviral, antidiabetic, herbicidal, fungicidal, and insecticidal agents.

Due to broad applicability of hetero cyclic compounds, the present work was planned to design, synthesize and characterize 2-Pyridone and *s*-Triazine scaffolds containing heterocyclic compounds and evaluating them for their biological activity. Structural modifications were made to PDE3, PI3K, autophagy inhibitors Milrinone, ZSTK 474, Vacuolin-1 and designed 2-pyridone and *s*-triazine scaffold based derivatives. The designed compounds (~200) were synthesized using Baylis-Hillman chemistry and nucleophilic substitution reactions. The synthesized 2-Pyridone derivatives and *s*-Triazines were evaluated for their *in-vitro* PDE3A inhibitory activity against the marketed standard Milrinone and Doxorubicin, ZSTK474 (in clinical trials) and Chloroquine for anticancer activity (autophagy inhibition *in-vitro* and *in-vivo*) respectively. Out of ~200 compounds ~50 compounds showed promising results compared to the standards used. The results were published and patented.

It is concluded that making structural modifications in the form of various substitutions to the standard leads to the successful designing of potent new chemical entities.

RESEARCH PUBLICATIONS:

1. Lalita, G.; **Jagadeesh Kumar, G.**; Dinesh, T.; Roshan, B.; Suresh, U.; Bramanadam, M.; Srinivas, R.; Jayathirtha Rao, V.; Ramakrishna, S.; Naidu, V.G.M. IITZ-01, a novel lysosomotropic autophagy inhibitor has single agent antitumor efficacy in breast cancer cells in vitro and in vivo. *Oncogene* **2019**, 38, 581–595.
2. Bieber, M.; Schuhmann, K. M.; Volz, J.; Jayathirtha Rao, V.; **Jagadeesh kumar, G.**; Nieswandt, B.; Pham, M.; Stoll, G.; Kleinschnitz, C.; Kraft, P. Description of a novel phosphodiesterase-3 inhibitor protecting mice from ischemic stroke independent from platelet function. *Stroke*. **2019**, 50, 478–486.
3. Bikshapathi, R.; Sai Prathima, P.; Yashwanth, B.; Rajesh, P.; Venkateswara Rao, J.; **Jagadeesh Kumar, G.**; Jagadeesh, N.; Jayathirtha Rao, V. An expeditious protocol for synthesis of Baylis–Hillman derived piperazine derivatives and evaluation of their AChE inhibition. *Res Chem Intermed*, **2018**, 44, 553-565.
4. Sai Prathima, P.; Bikshapathi, R.; Poornachandra, Y.; Hima Bindu, V.; **Jagadeesh Kumar, G.**; Jagadeesh, N.; Ganesh, C.; Jayathirtha Rao, V. Synthesis and bioevaluation of quaternary centered 3-hydroxy-3 (alkynyl)indolin-2-one derivatives as potential cytotoxic agents and Akt Kinase inhibitors. *Anti-Cancer Agents in Medicinal Chemistry*, **2018**, 17, 1963-1970.
5. Lalita, G.; **Jagadeesh Kumar, G.**; Dinesh, T.; Jayathirtha Rao, V.; Naidu, V.G.M. VJR-TZ-18: Novel Phosphatidylinositol-3-Kinase (PI3K) Delta Inhibitor Exerts Antitumor

Activity via Induction of Autophagy and Apoptosis in Breast Cancer In Vitro and In Vivo. *The FASEB journal* **2017**, 31, 670.5-670.5 (Supplement).

6. Bikshapathi, R.; Sai Prathima, P.; Yashwanth, B.; Pamanji, R.; **Jagadeesh kumar, G.**; Maheshwari, R.; Venkateswara Rao, J.; Murty, U. S. N.; Jayathirtha Rao V. Synthesis and bio-evaluation of quaternary centered 3-hydroxy-3-(trifluoromethyl)indolin-2-one derivatives for anticancer and antimicrobial activities. *Monatsh Chem*, **2017**, 148, **757-764**.
7. Ramasatyaveni, G.; **Jagadeesh Kumar, G.**; Mahender, B.; Sridhar Balasubramanian, Jayathirtha Rao, V.; Amitava Das. 2-Azetidinones: Synthesis and biological evaluation as potential anti-breast cancer agents. *European Journal of Medicinal Chemistry*, **2016**, 124, 544-558.
8. **Jagadeesh Kumar, G.**; Naveen Kumar, S.; Dinesh Thummuri, Lavanya BinduSree Adari, Naidu, V. G. M.; Kolupula Srinivas, Jayathirtha Rao, V. Synthesis and Characterization of New s-Triazine bearing Benzimidazole and Benzothiazole Derivatives as Anticancer Agents. *Med. Chem. Res.* **2015**, 24, (12), 3991-4001.
9. **Jagadeesh Kumar, G.**; Sriramkumar, B. H. V. S.; Srihari, E.; Shrivastava, S.; Naidu, V.G. M.; Srinivas, K.; Jayathirtha Rao, V. Synthesis and anticancer activity of some new s-triazine derivatives. *Med Chem Res*, **2013**, 22, (12), 5973-5981.
10. Lalita. G.; **Jagadeesh Kumar, G.**; Dinesh, T.; Suresh, U.; Swamy. V. B. C.; Vasu. P.; Bramanadam, M.; Jayathirtha Rao, V.; Naidu, V.G.M. IITZ-01, novel autophagy blocker with cytotoxic activity, modulated EMT markers and abrogated prostate cancer growth (communicated).

PATENTS:

1. **Jagadeesh Kumar, G.**; Mahendar, B.; Saidulu, M.; Sanjay Kumar, B.; Jayathirtha Rao, V. *Synthesis and Screening of PDE3A Inhibitors for their Biological activity*. (Applied for Indian Patent, Application No **3528/DEL/2015**; PCT Application No. : **PCT/IN2016/050371** Filed on: October 28, 2016; Espacenet, **WO2017072796 (A1) — 2017-05-04**).
2. **Jagadeesh Kumar, G.**; Lalitha, G.; Naidu, V.G.M.; Jayathirtha Rao, V. "*N²-(4-(5-methyl-1H-benzo[d]imidazol-2-yl)phenyl)-6-morpholinon4-phenyl-1,3,5-triazine-2,4-diamine derivatives as anticancer agents*". (Applied for Indian Patent, Application No **201741002124**; **Filing Date: January 19, 2017**)

NAMES OF REFEREES:

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