

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)
- Biochemical assays (functional and interaction assays, including protein production and purification)
- Biophysical assays (DSF/TSA, MST/spectral shift)
- Phenotypic assays (including cell painting)
- Innovative tools (e.g. genome editing with CRISPR/Cas9, optogenetics, Ca⁺⁺ oscillation recording)
- RNA focused assays

HTS & Hit-to-Lead

High-Throughput Screening

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

- Optical readouts (fluorescence, absorbance, luminescence, TR-FRET, AlphaScreen® / AlphaLisa®)
- Radiometric assays
- High content - phenotypic screening
- HTS TaqMan® screening
- Automated patch-clamp

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 profiling
- Specificity profiling
- Liability profiling

Innovative Biology

Innovation is Key

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

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

Compound Libraries

Compound Management

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

Axxam Compound Collections

- AXX^{DIV4.0} library (~325.000 small molecules driven by novelty, quality and diversity)
- SymeGold library (~74.000 small molecules synthesized ad hoc to cover the gaps in scaffolds of existing commercial libraries)
- RNA-targeting library
- Natural product library

Integrated Drug Discovery

Preliminary Medicinal Chemistry

Analytical services and support for initial medicinal chemistry activities:

- Quality control (LC/MS & NMR)
- *In-vitro* analytical services (solubility, membrane permeability, pH stability, metabolic stability and others)
- SAR and IP position analysis
- Synthesis of non-commercial analogues
- Medicinal chemistry support

Integrated Drug Discovery with Established Partners