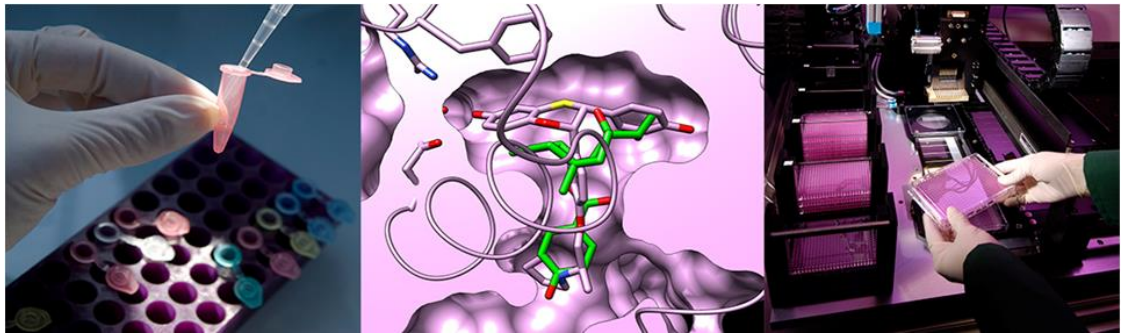
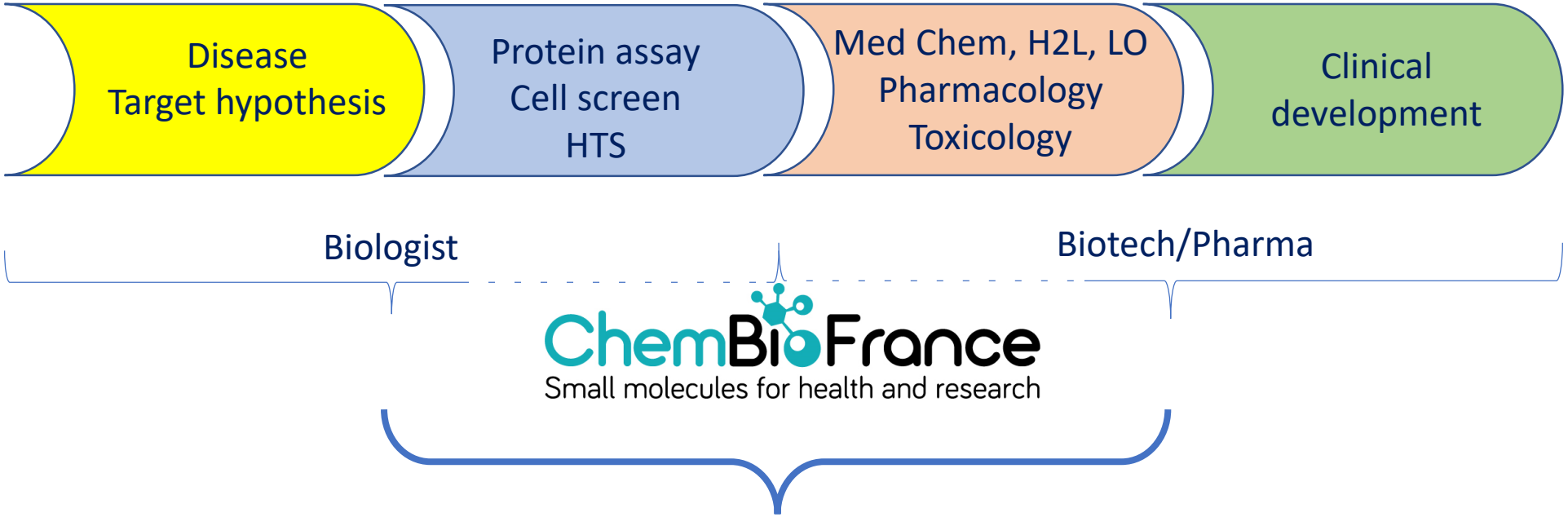
ChemBioFrance

