



**CLOUT BIO
INNOVATORS**
SUPPLEMENTING INNOVATIONS

OUR PORTFOLIO

Clout Bio Innovators Pvt Ltd. is a company registered under Indian Companies Act, 1956 and is located in Thiruvananthapuram, Kerala, India. We are focused on development of bio-products that cater value addition of natural products and deciphering biological activity of natural compounds. Clout Bio Innovators is registered under Drugs Control Department, Govt of Kerala (Lic no. 60/25/2020). We, in collaboration with various State and Central organisations, work on development and commercialisation of biological products. The company is also registered and licensed under various other government organisations such as

- MSME, Govt. of India
- Department of Industries & Commerce, Govt. of Kerala
- Kerala University Technology and Business Start-up Centre (KUTBSC), University of Kerala

To cater the research, we have an R & D support facility providing best environment hallmarked with well experienced scientists and research associates who can provide reliable output from biological research. Our skill sets are so diverse and interdisciplinary, making us unique in the field. The business portfolio includes research consultancy, contract research, thesis and manuscript preparation, mini and major research projects and training sessions. Clout Bio Innovators Pvt Ltd have a well-established facility on animal cell culture, basic molecular biology experiments, protein purification, natural product isolation and purification, and microbiological studies. We are committed to give research assistance and guidance to issues arising from academia and industries working in biology. We design and refine ideas from bench side to bedside. We have well experienced consultants in the area of product commercialisation, patent filing and technology transfer. As part of maintaining minimum standards in research labs, we train students about Good Laboratory Practice (GLP) and Standard Operating Protocols (SOPs) under practice.





OUR THRUST AREAS ARE:

RESEARCH AND DEVELOPMENT OF COMMERCIAL PRODUCTS AND ITS VALIDATION

Clout Bio Innovators have a good team of researchers, industrial experts, academicians and marketing analysts. Based on the research outcomes from in-house R & D facility, we have developed biopharmaceutical products of which a few are under human trials. Our products presently in market include insect repellents, anti-vomiting balms and hand sanitisers under the trade name Pristine. We do contract manufacturing and have materialised products for various pharma companies (Joyra Pharma, Tamil Nadu; Kinopharm, Kerala). We provide technical and instrumentation support for finalisation of commercial products from natural compounds and synthetic molecules. Our team helps to flourish your finding from bench-side to bed-side. We deal with analysis of market value of products, possible funding options and valuation and also on collaborative ventures.

Undertake major research projects and report preparation

Clout bio innovators undertake contract research from Government and Private Organisations and are capable to materialise successfully. We have experts in manuscript and final report preparation in high quality format and international standards.

Provide research facilities to PhD, Masters and Bachelor students

Our student friendly research facilities and trainers are capable enough to provide support for Ph.D, masters and bachelor students in completing the research work. The advisory council and support staff members are strong enough to sharpen and framework your research.

TECHNIQUES AND INSTRUMENTATION FACILITY

- **Animal cell culture facility**

- ◆ CO2 incubator
- ◆ Class II A2 Bio-safety cabinet
- ◆ Inverted phase contrast microscope
- ◆ Spectrophotometer
- ◆ Centrifuge
- ◆ Basic laboratory equipments



- **Natural Product Isolation**

- ◆ Extraction apparatus
- ◆ Solvent separation procedures
- ◆ Column chromatography
- ◆ Thin layer chromatography
- ◆ Rotary vacuum evaporator

- **Molecular Techniques**

- ◆ DNA isolation and quantification
- ◆ RNA isolation and quantification
- ◆ Protein isolation and quantification
- ◆ Gel electrophoresis
- ◆ Protein purification techniques - precipitation, size exclusion, ion exchange

Biological assays for Academia

We have experts in our panel working on the major areas of biological research and that makes us efficient in solving basic as well as advanced level research questions. We undertake

- ◆ Cell proliferation and toxicity studies
- ◆ DNA damage assay
- ◆ Oxidative damage analysis - *in vitro* and *in chemico*
- ◆ Anti-diabetic studies
- ◆ Hypo and hyper-lipidemic studies
- ◆ Wound healing assays
- ◆ Anticancer activity analysis
- ◆ Protein-protein interaction studies
- ◆ Primer design and validation methods
- ◆ Gene expression analysis - real time PCR

SERVICES PROVIDED UNDER MOLECULAR BIOLOGY AND GENOMICS

- **DNA based assays and analysis**

- ◆ DNA isolation and quantification (From any tissue source)
- ◆ Primer designing and PCR optimization
- ◆ DNA Barcoding
- ◆ Molecular Phylogenetics
- ◆ Divergence Time Dating
- ◆ Species Delimitation Analysis
- ◆ DNA mutation detection using RFLP, TaqMan Assay & DNA sequencing
- ◆ Population Genetics Analysis



