

Curriculum Vitae

Rangan Mitra

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EDUCATIONAL QUALIFICATIONS

Sl. No.	Examination	Institute/School	University/Board	Year	Percentage/cGPA
1.	Ph.D. (Pharmaceutical Chemistry)	Dept. of Pharm. Engg. & Tech., Indian Institute of Technology, (IIT-BHU)	Indian Institute of Technology	2019-current	10/10 CPI
2.	M.S.(Pharm) (Medicinal Chemistry)	National Institute of Pharmaceutical Education and Research (NIPER)	Autonomous	2007-09	9.64/10 cGPA
3.	GATE	IIT, Kanpur	-	2007	All India Rank 498
4.	B. Pharm	Dept. of Pharmaceutical Technology	Jadavpur University	2004-07	80.40 %
5.	Higher Secondary	South Point High School	W.B.C.H.S.E.	2003	74.20 %
6.	Madhyamik Pariksha	South Point High School	W.B.B.S.E.	2001	85 %

RESEARCH EXPERIENCE

Doctor of Philosophy (PhD) (July 2019 – till date)

Supervisor: Prof. Senthil Raja A.

Dept. of Pharma. Engg. & Tech. IIT (BHU), Varanasi, INDIA

PhD Research Project: “**Design, Synthesis and Evaluation of Novel 1,3,4-Thiadiazole Derivatives as SHP2 Inhibitors for Cancer Therapy**”.

- Design, synthesis and characterization of novel small-molecule ligands targeting SHP2 enzyme.
- Biological evaluation of synthesized molecules against SHP2 inhibition and various assays like enzyme kinetics, antioxidant activity and BBB permeability by *in vitro* protocol
- Biological evaluation of synthesized molecules in various cell lines like MCF-7, U87MG, SH-SY5Y, PC-12 for antiproliferation, anti-survival and antimigratory activity.
- Flow cytometric analysis of antiproliferation mechanism of lead compound(s) in U87MG cells
- Molecular modeling studies like docking, and physiochemical parameters calculation using software like Pre-ADMET.
- *In-vivo* acute oral toxicity in rats/mice to establish the safety profile of the lead compound(s).
- *In vivo* pharmacokinetic profiling of the lead compound(s) using RP-HPLC method.

WORK EXPERIENCE

Associate Scientist at the Department of Chemical Research and Development (CRD) (**Process Research**) at Lupin Research Park, **Lupin Ltd**, Pune from July 2009 to March 2019.

PUBLICATIONS DURING DOCTORALRESEARCH

1. **Mitra, R.**, Kumar, S., Chaudhuri, A., Agrawal, A. K., and Ayyannan, S. R. (2024). Design, Synthesis and Evaluation of Thioacetamide-Tethered Thiadiazole-1,2,4-Triazole Hybrids as SHP2 Inhibitors for Cancer Therapy. *ChemSelect*, 9(27), e202401602. doi: 10.1002/slct.202401602.
2. **Mitra, R.**, Kumar, S., and Ayyannan, S. R. (2023). Identification of new small molecule allosteric SHP2 inhibitor through pharmacophore-based virtual screening, molecular docking, molecular dynamics simulation studies, synthesis and *in vitro* evaluation. *J. Biomol. Struct. Dyn.*, 1-20. doi: 10.1080/07391102.2023.2291733.
3. **Mitra, R.**, and Ayyannan, S. R. (2022). Role of Lysine-specific Demethylase 1 and Its Small Molecule Inhibitors in Glioblastoma Multiforme Therapy. *Anticancer Agents Med .Chem.*, 22(18), 3062-3085. doi: 10.2174/1871520622666220421092414.
4. **Mitra, R.**, Singh, D., and Ayyannan, S. R. (2022). Design, synthesis and evaluation of 5-substituted-2-amino-1,3,4-thiadiazole derivatives as anticancer agents. *J. Pharm. Chem.*, 8(Supplement). 150..
5. **Mitra, R.**, and Ayyannan, S. R. (2021). Small-Molecule Inhibitors of Shp2 Phosphatase as Potential Chemotherapeutic Agents for Glioblastoma: A Minireview. *ChemMedChem*, 16(5), 777-787. doi:

10.1002/cmdc.202000706.