Small molecules for health and research



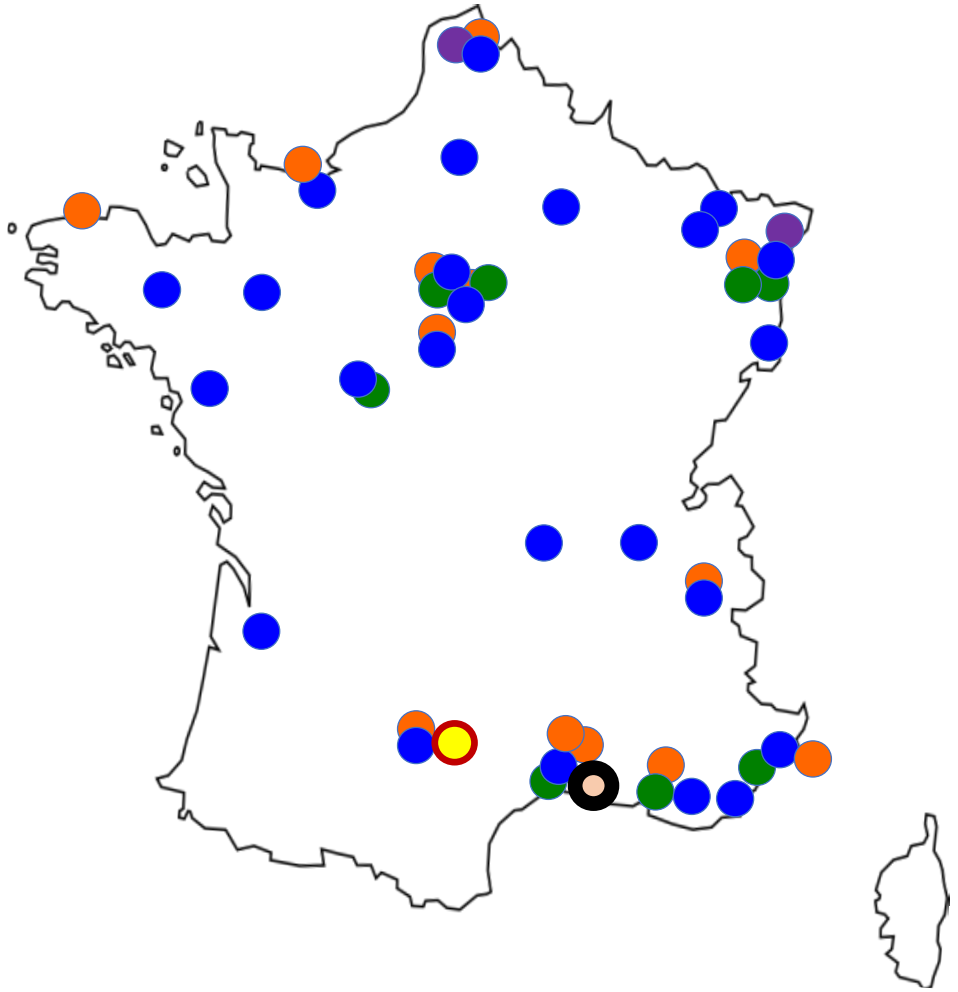


ChemBioFrance is a strategic partner in small molecule drug discovery.

All you need in a place

A massively distributed infrastructure

- 12 Screening centers
- 8 Chemoinformatics sites
- 2 ADME-Tox platforms
- 49 contributing laboratories of the chemical library
- 1 Management unit = CNRS UAR 3035
- Chimiothèque Nationale: 1 Repository of compounds



The National Chemical Library

Chimiothèque historique du laboratoire de chimie du MNHN – A. Latzoura

Features

A compounds library enriched in drug-like.

A high Scaffold-to-compound ratio

Flexible IP management

Originality, no commercial compounds

A team of chemists open for research collaborations (Hit-to-Lead project)

A network of synthesis platforms

The National Chemical Library

Libraries ready to be screened

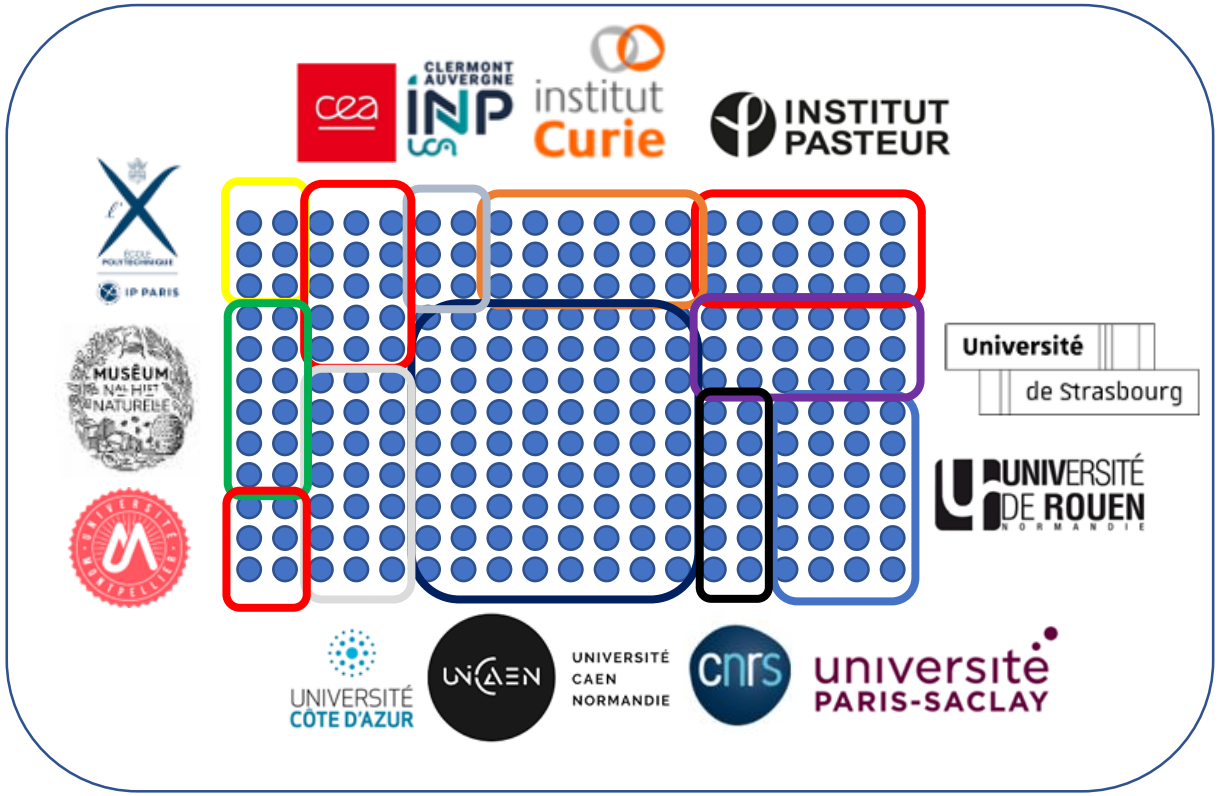
CN > 70 000 cpds at 5mM DMSO in 96 or 384 well/plates

