



# Integrated Drug Discovery Services

From target identification to lead optimization and candidate selection, BioDuro provides a broad range of discovery services with expertise and experience. Our extensive capabilities support stand alone and integrated services in Chemistry, Discovery Biology, DMPK, Oncology, and Pharmacology.

## The Proof is in the Data:

13 years

Maintaining great working relationships with our clients since 2005

20 compounds delivered for FIM

A track record of 20 compounds successfully delivered to the clinic (First in Man)

40+ integrated programs

Fully integrated discovery programs since 2007

1:4 PhD to Non-PhD

An industry leading staff ratio to support quality science

100+ solubility enabled formulations developed

10-100 fold solubility enhancement

## Medicinal, Synthetic and Computational Chemistry

A core expertise of BioDuro, we welcome the most challenging chemistry projects.

- Hit identification
- Hit-to-lead chemistry
- Lead optimization and preclinical candidate selection
- Compound scale-up and purification

## Discovery Biology

Our extensive experience in assay development and compound screening covers major target classes and areas of phenotypic functional assays.

- Biochemical and cell-based assays
- Target-relevant assays
- Phenotypic functional and biomarker assays
- Customized biology services



## BioDuro Solution Engine

Discovery compounds often have solubility issues, but limited supplies for preclinical formulation development.

The BioDuro "Solution Engine" can provide solubility solutions for Drug Discovery and Development using small amounts of API. The best matrices for Spray-Dried Dispersions (SDD) or Hot-Melt Extrusion (HME) Formulations can be determined by Solution Engine screening prior to dispersion manufacture. Resulting dispersions can be made at the gram scale for in-vitro and in-vivo assessment.

For example, Solution Engine screening and small-scale manufacture can be used to rapidly generate solubilized formulations of several late discovery compounds for pre-clinical studies, aiding the candidate selection process.

BioDuro Solution Engine aided process (5 days per compound):

1. Compounds shipped from BioDuro MedChem (Beijing) to BioDuro CMC (San Diego)
  2. Solution Engine screening to determine optimal dispersion matrix
  3. Spray dried dispersion (SDD) manufactured (1-5g)
  4. SDD characterized (pXRD and dissolution)
  5. SDD shipped to BioDuro DMPK (Shanghai) for PK analysis
- 20+ compounds processed in 3 months for one client
  - Stability evaluation for best performing dispersions
  - Natural scale-up to clinical trial material

## DMPK

A well-known strong suite of BioDuro, the DMPK team performs studies with a wide variety of animal models in an AAALAC accredited and GLP-like environment.

- In vitro ADME (physicochemical properties, drug metabolism, permeability, distribution, transporter assays, in vitro-in vivo analysis)
- In vivo PK (rodent PK, dog/monkey PK, exploratory TK/toxicity in rodent/dog/monkey)
- Bioanalysis

## Oncology

An integral and growing therapeutic area of BioDuro expertise, our scientific team assists biotech, pharmaceutical, and academic researchers in the discovery of novel drug targets and evaluation of anti-cancer compounds or biologicals.

- 2D, 3D cell line screening, tumor aligned microenvironment
- CDX, PDX, orthotopic, metastatic tumor models
- Patient population immuno-profiling, lymphocyte activation, immune cell coculture, syngeneic models, CAR-T models
- Primary tumor bank

## Pharmacology

Special expertise in metabolic and inflammatory diseases is coupled with a capacity to develop customized models for rare diseases.

- Therapeutic focus: metabolic models, inflammation and pain models, central nervous system models
- Translational research
- Biomarker discovery and development
- Compound efficacy validation

From discovery to development, whether small molecule or biologics, BioDuro's solutions provide biopharmaceutical companies with the quality results they need to help deliver their drugs to patients in the most time and cost effective manner.