

PARTNER PLATFORM High Throughput Screening / Hit to lead

ARIADNE-Screening

General information

Administrative information	
Structure	ARIADNE platforms
Address	U1177, UAR2014-US41, Institut Pasteur de Lille, 1 rue du Professeur Calmette 59019 Lille
Website	ARIADNE-Criblage - Plateformes Lilloises en Biologie et Santé (univ-lille.fr)
Manager	Dr Florence Leroux
Contact	Florence.leroux@pasteur-lille.fr
Date of implementation	2005

Labels / quality approach	
IBISA	Yes since 2008
ISO 9001 certification	No
National networks	ChemBioFrance since 2018
International networks	No
Université de Lille	Label 2020-2024

Team	
Number of researchers	4
Number of engineers	7
Number of technicians	1
Number of administrative staff	2
Other	Specify

Main achievements	
Number of screenings performed since creation	➤ 40
Number of screenings performed per year	3 à 6 (library >1500 cpds)
Fields of expertise / therapeutic areas	
<ol style="list-style-type: none"> 1. Support in the screening process and methodological choices 2. Development of high-throughput miniaturized (96, 384-well plates) and automated tests for in vitro, in bacterio, or in cellulo, target or phenotypic screening, including High Content Screening with quantitative microscopy: 3. Screening in biosafety level 1 to 3 laboratories <ul style="list-style-type: none"> ▪ Libraries providing (chemical, siRNA and miRNA banks) ▪ Low, medium or high throughput screening ▪ Test of molecules in combination and in dose response ▪ kinetic measurement 4. Support in data analysis and selection of active compounds 5. MedChem support, SAR studies 	

Scientific Information

Chemical Library

Description of the collection (number of chemical molecules, natural, royalty-free products, known synthesis methods, etc)	
Prestwick repositioning chemical library, Tocris pharmacological tool library, 75 000 diverse patent-free compounds (purchased from Asinex, Chemdiv, Enamine ...), 15 000 in-house synthesized compound library	
Conditioning	96 or 384-well plates/DMSO
Database (structure, accessibility conditions)	On demand
Member of the National Chemical Library	No

Targets	
Targets for the screening service (e.g. protein targets, cell targets, etc.)	
Open to discussion (enzymes, PPI...)	
Activities (e.g. cloning, protein expression, obtaining cell lines, management and storage of lines, cell culture, etc.)	
Development of HTS and HCS assays	

High throughput screening	
Number of measurements/days (approx.)	2 000 to 10 000 according to the assay
Biological tests proposed (e.g. in vitro enzymatic tests, cell tests (binding tests, cell survival, image analysis, etc)	
<ul style="list-style-type: none"> ▪ Enzymatic tests ▪ Protein-protein interactions ▪ Thermal Shift Assay (TSA) and in cellulo target engagement ▪ Cell labeling for cell domiciliation and imaging ▪ Gene reporter ▪ Infection monitoring (SarsCoV2, tuberculosis...) ▪ Monitoring of intracellular traffic ▪ Apoptosis... <p>This list cannot be complete. In fact, depending on the question asked by the project, a new model is chosen and optimized</p>	
Technologies / Equipment (robots, automats, etc.)	
<p>High Content Screening with the automated confocal microscope INcell Analyzer 6000 and INcell Analyzer 6500 (GE Healthcare), automated image analysis with Columbus software or InCarta software</p> <p>Automated multimode-readers (Ensign, Mithras, Polarstar): fluorescence, luminescence, FRET, BRET, polarization, alpha-LISA ...</p> <p>Automated distribution with Bravo, Zephyr, Biomeki5; Nonodistribution with ECHO550 and ECHO650</p> <p>Automated incubator (Liconic)</p> <p>Fully automated platforms for plate preparation & reading</p>	

Access	
Site teams	Yes/fee for service, collaboration or direct use of apparatus after training
External academic teams	Yes/fee for service, collaboration or direct use of apparatus after training
Private Outdoor Teams	Yes/fee for service, collaboration or direct use of apparatus after training

Training courses offered	
- On site users training;	

- organization of the CNRS thematic school on screening, edition 2022,
- Master M2, Univ. Lille, Parcours Médicament, UE3.2 : Criblage à haut débit, diversité moléculaire et criblage phenotypique à haut contenu
- ERASMUS Mundus, International Master in Sustainable Drug Discovery, Univ de Lille: Sustainable approaches to identify hits
- Master Ingénierie de la santé, Imagerie cellulaire, Univ de Rouen

PARTNER PLATFORM ADME

NAME OF THE PLATFORM

General information

Administrative information	
Structure	ARIADNE platforms
Address	U1177, Institut Pasteur de Lille, 1 rue du Professeur Calmette 59019 Lille
Website	Early-formulation, -ADME & - pharmacokinetics (deprezlab.fr)
Manager	Florence Ieroux
Contact	Florence.ieroux@pasteur-lille.fr
Date of implementation	2005

Labels / quality approach	
IBISA	Yes since 2008
ISO 9001 certification	No
National networks	ChemBioFrance since 2018
International networks	No
Other	Specify

Team	
Number of researchers	1
Number of engineers	5
Number of technicians	1
Number of administrative staff	2
Other	Specify

Main achievements	
Number of ADME performed since creation	>300 contrats
Number of ADME performed per year	20-30
Fields of expertise / therapeutic areas	

Scientific Information

Study of the hit properties	
Physicochemical profile	solubilité cinétique, solubilité thermodynamique, lipophilie (LogD), stabilité chimique
Properties of ADME - Toxicology	<ul style="list-style-type: none"> • Metabolic stability (in vitro): microsomes, plasma, exploration of esterase function • Identification of metabolites • Distribution (in vitro): Caco-2 permeation studies, plasma protein binding. For permeation studies, we collaborate with the Blood-Brain Barrier Laboratory of Lens (University of Artois). • Safety (in vitro): detection of GSH adducts
Pharmacokinetic behavior	

Determination of PK parameters (maximum plasma concentration, area under the curve, plasma concentration of the drug versus time, volume of distribution, clearance, terminal elimination half-life, bioavailability, organ concentration). In particular, we are able to dose compounds in non-conventional and/or small organs: retina, eyes, gallbladder, etc.

Technologies / Equipment (robots, automats, etc.)

Animal experiments, carried out by our qualified staff, take place in the animal facility of the Institut Pasteur in Lille, with protocols reviewed by an ethics committee. Sample preparation and bioanalysis are performed by our engineers and technicians using our LC-MS/MS platform (UPLC-MS/MS Triple Quadrupole (Xevo TQD) and UPLC-MS/MS Triple Quadrupole (Xevo TQD)

Access

Site teams	Yes
External academic teams	Limited, on demand
Private Outdoor Teams	Limited, on demand

Training courses offered

On site users training; Master 2 "Sciences du médicament et des produits de santé" - Parcours Médicaments : Conception, synthèse, évaluation et sélection de principes actifs : BCC3 UE3.1, enseignements dirigés / travaux pratiques 8 à 12h/an.
-5ème année de la filière industrie-recherche de Pharmacie : cours magistral sur le couplage LC-MS