Design of focused library by cherry picking

CNE - Essential Chemical Library

* 1040 compounds
* Mirror the diversity of the CN
* Easy to screen

Natural extracts > 15 000 at 10mg/mL DMSO

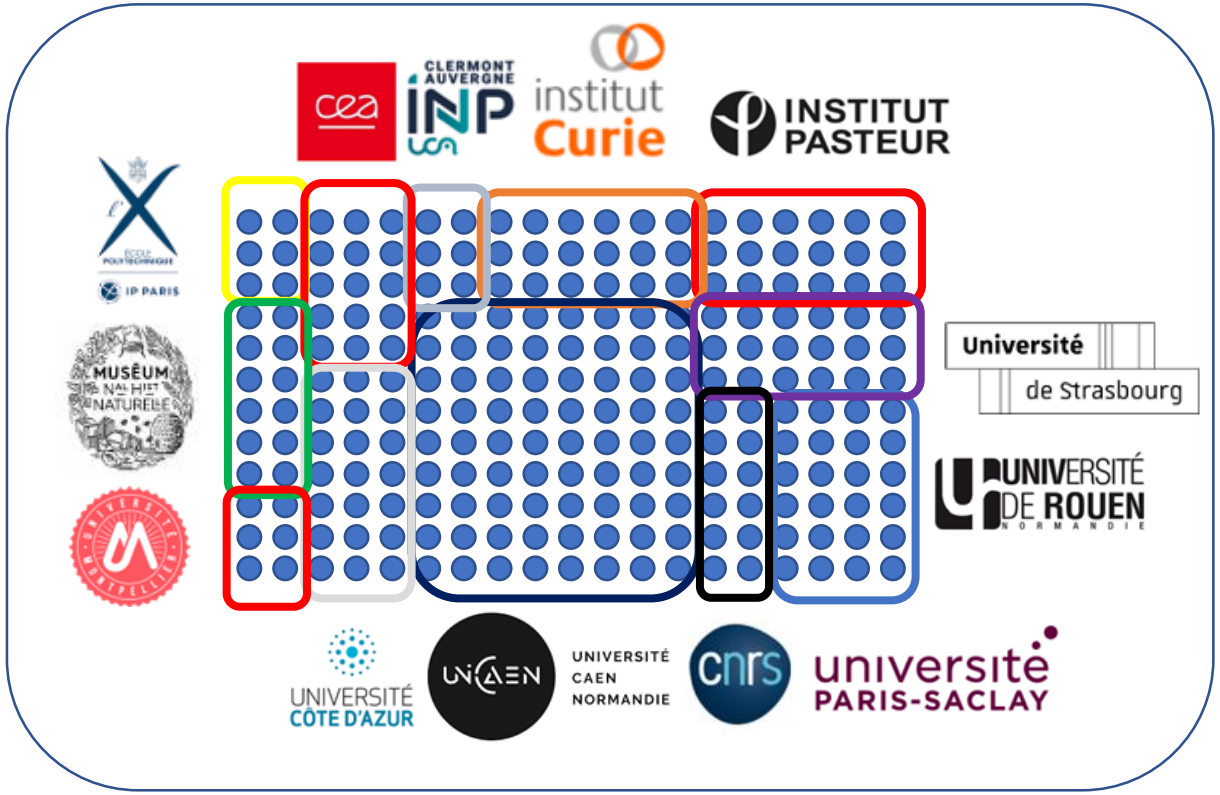


+ 36 members of ChemBioFrance

Scientific collaboration (1/2)

