AXCELEAD
Drug Discovery Partners

Who are we?

Axcelead is a Japan-based global solution provider in drug discovery, offering integrated services from target identification to IND enabling studies. With a mission to accelerate research as your drug discovery engine, Axcelead provides exceptional expertise, flexible partnerships, and access to valuable legacy data.

Key Offerings

One-stop Shop

- Fully integrated capabilities to cover all the drug discovery processes from target ID to IND
- Covers a wide range of disease areas and modalities covered

Legacy Data

- Access to pharma's legacy assets, including compounds and data from over 1000 past projects
- Leveraging these assets to jump-start projects and increase your success

Exceptional Team

- Over 350 drug hunters with deep expertise and proven track record
- Relevant experience across various target classes and therapeutic areas to support your success

Flexible Business Model

- Drug discovery business & Platform business
- Close collaboration with you to design and adapt optimal strategies (Project-based, FFS-based)

Resources & Records

370 / 100	**1000**	**700, 90%**
Researchers / PhDs	Legacy Projects	Screening Projects / Hit Rate
100 / 20	**264**	**1.5M**
INDs / NDAs	Customers	Compound Library

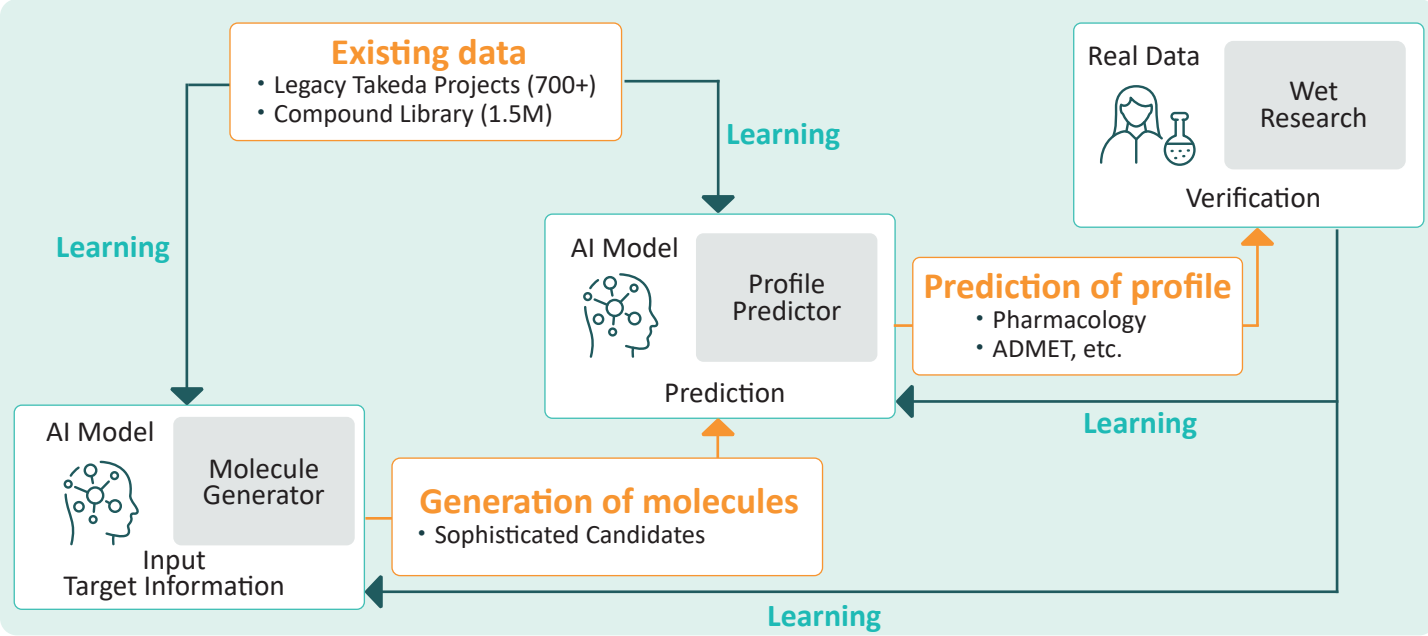
News Releases

Axcelead DDP and Lilly Enter into A Research and Collaboration Agreement (Sep 5, 2024)

Axcelead Drug Discovery Partners Enters into Master Service Agreement for Drug Discovery Projects with Acadia Pharmaceuticals (Sep 10, 2024)

AI-powered Drug Discovery

Increase the success rate of drug discovery and improve the drug discovery process, thereby reducing clients' time to clinical trials and increasing revenue streams.



IND-Enabling Projects

Skip early-stage research and fast-track your progress without starting from scratch

Axcelead offers a unique opportunity to leverage data from approximately 1,000 projects across multiple therapeutic areas. This innovative platform allows customers to co-create drug candidates, with newly generated IP owned by the customers. Over **180 projects** have been curated from the 1,000, offering ready-to-go compounds and assays. Axcelead helps save time and resources while expanding research pipelines. The platform covers various therapeutic areas, target classes, and research stages, providing a comprehensive solution for drug discovery.