6. **Mitra, R.**, Kumar, S., Chaudhuri, A., Majumdar, S., Agrawal, A. K., Sairam, K., Ayyannan, S. R. (2024). S-Acetylhydrazones of 5-Methyl-1,3,4-thiadiazole-2-thiol: A New Class of SHP2 Inhibitory Scaffold Possessing Potential Anti-Breast Cancer Activity. (*In communication*)

PATENT FILED DURING DOCTORAL RESEARCH

1. **Mitra, R.**, Kumar, S., Chaudhuri, A., Agrawal, A. K., Ayyannan, S. R. A HETEROCYCLIC THIOACETAMIDE DERIVATIVE AND A METHOD OF SYNTHESIS THEREOF. (2024). Indian Patent Application No. 202411046345

SEMINARS & WORKSHOPS ATTENDED

- Emerging Trends in Synthesis of Chemical Scaffolds (ETSCS-2022) held on 27-31 January 2022 by Department of Chemistry, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat.
- SPARC sponsored Indo-US Workshop on Pain Mechanisms and Therapeutics held on 06-10 May 2021 by Dept. of Pharm. Engg. & Tech., IIT (BHU), Varanasi

SCHOLASTIC ACHIEVEMENTS

- Awarded **first position** in the poster presentation titled "Design, synthesis and evaluation of 5-substituted-2-amino-1,3,4-thiadiazole derivatives as anticancer agents" at the International Conference on Emerging Trends in Drug Discovery and Development (ICETD3-2022) held on 20-21 January 2022 at BIT, Mesra
- GATE qualified in 2007 and recipient of GATE scholarship (AIR 498) [2007-2009]
- Received Teaching Assistantship from IIT (BHU) during Ph.D. tenure (2019-2024)

SKILLS/STRENGTHS

- Expertise in designing and synthesizing of multifunctional small organic molecules; elucidation of complete structures.
- Highly experienced in carrying out multiple step organic synthesis; optimized reaction conditions to maximize yields.
- Experienced in performing amide coupling, Suzuki coupling, Heck coupling, and reductive amination, demethylation, protection and deprotection of various groups like BOC, TBDMS etc.
- Air and moisture-sensitive organic compounds and reactions: Experienced in running moisture sensitive reactions under inert conditions.
- Knowledge of retro-synthetic analysis and handling exposure of various reactions.
- Extensive experience with column chromatography and preparative thin layer chromatography.
- Operated and analyzed the following instruments/ experimental data: 500 MHz NMR for ¹H, ¹³C-NMR, FT-IR, and UV-VIS; spectral analysis of the data, problem solving and drawing of conclusions..
- Experience in analyzing biological data and refinement of the leads and SAR studies.
- Instrumentation which includes handling of equipment like multimode well-plate reader, UV-Vis spectrophotometer, FTIR/ATR spectrophotometer, fully automated HPLC system, homogenizer, digital balances, digital pH meter, ultracentrifuge, microwave oven, Rotavapor.
- Strong organizational and interpersonal skills; work effectively as an independent and in interdepartmental team environments.

PERSONAL DETAILS:


Date of Birth	22 Mar 1985
Father's Name	Gobinda Chandra Mitra
Mother's Name	Tandra Mitra
Gender	Male
Blood Group	AB+
Languages Known	Hindi, English, Bengali, Marathi
Marital Status	Unmarried

DECLARATION

I hereby declare that the above said particulars are true to the best of my knowledge and belief.

Date: 30 Sep 2024

Place: Varanasi, U.P.


(Rangan Mitra)