

Solution Provider for Drug Discovery
Axcelead Drug Discovery Partners, Inc.



High-throughput screening
(HTS)

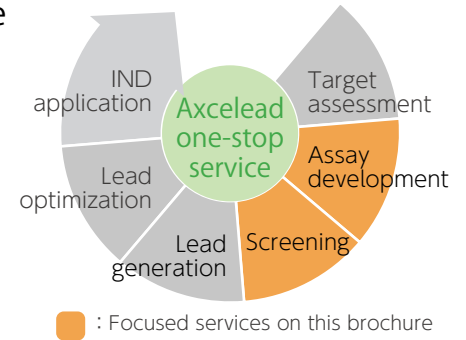
Our HTS platforms and services for your drug discovery

- ▶ Seamless services from assay development through hit/lead finding with well-experienced and high expertise
- ▶ HTS platform covering a wide range of target classes and phenotypes
- ▶ Pharma-origin vast library with high quality and diverse structure
- ▶ One-stop Hit follow-up service

> 700 projects
HTS experience

> 90%
High success rate in hit identification

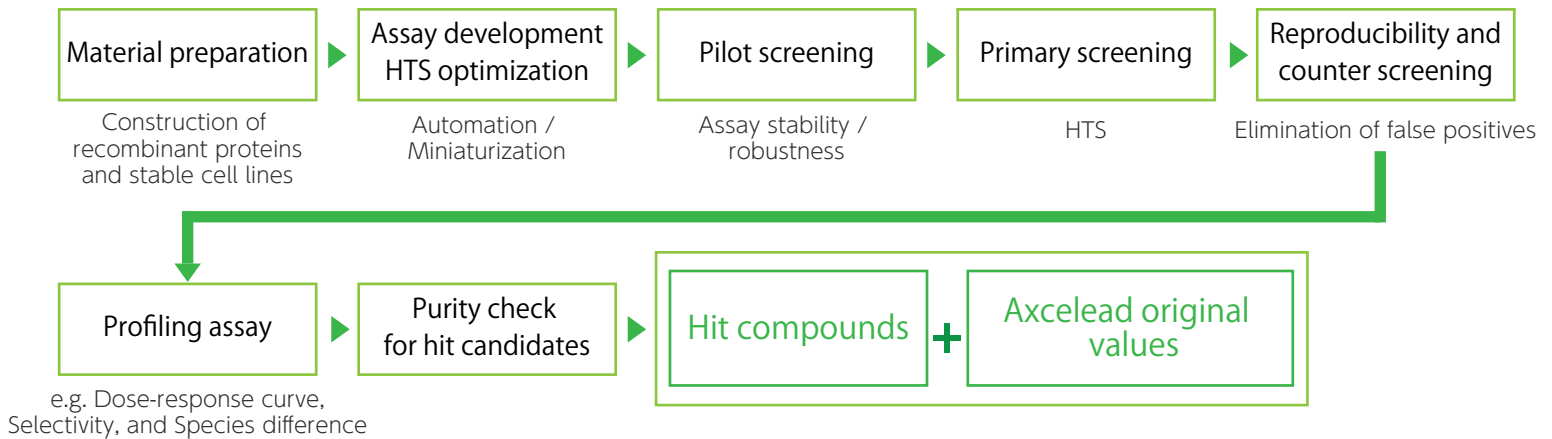
> 1.5 million
Axcelead Compound library



Seamless screening platform from assay development through HTS with well-experienced and high expertise professionals

- ▶ Axcelead offers an integrated screening platform including material preparation, assay development, and HTS.
- ▶ Axcelead proposes promising flexible screening plans and strategies based on customer needs.

■ Axcelead comprehensive screening services



- ▶ Axcelead provides hit compounds including high-value information.

- ▶ Compound profiles based on Axcelead original data.
 - Cytotoxicity data (only for compounds tested in-house so far)
 - Biological annotations of hit compounds
- ▶ Review of hit compounds by medicinal chemists in Axcelead
 - Clustering of hit compounds by Axcelead original algorithm
 - Comments on structural characteristics of each cluster
- ▶ Drug-like properties (QED, HBA/HBD, AlogP, tPSA, number of aromatic ring, Fsp3 etc.)

