

## RESUME

M. Gover Antoniraj, M. Pharm (Pharmaceutics), Ph.D.

Scientist

CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow, India

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### Research Interest

Discover advances in pharmaceutical (natural and synthetic molecules) science to enhance public health

### Education

**Ph.D.** : Pharmaceutical Technology

Dissertation title : Design, synthesis, and characterization of stimuli-responsive polymeric nanoparticles for targeted drug delivery

Institute : Department of Pharmaceutical Technology, BIT Campus, Anna University, Chennai, India

**M.Pharmacy** : Pharmaceutics

Dissertation title : Enhancement of anticancer potential of curcumin nanocomplexes

Institute : Department of Pharmaceutical Technology, BIT Campus, Anna University, Tiruchirappalli, India

**B.Pharmacy** : Pharmacy

Institute : Thanthai Roever College of Pharmacy, The Tamil Nadu Dr.M.G.R Medical University, Chennai, India

### Professional Experience

Position held	Duration	Institute
Scientist	August 2024 to now	CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow
PBC-Postdoctoral fellow	May 2021 to October 2023	Department of Clinical Biochemistry and Pharmacology Ben-Gurion University of the Negev, Israel
National-Postdoctoral fellow	June 2019 to March 2021	Department of Biotechnology, Alagappa University, India
Research Associate	April 2018 to April 2019	Indian Institute of Food Processing Technology, India
Senior Research Fellow (DST) & (UGC)	April 2013 to March 2018 & August 2010 to March 2013	Department of Pharmaceutical Technology, BIT Campus, Anna University, Tiruchirappalli, Tamil Nadu, India

## Awards

Junior-senior research fellowship	: Sponsored by University Grants Commission, India
Winter school fellowship	: Sponsored by the Department of Health Research (DHR), India
Young scientist award	: CRESCENT Institution of Science and Technology, Chennai 2019
National-Postdoctoral fellowship	: Department of Science and Technology, India
PBC-Postdoctoral fellowship	: Council of Higher Education, Israel

## Publications, Patent & Conferences

Nos. of papers published		Total Impact factor	Total citations	h-index	Nos. of Patent		Nos. of book chapters published
National	International				Filed	Granted	
2	23	121.67	690	15	-	1	3
Conferences attended		13			Conferences presented		14

## Research grant:

1. DST-SERB sponsored research project titled, Fabrication of phenylboronic acid coupled niosome nanocarriers for co-encapsulation of indomethacin and doxorubicin: Strategic treatment for multi-drug resistant breast cancer, Research grant: Rs. 19, 53,003.00 (Duration June 2019-March 2021)

## Patent:

1. Surendra Nath, B., Jaya Sravani, V., Ruckmani, K., **Gover Antoniraj**, M., Heartwin A. Pushpadass, Laxmana Naik., Magdaline Eljeeva Emerald F., Stabilization of non-ionic surfactant-based nanovesicles loaded with resveratrol using stearic acid and method of preparation thereof-Indian Patent-Granted: Patent no: 404471

## List of Selected Publications

1. **Mariya Gover Antoniraj**, Henry Linda Jeeva Kumari, A. Shanmugarathinam, Ruckmani Kandasamy 2024, pH-responsive chitosan copolymer synthesized via click chemistry for design of polymeric nanoparticles for targeted drug delivery, Carbohydrate Research, 542, 109200
2. **Mariya Gover Antoniraj**, Ruckmani Kandasamy, Yamini Dhayanandamoorthy, Kumar Ponnuchamy, Kasi Pandima Devi 2024, Study the anticancer efficacy of doxorubicin-loaded redox-responsive chitosan-derived nanoparticles in the MDA-MB-231 cell line, Carbohydrate Research, 536, 109049
3. **Mariya Gover Antoniraj**, Ramar Mohan Kumar Ramar, Linda Jeeva Kumari Henry, Subramanian Natesan, Ruckmani Kandasamy 2023, Fabrication of chitosan-based redox-responsive polymeric nanoparticles: In-vitro and in-vivo evaluation for treating airway inflammation in asthma, Journal of Drug Delivery Science and Technology, 84, 104473