Save Time & Resources

- Offer Ready-to-Go compounds and assays
- Eliminate the initial phases of drug discovery

Expand Your Pipeline

- Select projects from curated dataset
- Customize research plan to fit your needs

Projects Details

Therapeutic Area

- CNS disease
- Autoimmune disease
- Inflammatory disease
- Cancer
- Metabolic disease
- Cardiovascular disease
- Others

Target Class

- Enzyme (non-kinase)
- Kinase
- GPCR
- Ion channel
- Nuclear receptor
- Others

Research Stage

- Hit finding (30%)
- Lead generation (30%)
- Lead optimization (40%)

Integrated Drug Discovery

Screening

Compound Management and Protein Science
- Efficient compound and data handling
- Protein production and cell-free assay

Cell Biology and High-Throughput Screening
- Cell line establishment and assay development
- Target deconvolution
- Automated testing of large chemical libraries

Compound Evaluation and Platform Development
- Biochemical and biophysical assay for compound profiling
- Design and development of new screening platform

Chemistry

Medicinal Chemistry
- Expert drug design and chemical synthesis

Design Technology
- Computer simulation to assist drug design
- Virtual screening
- Combinatorial chemistry

Analytical and Synthetic Chemistry
- Qualitative and quantitative analysis
- Purification, structure determination, flow chemistry, photo chemistry
- Parallel synthesis, chiral synthesis
- Route scouting and scale-up synthesis

DMPK

HT-ADME
- Target ADME profile
- Assay process design

Drug Disposition & Analysis
- Compound optimization
- PK/PD/Efficacy analysis

Modeling & Simulation
- Mechanism-based modeling
- Population PK/PD modeling

Drug Interaction
- PBPK model-based analysis

Metabolite Analysis
- Metabolite profiling (radiolabeled/nonlabelled, human/animals)

Physicochem/Preformulation
- Physicochemical profile
- Nomination/optimal crystal form

Pharmacology

Therapeutic Areas
- Oncology: Cancers including immuno-oncology
- Immunology: IBD, RA, SLE, psoriasis, MS
- CNS: Neurodegenerative and psychiatric diseases
- Cardiovascular/Kidney: Heart and kidney diseases
- Musculoskeletal: Osteoporosis, OA, fracture, muscular atrophy, DMD
- Metabolic: Diabetes, NASH, obesit
- Others: Pain, constipation, pruritus

Platforms

Omics
Metabolomics, lipidomics, proteomics, transcriptomics, genomics

Genetically-modified animal models
Gene-editing knock-out / knock-in mice and rats

Bioinformatics
Advanced pathway analysis and visualization

Pathology
Histopathology and clinical pathology

Safety

In vitro tox
- Target safety assessment
- Cardiotoxicity screening
- Genotoxicity screening

IND/NDA-enabling Studies
- Rodent and non-rodent studies
- GLP studies
- Safety and DMPK assessment

In vivo tox
- Best-in class cardiovascular de-risking screening
- Non-GLP early/preliminary tox studies

New Modalities

Peptide

Comprehensive Peptide Drug Discovery

- Optimized profiles addressing key challenges: sequence design, stability, in vivo persistence, oral absorption
- Proprietary strategies for effective peptide sequences
- Comprehensive pharmacokinetic and physico-chemical evaluation

Advanced Peptide Platform

- Structural analysis: co-crystal, single-crystal, NMR analysis
- In silico analysis: identification of hot spots, binding model, structure hopping technology
- Synthesis: multi-sample parallel and high-quality bulk synthesis, high-speed purification
  - Short / long-chain
  - Cyclic
  - Peptide conjugate / prodrugs
  - Polyamide
- Evaluation: experimental polar surface area (EPSA) assay, cell free/cell assay, biophysical assay, etc

Oligonucleotide

Safety Evaluation & Innovative Delivery

- Target-related and hybridization-dependent toxicity assessment
- Advanced off-target analysis and toxicity evaluation systems
- Rapid quantitative and cellular distribution analysis
- Optimized delivery through peptide conjugates

ASO Excellence

- Efficient sequence optimization with balanced safety and activity
- Specific mRNA targeting with reduced off-target effects

Peptide-Oligonucleotide Conjugates (POC)

- Synthesis of targeted peptides and optimal linker selection
- Improved tissue/cell delivery

Targeted Protein Degradation

Platform

- Bifunctional degraders & MGDs
- High-throughput synthesis with chemical toolbox
- Original binders for 500+ targets, including 125 kinases
- 6,400-compound MGD-focused library
- Neo-substrate identification and selectivity evaluation

Key Technologies

- Degrader synthesis: 96 compounds/batch in 2-3 weeks
- ADME optimization: customized assays and AI/ML for oral bioavailability
- Screening & profiling: high-throughput assays and comprehensive profiling
- Neo-substrate identification: advanced proteomics techniques

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