ChemBioFrance
Small molecules for health and research

Chemical library screening

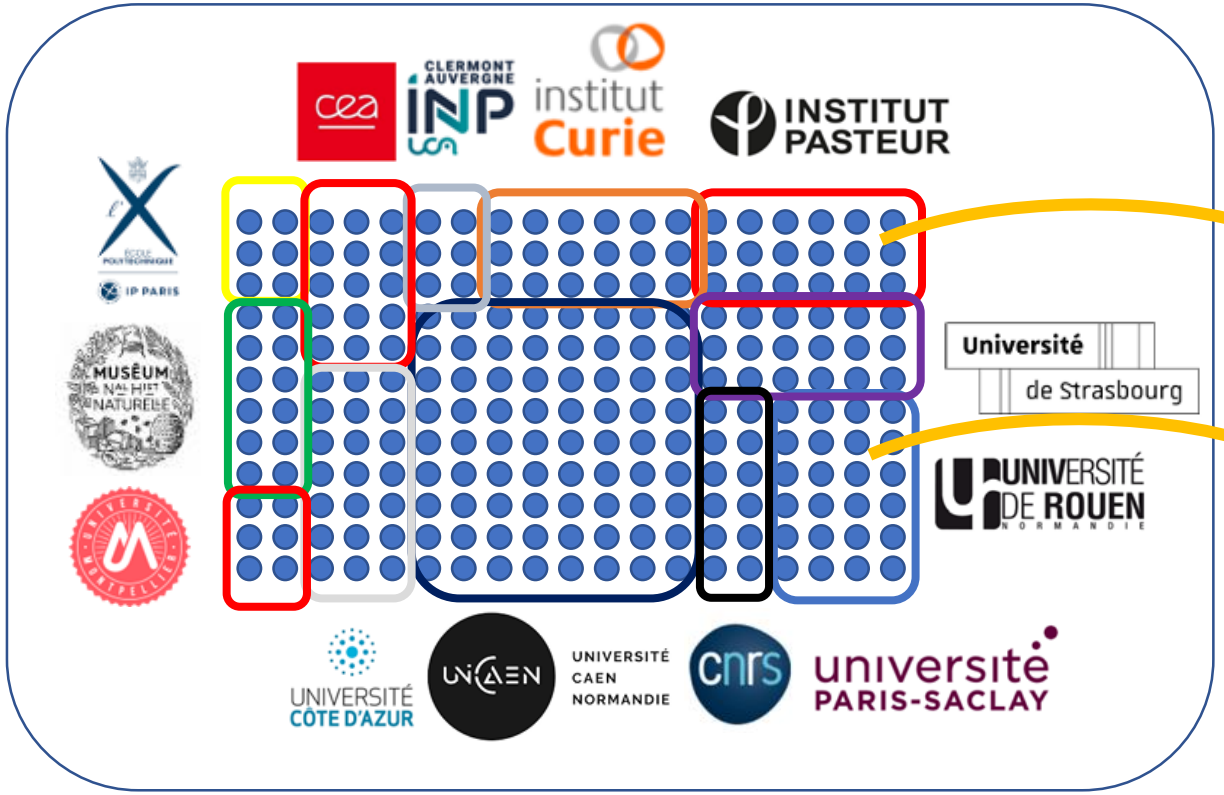


Access to the chemical library with a M.T.A.

Scientific collaboration (2/2)

ChemBioFrance
Small molecules for health and research

Chemical library screening



Scientific collaboration

Collaboration avec INSTITUT PASTEUR

Collaboration avec UNIVERSITÉ DE ROUEN NORMANDIE

Results

Publications

+

Patents

Access to the chemical library with a M.T.A.

Collaboration between the biologist and the chemist

Screening

Hit identification technologies

Knowledge-based screening (kinase, GPCR)