- **Next Generation Sequencing**
 - ◆ Transcriptome analysis
 - ◆ DGE
 - ◆ Mitochondrial genome analysis
- **Gene expression analysis**
 - ◆ RNA isolation and Quantification
 - ◆ Real time PCR, cDNA synthesis
 - ◆ Data analysis, calculations and correlation studies
 - ◆ Preparation of RNA samples for RNA-Seq
 - ◆ RNA sequencing and Data analysis and correlation studies
- **Micro RNA expression analysis**
 - ◆ Designing micro RNA primers
 - ◆ Isolation of micro RNA and cDNA synthesis
 - ◆ Data analysis, calculations and correlation studies
- **Statistical analysis**
 - ◆ Association tests : Chi-square, t-test
 - ◆ Correlation tests: logistic and linear regression analysis



Research support for industries

The need for validation and characterisation of bio-active ingredients and control on raw materials and manufacturing process has gained much attention and scrutiny. Administrative agencies like CDSCO, India and FDA insist on documented evidences supporting high degree of assurance on predetermined specifications and quality attributes of product. Physicochemical and biological characterisation of drug substance and stability of materials are supposed to be critical parameters in pharma industry.

Clout Bio Innovators are specialised in validating phytochemical and pharmaceutical effect of ethnobotanical drugs against metabolic disorders such as diabetes and obesity. We offer cell line mediated studies for the testing of anti-diabetic and anti-obesity effect of natural products.

- Glucosidase and α -amylase assays (Absorbance)
- Glucose uptake assay (FACS/Fluorescence)
- Lipid Quantification assays (Absorbance)
- DPP-IV Inhibitor assay (Absorbance)
- Gene expression and protein quantitation assays
- Cytokine release assay
- Cell-Based Neutralizing Antibody assays
- Ligand Binding studies
- Luminescence based Reporter Assay systems
- Labelled Drug Binding studies

We invite scientists, researchers, teachers and students from colleges and research centres to carry out project works and to attend training modules. We, apart from the facilities provided in our centre, are ready to provide career guidance and job training (as per the available vacancy of seats).

We also have facilities to evaluate and standardise Active Pharmaceutical Ingredients (APIs), New Biological Entities (NBE) and New Chemical Entities (NCEs) through customised cell culture assays and molecular studies.

CORE MEMBERS

Dr. A. Jayakumaran Nair, PhD (Biochemistry)

Head, R & D, Clout Bio Innovators Pvt. L.

Former Head, Dept. of Biotechnology, University of Kerala

Former Director, Inter University Centre for Genomics and Gene Technology (IUCGGT)

Mr. Ajith Gopalakrishnan, MSc (Microbiology)

Managing Director

Pharma Market Research Analyst and Supply Chain Management Specialist

Mr. Arun Kumar, MTech (Environmental Engineering, BITS Pilani)

Director (Operations)

Industrial operations and Environmental engineering specialist

Dr. Rajakrishnan. R, PhD (Botany)

R & D Consultant

Researcher, Department of Botany and Microbiology, King Saud University, Riyadh, Saudi Arabia

Dr. Mahesh S Krishna, PhD (Biotechnology)

Associate Sr. Scientist

Fast Track Young scientist (DST) - Completed

Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

Ten years of Post-doctoral experience in thrust areas of Biotechnology



CORE ASSOCIATES

Dr.V.S.Sugunan, MSc., PhD (Biochemistry)

Retired Faculty, Kerala University
Former Scientist, Hepatitis C Lab, RGCB

Dr. Suresh Kumar, PhD (Biotechnology)

Asst. Professor (Cytogenetics), Jubilee Hospital, Thrissur

Dr. Ram Mohan Ram Kumar, PhD (Biomedicine)

Research Assistant Professor, University of Rochester, NY. USA

Dr. Linda Koshy, PhD (Biotechnology)

Young Scientist, Centre for Genomics and Gene Technology
University of Kerala, Thiruvananthapuram, Kerala

Dr. Siby Philip, PhD (Evolutionary Genetics)

Asst. Professor, Nirmalagiri College, Kannur,

Dr. Kalaivani V, PhD (Biochemistry)

Division of CVD, Rajiv Gandhi Centre for Biotechnology, Kerala

Dr. Amjesh R, PhD (Bioinformatics)

Assistant Professor Division of Bioinformatics Biostatistics,
Yenepoya Research Centre, Mangalore

Dr. Seetha Dayakar PhD (Virology)

Program Scientist, Laboratory Medicine and Molecular Diagnostics
Rajiv Gandhi Centre for Biotechnology, Kerala

Ms. Veena V. M. Pharm

Asst. Professor, Dept of Clinical Pharmacy, SKCPRC, Kerala

Mr. Ashin Chungath (MS in Intellectual Property Rights)

IP Consultant - Manager, JAH & Co, Qatar



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