<Result report image>

Compound No	Cluster ID	Primary assay (050/00)	Counter assay (050/00)	Primary assay (0r/00h)	Counter assay (0r/00h)	Chemical properties				Purity (%)	Notes
						HBD	HBA	AlogP			
AXL1	1	8.0E-08	>1.0E-05			..	..	..	..	95.5	kinase A inhibitor
AXL2	1	2.9E-07	>1.0E-05			..	..	..	..	90.5	kinase A inhibitor
AXL3	1	4.9E-06	>1.0E-05			..	..	..	..	95.3	kinase A inhibitor
AXL4	2	3.2E-08	>1.0E-05			..	..	..	..	85.4	promiscuous
AXL5	3	1.2E-06	>1.0E-05			..	..	..	..	97.2	
AXL6	3	2.5E-06	>1.0E-05			..	..	..	..	98.1	
AXL7	3	4.2E-06	>1.0E-05			..	..	..	..	95.4	

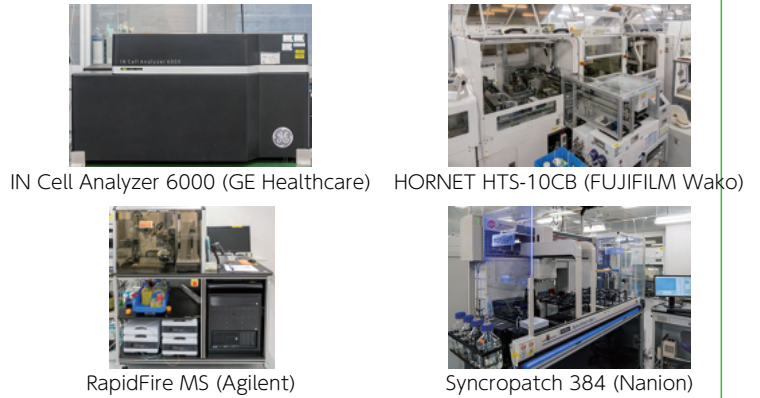
Assay development and high-throughput screening platforms covering a wide range of target classes

- ▶ Platforms are available for all major target classes and phenotypes.
- ▶ Axcelead proposes and conducts suitable material preparation (recombinant proteins and stable cell lines) for your HTS.

Please feel free to contact us

Major Axcelead assay platforms

- GPCRs
- Enzymes
- Ion channels/Transporters
- Nuclear receptors
- PPI (protein-protein interaction)
- Nucleic acids (RNA targeted drugs etc.)
- High-throughput Affinity Selection Mass Spectrometry (ASMS) for screening
- Phenotypic screening
e.g.) High content screening, Reporter gene assay, Gene expression analysis



Vast compound libraries with high quality and diverse structure

- ▶ Axcelead proposes the optimal compound libraries for your HTS.

Axcelead
compound
library

1.5 million
compounds

■ Diversity libraries

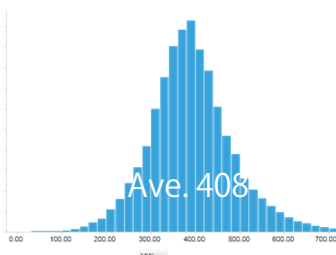
- Single library **220,000** compounds
- Pooled library **500,000** compounds (Standard 320,000 cpds)
- ▶ You can choose either or both of pooled and single libraries that pursue lead-likeness and diversity. CNS focused, Fragment, and low cytotoxic compounds for cell-based screening libraries are available

■ Focused libraries

- Libraries for target classes (Kinase, GPCR, Protease, PPI, etc.)
- Macrocyclic
- Molecular Glue
- RNA
- Covalent
- Extended rule of 5
- Natural product
- Annotation
- ▶ Biologically annotated library for phenotypic screening is available

