

# 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<sup>++</sup> 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®)
- High content - phenotypic screening
- HTS TaqMan® screening
- Automated patch-clamp

### Hit qualification

Chemical qualification:

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

Biological qualification:

- Determination of potency & specificity
- A dditional 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 AC<sub>50</sub>)
- 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:

- 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

- **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)
- RNA-targeting library
- Natural product library