Diversity screening

Fragment-based screening

Phenotypic screening

Structure-based drug design

A network of specialized screening centers

ChemBioFrance
Small molecules for health and research

Functional assays

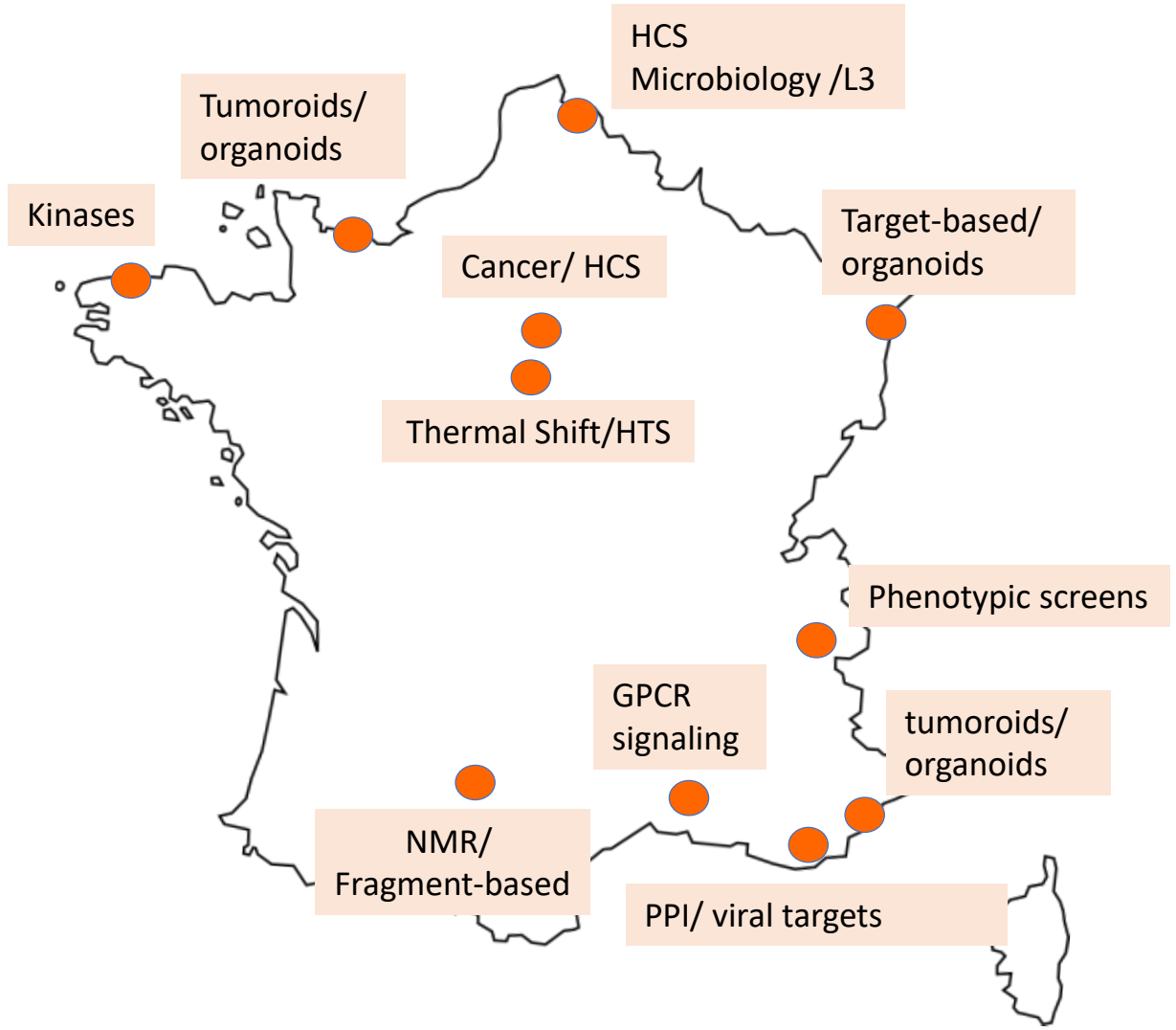
- ✓ Proteins (kinase, GPCR)
- ✓ Cells 2D and 3D
- ✓ Nucleic acid

