

Drug Discovery Services

In Vitro Assays

Assay Development

Tailor-made assays are developed and optimized for specific needs:

- Cell-based assays (recombinant cell lines, iPSC-derived cells, primary cells, co-cultures and 3D cultures)
- Phenotypic assays (including cell painting)
- Biochemical assays (functional and interaction assays, protein production and purification)
- Biophysical assays (DSF/TSA, MST/spectral shift)
- Innovative tools (e.g. genome editing with CRISPR/Cas9, gene silencing, optogenetics, genetically encoded biosensors)
- RNA focused assays

Hit & Lead Discovery

Hit identification screening platforms

Multiple interchangeable fully automated robotic screening platforms, equipped for different readouts:

- High-throughput optical readouts - 384/1536 formats
- High-throughput automatic patch clamp
- Medium/high-throughput: quantitative gene expression
- Medium/high-throughput: high-content - phenotypic screening
- High-throughput: Affinity Selection Mass Spectrometry (ASMS)

Hit qualification

Chemical qualification:

- Medicinal chemistry consultancy: e.g. chemical tract, IP position, cluster analysis, etc.
- Hit selection, hit expansion (synthetic & commercial analogs), preliminary SAR analysis
- Physico-chemical properties & preliminary ADME characterization

Biological qualification:

- Determination of potency & specificity
- A additional selectivity/mode of action (MoA)/orthogonal assays
- Physico-chemical properties & preliminary ADME characterization

Compound Profiling & Hit-to-Lead

- Development of ad hoc assays: ortholog assays, orthogonal assays, in vitro proof-of-concept, loss-of-function or gain-of-function assays and MoA studies
- Potency determination (dose-response curves for AC₅₀)
- Selectivity, specificity & liability profiling
- Medicinal chemistry consultancy

Biological platforms

Innovation is Key

Axxam is at the forefront in offering hot topic services in drug discovery:

- Organellar electrophysiology (manual and automated lysopatch)
- Protein degradation (PROTAC®, molecular glues)
- Mitochondria and lysosome assays
- iPSC platform
- Optogenetics
- RNA biology
- Condensate / aggregate assays
- Exosome assays
- Antivirals

Compound Libraries

Universal Libraries

- **AXXDiversity** library (~349.000 small molecules driven by novelty, quality and diversity)
- SymeGold library (~ 75.000 small molecules synthesized ad hoc to cover the gaps in scaffolds of existing commercial libraries)

Dedicated Libraries

- AXXCovalent
- AXXRNABind
- AXXPPI
- NatPure
- Symecycle

Compound Management

- Logistics and storage of client libraries
- Reformatting and plate replication