4. **Mariya Gover Antoniraj**, Kasi Pandima Devi, Ioana Berindan-Neagoe, Seyed Fazel Nabavi, Hamid Reza Khayat Kashani, Safieh Aghaabdollahian, Farzaneh Afkhami, Philippe Jeandet, Zahra Lorigooini, Maryam Khayatkashani, Seyed Mohammad Nabavi 2022, Oral microbiota in cancer: Could the bad guy turn good with application of polyphenols? *Expert Reviews in Molecular Medicine*, 25,1-17
5. **Mariya Gover Antoniraj**, Yamini Dhayanandamoorthy, Ponnuchamy Kumar, Ruckmani Kandasamy, Devasahayam Jaya Balan, Kasi Pandima Devi 2022, Design and evaluation of redox responsive disulfide containing resveratrol loaded nanocarrier anti-cancer activity in the MDA-MB-231 cell line, *Materials Today Communications*, 32, 103873
6. Helen Sonia A, Sambath Kumar R, Ruckmani K, M Gover Antoniraj, Venkateswra Murthy N Kannan C, Sudha M 2022, Pharmacokinetic Study of Abacavir Sulphate Loaded Niosomes and Proniosomes in Rats, *Indian Journal of Pharmaceutical Sciences*, 84, 1189-1196
7. Lalitha K Govindaram, Mohammed Al Bratty, Hassan A Alhazmi, Ruckmani Kandasamy, Neelaveni Thangavel, Angum M Ibrahim, Gover Antoniraj Mariya, Kumar Ponnusamy 2022, Formulation, biopharmaceutical evaluation and in-vitro screening of polyherbal phytosomes for breast cancer therapy, *Drug Development and Industrial Pharmacy*, 48, 552-565
8. Abimanyu Sugumaran, Rajesh Pandiyan, Palanivel Kandasamy, **Mariya Gover Antoniraj**, Irfan Navabshan, Balasubramaniyan Sakthivel, Santhosh Kumar Chinnaiyan, Veeramuthu Ashokkumar, Chawalit Ngamcharussrivichai 2022, Marine biome-derived secondary metabolites, a class of promising antineoplastic agents: A systematic review on their classification, mechanism of action and future perspectives, *Science of The Total Environment*, 836, 155445
9. Devasahayam Jaya Balan, Mamali Das, Sethuraman Sathya, Chandramohan Kiruthiga Mahalingam, Jeyakumar, **Mariya Gover Antoniraj**, Kasi Pandima Devi 2022, Chitosan-based encapsulation increased the apoptotic efficacy of thymol on A549 cells and exhibited nontoxic response in swiss albino mice, *International Journal of Biological Macromolecules*, 202, 620-631
10. Irfan Navabshan, Balasubramaniyan Sakthivel, Rajesh Pandiyan, Mariya Gover Antoniraj, Selvakumar Dharmaraj, Veeramuthu Ashokkumar, Kuan Shiong Khoo, Kit Wayne Chew, Abimanyu Sugumaran, Pau Loke Show 2021, Computational Lock and Key and Dynamic Trajectory Analysis of Natural Biophors Against COVID-19 Spike Protein to Identify Effective Lead Molecules, *Molecular Biotechnology*, 63, 898-908
11. M. Maria Leena, M. Gover Antoniraj, Moses J.A., C. Anandharamakrishnan 2020, Three fluid nozzle Spray Drying for Co-encapsulation of Curcumin and Resveratrol and controlled release, *Journal of Drug Delivery Science and Technology*, 57, 101678
12. Yamini D, **M. Gover Antoniraj**, Chaya ABK, Ruckmani K 2020, Aerosolized hyaluronic acid decorated, ferulic acid loaded chitosan nanoparticle: A promising asthma control strategy, *International Journal of Pharmaceutics*, 591, 119958
13. **M. Gover Antoniraj**, M. Maria Leena, Moses JA, C. Anandharamakrishnan 2020, Cross-linked chitosan microparticles preparation by modified three fluid nozzle spray drying approach, *International Journal of Biological Macromolecules*, 147, 1268-1277
14. Jaya Sravani V, Surendra Nath B, Ruckmani K, **Gover Antoniraj M**, Magdaline Eljeeva Emerald F, Heartwin Amaladhas P, Laxmana Naik N 2018, Surfactants and fatty alcohol based novel nanovesicles for resveratrol: Process optimization, characterization and evaluation of

functional properties in RAW 264.7 macrophage cells, *Journal of Molecular Liquids*, 261, 387-396