Technologies

- ✓ Fluorescence (HTRF, FRET, AlphaScreen)
- ✓ Luminescence
- ✓ Radioactivity

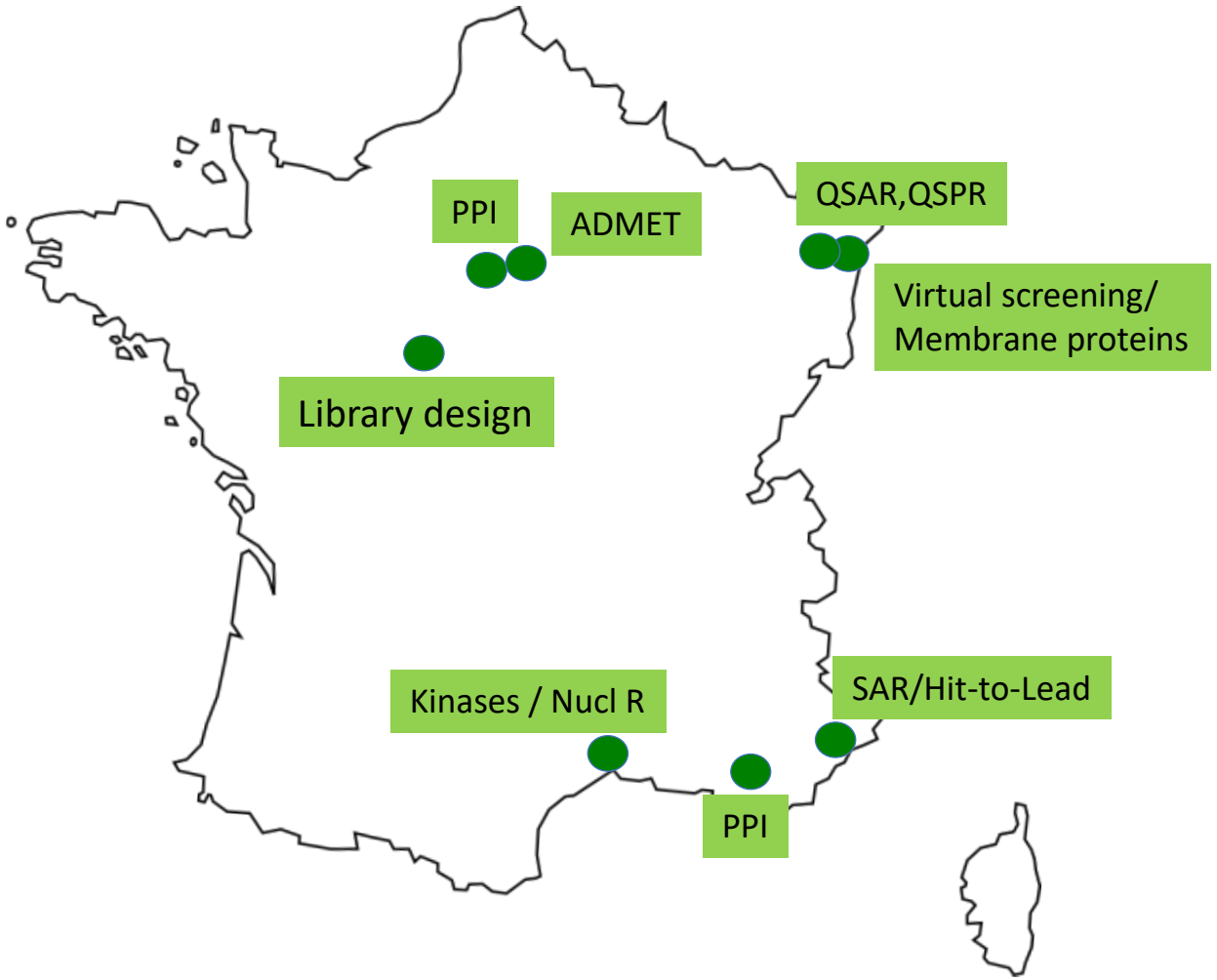
Specialized platforms

- ✓ Tumoroids
- ✓ Infectious agents
- ✓ Fragment-based screening
- ✓ Inflammation



A Chemoinformatics network

- **Virtual Screenings**
  - ✓ ligand-based
  - ✓ structure-based
- **Libraries Design**
  - ✓ CN subset
  - ✓ protein-protein inhibitors
  - ✓ interfering peptides
- **Raw data analysis and SAR building**
  - ✓ PAINS/reactivity alert
  - ✓ analogs in catalogs
  - ✓ properties prediction LogP, Sol.,Kd, K_{on}/K_{off}
- **Hit-to-lead**
  - ✓ prioritizing cpds
  - ✓ prioritizing reactants
  - ✓ scaffold hopping
- **Bio-Profiling & ADME-Tox Prediction**
  - ✓ Metabolism (site, CYP450s…)
  - ✓ Off-targets



