



BioFarma  Innopharma

Expertise in drug discovery projects

Since more than 15 years, we have provided custom assay development, compound profiling, high-throughput screening services and collaborations in over 200 drug discovery projects. We can help with any service in your workflow to move your discovery forward from target identification through safety and toxicity testing. The Innopharma Screening Platform has a state-of-the-art equipment for carrying out assay development projects and screening campaigns with different technological approaches.

TECHNOLOGICAL APPROACHES:

Radioactivity (Filtration and SPA); Absorbance; Fluorescence intensity and polarization; Luminescence; FRET and Homogeneous Time-Resolved Fluorescence; BRET; Alphascreen; Fluorescence Lifetime Imaging; Automated patch-clamp; Label free (Dynamic Mass Redistribution); Automated mobility shift (Lab on a chip); High Content Screening and UPLC/MS/MS.

We collaborate with **Medicina Xenómica** group, which shares with us their genomics technology platforms.

PHARMACOGENOMICS STUDIES

Discovery and analysis of genomic biomarkers for:

▶ Patient and disease stratification

▶ Response to drugs (efficacy and toxicity)

Identification of novel therapeutic targets:

▶ Genome wide and candidate gene association studies (e.g. Illumina, Affymetrix, Sequenom, Agilent)

▶ Next Generation Sequencing (e.g. Ion Torrent, Ion Proton, SOLiD) - specific application to pharmacogenomic panels and exome sequencing

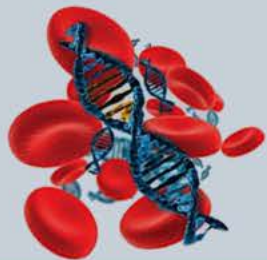
Innopharma Platform Capabilities



Genomics: Target ID, genomic biomarkers, patient stratification

DNA/RNA extraction
Blood/cell/tumor/microbiome sample

DNA/RNA analysis
Genome/transcriptome (genotyping, sequencing, gene expression)



In vitro pharmacology: Hit finding, hit to lead, lead optimization

Drug discovery program design
CTP definition/ feasibility/druggability/screening cascade design

Assay development
Target based/phenotypic (recombinant or in human samples)

Screening
High capacity screening platform of the ERIC EU-OPENSREEN (www.euopenscreen.eu) covering different targets (receptors, transporters, enzymes, nuclear receptors, ion channels, protein-protein interactions) and technologies

Chemical compound libraries
Chemical library available including proprietary compounds selected in silico based on biological and structural diversity

Preliminary ADME/Tox
Microsomal and plasma stability, plasma protein binding, Caco2, cytochrome inhibition, hERG, genotoxicity



Customized services
Ad hoc assay development and screening

De-risking programs
Internal drug discovery programs up to proof of concept stage

TARGET-BASED ASSAYS

GPCRs

Radioligand binding assays:
ADO, NA, DA, 5-HT, M, H₁, LTB₄...

GPCRs

Second messenger assays: ADO, NA, DA, 5-HT...

GPCRs

Beta-arrestin translocation assays-BRET:
GPR35; mu opioid; CX₃CR1...

Nuclear
receptors

E.g. AR, ER, PPAR and prostanoids receptors

Enzymes

Kinases (250 functional assays), phosphodiesterases (15 activity assays); BACE-1 (beta-secretase), acetylcholinesterase; MAO-A, MAO-B; epigenetic enzymes

Ion
channels

Voltage-gated channels: Ca²⁺, K⁺, hERG, Na⁺...
Membrane ligand-gated channels: NMDA;
5-HT₃; GABAA...

Transporters

DAT, NAT, 5-HTT ...

CELL-BASED ASSAYS

Phenotypic assays (e.g. cell viability, signaling pathway assays, disease-related assays)

Target
deconvolution
strategies

Biomolecular imaging
(FRET microscopy,
High-content analysis)

ADMET

P450 profiling - induction and inhibition.

Targets engagement, permeability (Caco-2); P-glycoprotein substrate; aqueous solubility (pH-dependent).

PRELIMINARY ADMET AND SAFETY ASSAYS

Safety

Specialized cellular assays: cell viability and cell toxicity.

In vitro safety panel, including functional pharmacological profiling.

CUSTOMIZED ASSAYS

We work to understand your goals and tailor a solution to fit your project guidelines. Our dedicated scientific professionals have access to and expertise in assay solutions across multiple target classes and detection platforms.

We are committed to deliver high-quality data and comprehensive reporting on time, with dedicated project management and proactive communication throughout the project.

We also provide support at every stage of discovery—from instrument setup to screening, profiling, and custom services through data analysis. Our team of specialists is comprised of experienced scientists that can help you find answers efficiently and accurately.

The Innopharma platform provides scientific-technical services for drug discovery:





BioFarma is an early drug discovery research group linked to the Innopharma Screening Platform at the University of Santiago de Compostela. It has expertise and offers collaboration with public and private institutions in drug discovery projects. BioFarma has a large experience in assaying small molecules and in the fine-tuning and automatization of techniques for implementation in HTS.

Find out more at:
<http://www.usc.es/biofarma/>

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