



Accelerating Drug Discovery

with experienced cross-functional teams



www.jubilantbiosys.com



A Contract Research, Development and Manufacturing Organization (CRDMO) in India

Jubilant Biosys Ltd is a part of the Jubilant Pharmova group of companies with R&D centers in India and business offices in North America, Europe and Asia. Jubilant Biosys provides comprehensive drug discovery services from target discovery to candidate selection and contract research for discovery and pre-clinical stage programs while also providing manufacturing support from clinical to commercial stage programs.

The Jubilant Advantage

85+

Integrated projects

110+

happy customers

1,200+

experts

- Largest pool of drug discovery talent in India
- Comprehensive portfolio management capabilities
- Seamless offerings from early discovery to commercial supply
- Integrated Quality system for CRDMO & API Business
- Independent Quality management authority for materials
- Quality System in line with ICH Q7, Q8 & Q9
- Resources and organization structure to meet regulatory requirements
- Electronic change control, OOS, Deviations, and complaints management

The Jubilant Biosys Delivery Platform

DRUG DISCOVERY > PRE-CLINICAL > DEVELOPMENT > COMMERCIAL & LIFE CYCLE MANAGEMENT



Chemistry Innovation Research Center
Greater Noida



Investigational New Drug Center
Noida



Integrated Drug Discovery Center
Bengaluru



Manufacturing Plant
Nanjangud

Integrated Drug Discovery Center (IDDC)

200+

FTE's to provide Integrated discovery capabilities from target to clinical candidate

Chemistry Innovation Center (CIRC)

600+

FTE's Digitally enabled, operationally efficient state-of-the-art Chemistry Research facility with integrated ADME support.

R&D Process Chemistry Center & Scale up

140+

FTE's dedicated to process chemistry capabilities and analytical development. GMP and scale-up facility.

Scale up & Manufacturing

900+

MTs Reactor Capacity with a wide set of technologies. Pilot and 7 manufacturing blocks Accredited by major health authorities such as FDA, PMDA, EMA



Integrated Drug Discovery Services

Jubilant offers integrated drug discovery services spanning across Hit Identification / Target Validation (HI / TV) to Lead Optimization (LO) / Pre-clinical Candidate (PCC), for multiple therapeutic areas. With well enabled capabilities in oncology, metabolic disorders, CNS, pain, inflammation, fibrosis and respiratory diseases, Jubilant Biosys was an integrated pre-clinical CRO that has rapidly grown into a leading collaborator for biotechnology and pharmaceutical companies worldwide.

Pre-Clinical Workflow

- In silico analysis
- Structural biology support
- Assay selection
- Chemistry
- Tier 1 ADME

Target to Hit

- Primary and functional assays
- Chemistry
- SAR analysis
- ADME and PK
- Efficacy studies
- Tox studies

Hit lead

- Chemistry scale-up
- PK profiles in rodents & non-rodents
- Tox studies, profiling
- Elimination studies
- Genotoxicity, AMES / HERG Studies

Lead Candidate

- Salt selection
- Formulation
- Drug-drug interaction
- Regulatory tox

Candidate Selection



**Integrated
Drug Discovery
Center**
Bengaluru



**Chemistry
Innovation
Research Center**
Greater Noida



Chemistry Services

Synthetic Chemistry

The synthetic team is skilled to undertake challenges in synthetic organic chemistry, involving various types of chemistry – heterocyclic, asymmetric, microwave, enzymatic, multi-step synthesis, carbohydrate, nucleotide & nucleoside – to deliver compounds to customer requirements.

Analytical Chemistry

The analytical team provides support to discovery and process chemistry groups as an integrated service or a standalone option for customers with a complete range of services – with assured fast-track delivery. Understanding each project's unique requirements, the quantitative and qualitative analysis, structural uniqueness, purification, and chemical characterization are performed as needed using advanced technologies.