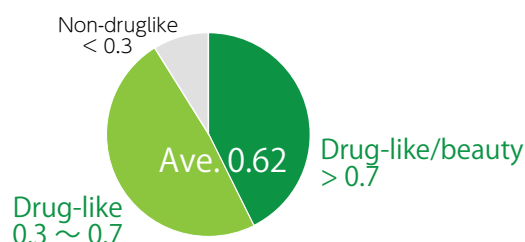
High quality compound library

■ Diversity of molecular weight distribution

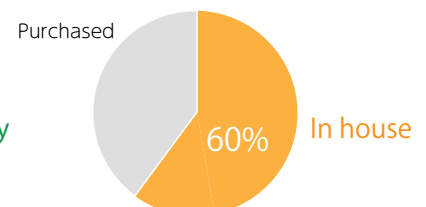


■ High drug-likeness

QED: Quantitative Estimate of Drug-likeness



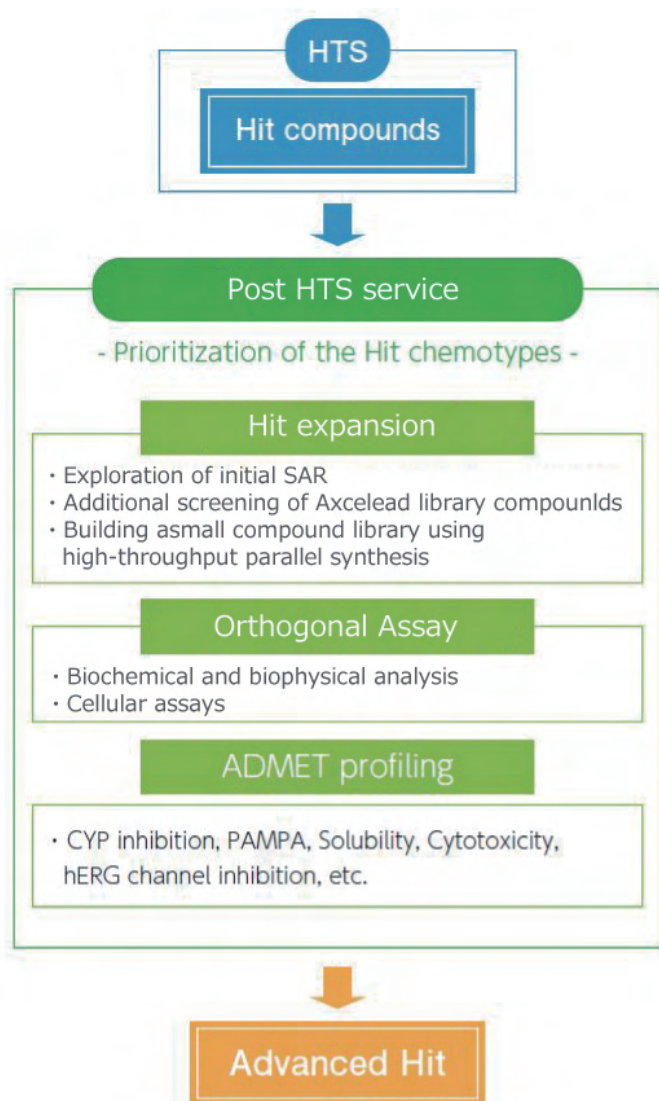
■ High ratio of in-house compounds designed by medicinal chemists



For customers who have received our HTS service

One-stop Post HTS service

- ▶ Axcelead supports to generate Advanced Hit compounds with several approaches including orthogonal assay.

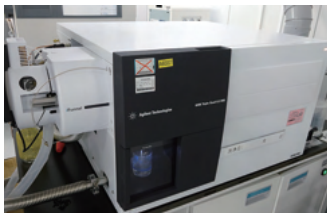


- Similarity search of hit compounds from Axcelead compound library (ca. 1.5million) and evaluation are available.
- Well-experienced Axcelead chemists in drug discovery support compound selection.
- High-throughput parallel synthesis technology provides rapid and efficient delivery of hit related derivatives.
- Axcelead offers a wide range of orthogonal assay platforms for hit identification.
- X-ray crystal structural analysis is also available.
- Axcelead offers high-throughput ADMET profiling services with extensive experience and sophisticated protocols.

■ Axcelead biophysical analysis

- Affinity selection-mass spectrometry (AS-MS)
- Thermal shift assay (TSA)
- Nuclear Magnetic Resonance (NMR)
- Isothermal titration calorimetry (ITC)
- Surface plasmon resonance (SPR)
- X-ray crystallography

Application examples) SBDD, FBDD, MOA analysis, etc.



Triple. Quadrupole LCMS (Agilent)



Biacore S200 (GE Healthcare)



MicroCal iTC200 (Malvern Panalytical)