15. **M. Gover Antoniraj**, S. Angelin Tisha, Ayyavu Mahesh, A. Shanmugarathinam, Ruckmani Kandasamy, 2018, Synthesis and characterization of cystamine conjugated chitosan-SS-mPEG based 5-Fluorouracil loaded polymeric nanoparticles for redox responsive drug release, *European Journal of Pharmaceutical Sciences*, 116, 37-47
16. **M. Gover Antoniraj**, Ayyavu Mahesh, Henry Linda Jeeva Kumari, Goutham Nageshwar Rao, Subramanian Natesan, D Sathish Sundar, Ruckmani Kandasamy, 2018, Cytocompatible chitosan-graft-mPEG based 5-Fluorouracil loaded polymeric nanoparticles for tumor-targeted drug delivery, *Drug Development and Industrial Pharmacy*, 44, 365-376
17. **M. Gover Antoniraj**, Senthil Kumar C, Henry Linda Jeeva Kumari & Subramanian Natesan, Ruckmani Kandasamy 2017, Atrial natriuretic peptide-conjugated chitosan-hydrazone-mPEG copolymer nanoparticles as pH-responsive carriers for intracellular delivery of prednisone, *Carbohydrate Polymers*, 157, 1677-1686
18. **M. Gover Antoniraj**, Senthil Kumar C, Ruckmani Kandasamy 2016, Synthesis and characterization of poly(N-isopropyl acrylamide)-g-carboxymethyl-chitosan copolymer-based doxorubicin loaded polymeric nanoparticles for thermoresponsive drug release, *Colloid and Polymer Science*, 294, 527-535
19. K. Sriram, P. Uma Maheswari, K. M. Meera Sheriffa Begum, G. Arthanareeswaran, M. Gover Antoniraj and K. Ruckmani, 2018, Curcumin delivery by vanillin modified chitosan with Superparamagnetic hybrid nanoparticles as carrier, *European Journal of Pharmaceutical Sciences*, 116, 48-60
20. Sathish Sundar Dhilip Kumar, A. Mahesh, M. Gover Antoniraj, Hanumant Singh Rathore, N.N. Houreld, Ruckmani Kandasamy, 2018, Cellular Imaging and Folate Receptor Targeting Delivery of Gum Kondagogu Capped Gold Nanoparticles in Cancer Cells, *International Journal of Biological Macromolecules*, 108, 220-230
21. C. Senthil Kumar, M.D. Raja, D. Sathish Sundar, **M. Gover Antoniraj**, K. Ruckmani 2015, Hyaluronic acid co-functionalized gold nanoparticle complex for the targeted delivery of metformin in the treatment of liver cancer (HepG2 cells), *Carbohydrate Polymers*, 128, 63-74.
22. C. Senthil Kumar, Ayyavu Mahesh, M. Gover Antoniraj, S. Vaidevi, K. Ruckmani 2016, Ultrafast synthesis of stabilized gold nanoparticles using aqueous fruit extract of *Limonia acidissima* L. and conjugated epirubicin: targeted drug delivery for treatment of breast cancer, *RSC Advances*, 6, 26874-26882
23. Sathish Sundar D, **M. Gover Antoniraj**, C. Senthil Kumar, Shyam S Mohapatra, N. N.Houreld, K Ruckmani 2016, Recent Trends of Biocompatible and Biodegradable Nanoparticles in Drug Delivery: A Review, *Current Medicinal Chemistry*, 23, 3730-3751

#### **Book chapter:**

1. **Gover Antoniraj M**, Angelin Tisha, Senthil Kumar C, Ruckmani Kandasamy, 2014, Redox Environment Cleavable Polymeric Nanoparticles for Drug Delivery, *Nanobio Pharmaceutical Technology Applications and Perspectives*, ELSEVIER, A division of Reed Elsevier India Pvt. Ltd. ISBN: 9789351072935

2. V. Abinash, T. Rahul, **M.G. Antoniraj**, J.A. Moses, C. Anandharamakrishnan, 2021, Nanotechnology approaches for food fortification, Food, Medical and Environmental Applications of Polysaccharides, ELSEVIER, ISBN: 9780128193136
3. L. Mahalakshmi, S.Priyanga, **Gover Antoniraj M**, J.A. Moses, C. Anandharamakrishnan, 2024, Nanotechnology for the Food Industry, Emerging Technologies for the Food Industry, CRC Press, ISBN: 9781003413592