Medicinal Chemistry

Jubilant Biosys' seasoned medicinal chemists design focused compounds by employing hypothesis-driven, multi-parameter optimization to deliver high quality preclinical candidates. They are supported by state-of-the-art computational tools and backed by a team with rich experience and expertise in structure-based and ligand-based drug design. They are also highly skilled in using synthetic chemistry to solve various hurdles in lead optimization.

The chemistry team works under one roof with the DMPK, *in vitro*, *in vivo* and structural biology teams on the rapid Design-Make-Test-Analyse cycle to access various activities and advance the project in the shortest possible timeframe.

Computational Chemistry

The Jubilant Biosys Computational Chemistry team excels in drug discovery design efforts in collaboration with the medicinal chemistry, biology and DMPK teams, by conducting molecular modeling studies – ligand-based drug design approaches (LBDD, pharmacophore and QSAR modeling), protein structure-based drug design (SBDD, homology modeling, docking and scoring), fragment-based drug design, chemoinformatic analysis and de novo design.

Biology Services

Structural Biology

The Structural Biology team supports drug discovery programs by combining protein science, biophysical analysis and crystallization, offering comprehensive services from construct design to structure determination (Gene to Structure). The protein science group has experience in handling challenging targets and is proficient with multiple expression platforms (bacteria, insect and mammalian) and chromatography (affinity, IEC and SEC) techniques. The biophysics group houses Surface Plasmon Resonance systems and automated High Throughput screening systems for binding assessments and fragment screening. The crystallography group carries out crystallization and structure determination of protein-ligand complexes and has access to synchrotrons in Australia and France. They also design protein-engineering strategies to enable crystallization of challenging targets.

In Vivo Biology

The *in vivo* Biology department at Jubilant combines innovative technologies and unrivalled expertise to enable efficient drug discovery approaches catering to individual requirements. Validated animal-based disease models in Oncology, Inflammation, Autoimmunity, Metabolism and Neuroscience empowers the rapid translation of pre-clinical candidates.

By including whole-body imaging and multi-color FACS, Jubilant leverages the power of diverse down-stream markers within the efficacy studies to facilitate a comprehensive understanding of drug action. Ethics Committee and AAALAC approvals ensure quality that also include studies on transgenic and immune compromised animals.



In Vitro Biology

The *In vitro* Biology Group at Jubilant has the infrastructure and expertise to perform a variety of biochemical and cellular assays against most target classes, including enzymes, GPCR's, NHR's and transporters.

DMPK

The DMPK department comprises *in vitro*, *in vivo*, metabolite ID and pre-formulation groups, managed by highly experienced and matured scientists who guide discovery projects by troubleshooting scientific issues and offer changes on scaffolds to drive discovery projects in the right direction and de-risk failures in the later stage of development due to DMPK related issues.

Toxicology

The toxicology team offers an array of GLP and non-GLP study services to its customers. The team has designed and performed safety programs ranging from acute through Chromosomal Aberration and Micronucleus studies.





CRDMO Services

Taking your drug candidate to GLP TOX and Clinical manufacturing needs an effective transition from the medical chemistry phase to early scale-up without taking more time than absolutely necessary. Biosys has set-up a dedicated PR&D team along with a GMP pilot-scale clean room which provides a strong foundation for rapid scale-up and delivery of key milestones for your program.

Each and every CRDMO process at Jubilant Biosys is designed to ensure high-quality products and safe operations – at the Scale up and Manufacturing in Nanjangud, India with 900+ MTs Reactor Capacity and a wide set of technologies. The facility also contains 1 Pilot and 7 manufacturing blocks accredited by major health authorities such as FDA, PMDA, EMA. This is indeed the reason why we are the partner of choice for biotechnology and pharmaceutical organizations.



Get in Touch Today

Jubilant Biosys Ltd.