ADME-Tox Platforms

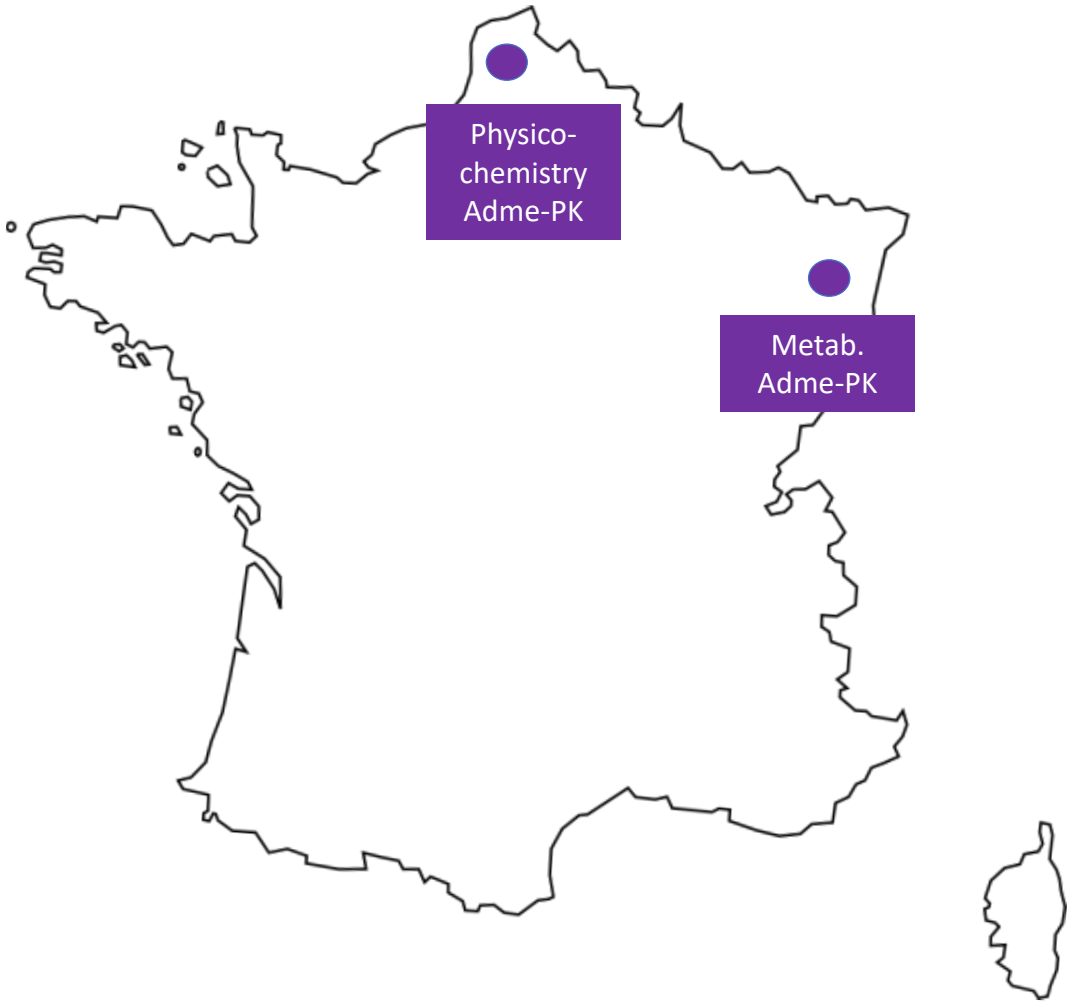
Physicochemistry
- ✓ Solubility
- ✓ LogP/D
- ✓Pka
- ✓Plasma stability, binding

Absorption
- ✓Permeability (Caco2, PAMPA)
- ✓ In vivo (P.o.; i.v. etc..)

Distribution
- ✓ In vivo (mice, rat)
- ✓All tissues
- ✓Blood-Brain barrier

Metabolism
- ✓ Metabolic stability (Hepatocytes, microsomes)
- ✓ Blood partitioning
- ✓ Hemolysis

Pharmacokinetic
- ✓ In vivo
- ✓Kidney clearance
- ✓Secondary metabolites

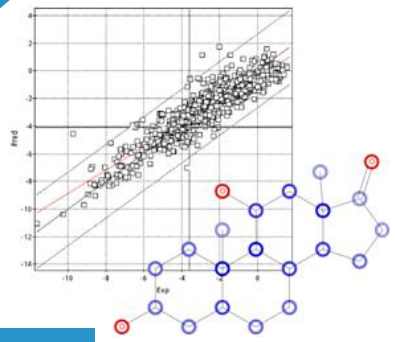


ChemBioFrance
Small molecules for health and research

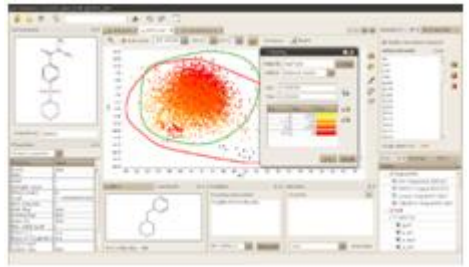
New Project

National Chemical Library

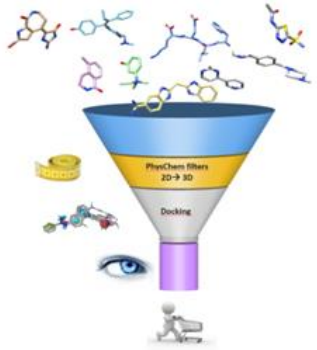
Library design
Virtual screening
Focused libraries



ChemoInformatics



HTS Analysis



New Project

Screening centers

ADMET Platforms

New Project

Drug Development
(pre-clinical & clinical studies)

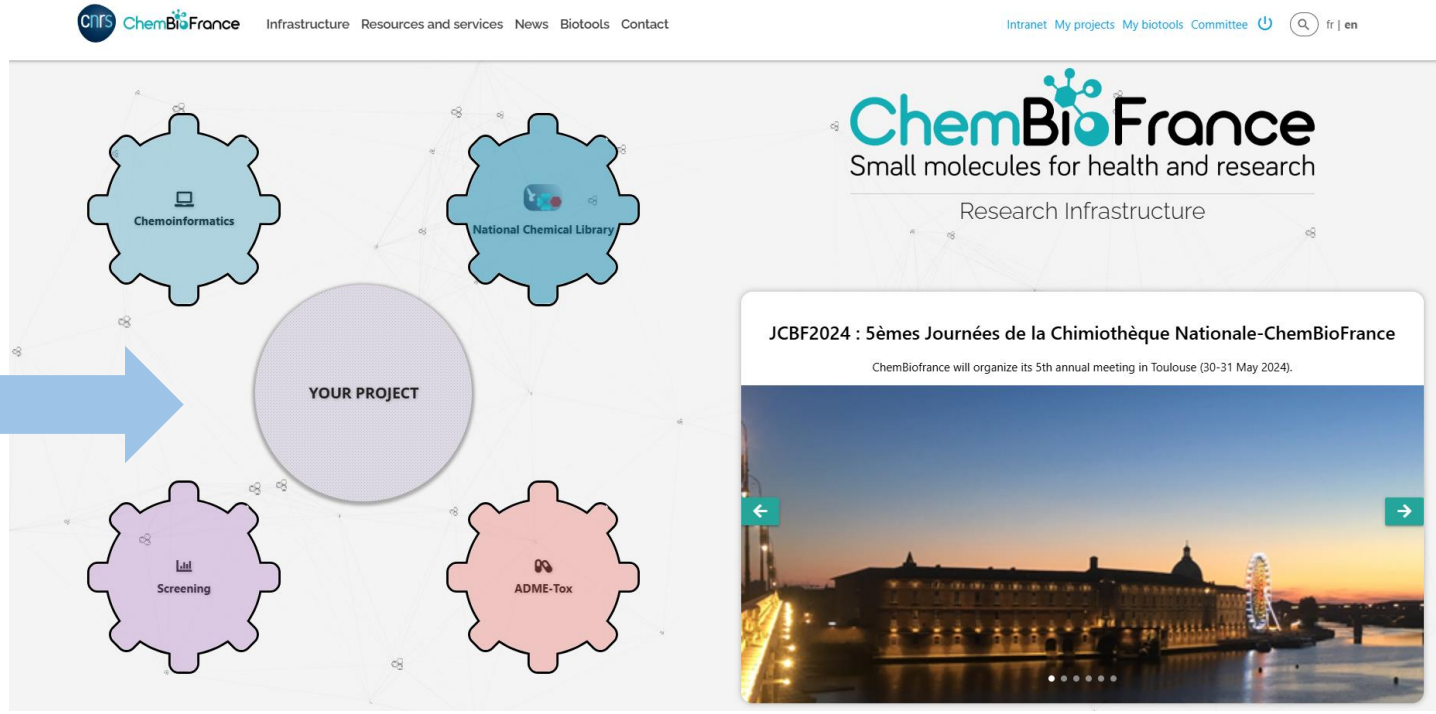
https://chembiofrance.cn.cnrs.fr/fr/projet

Projects processing

Kindel media

I have a project :

I need a chemical library
I need a screening platform



https://chembiofrance.cn.cnrs.fr/fr

Projects processing

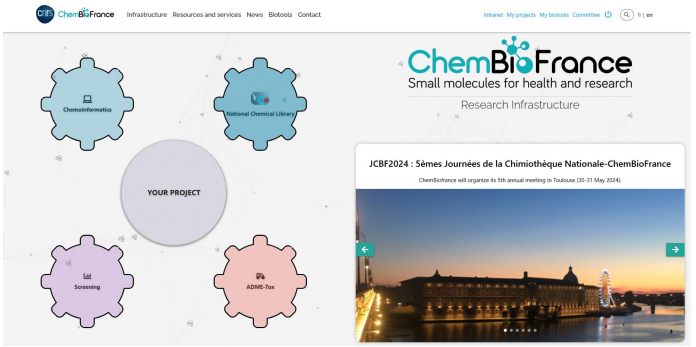
Kindel media

I have a project :

I need a chemical library
I need a screening platform

1- First, you need to register

2- Submit your project



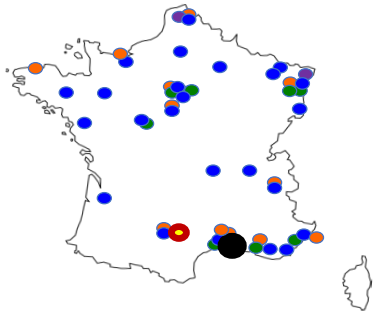
https://chembiofrance.cn.cnrs.fr/en

Evaluation

Projects processing

Evaluation

Executive commitee



ChemBioFrance's members

ChemBioFrance
Small molecules for health and research

Kindel media

Response within 15 days

Business model

ChemBioFrance
Small molecules for health and research

- Fee-for-Service

- Collaborative research program

Kindel media

Cost

Chemical compounds and natural extracts
- Auditable pricing (+access fee for private company)

Chemoinformatics
- 50€/hr

Screening
- Project-specific quote

ADME-Tox
- Project-specific quote

ChemBioFrance
Small molecules for health and research

Thank You

Contact Us : mikael.le-clech@cnrs.fr