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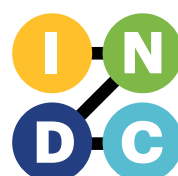
 www.jubilantbiosys.com

 @Jubilant Biosys Limited



**Chemistry
Innovation
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**Investigational
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**Integrated
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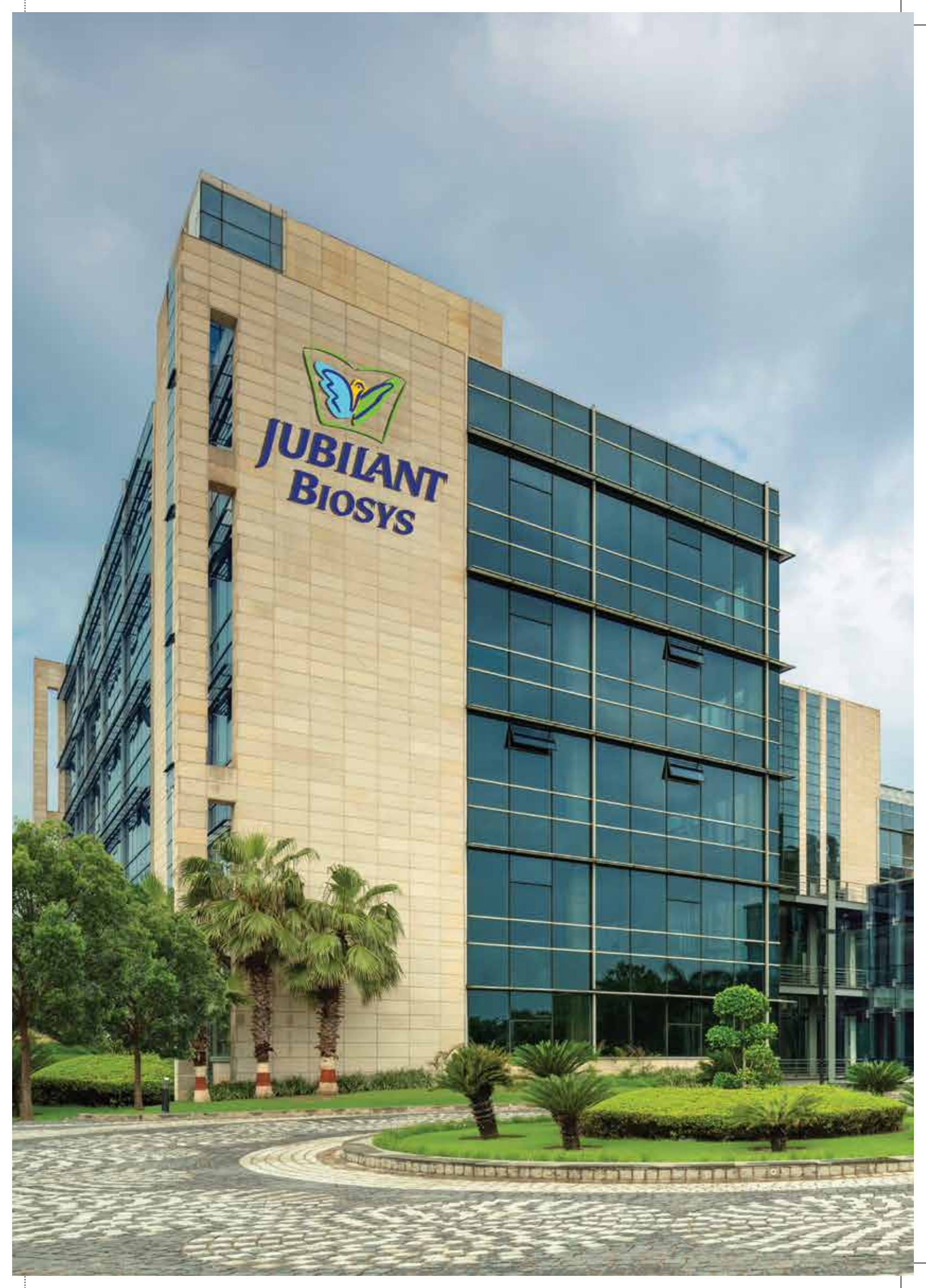


**Manufacturing
Plant**
Nanjangud

Nanjangud Manufacturing Plant:
Jubilant Pharmova Limited
18,56,57 & 58, KIADB Industrial
Area Nanjangud, Mysore - 571302,



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