Paris Brain Institute

Strengthening life-sciences innovation across Europe: EU-Innovation Network conference

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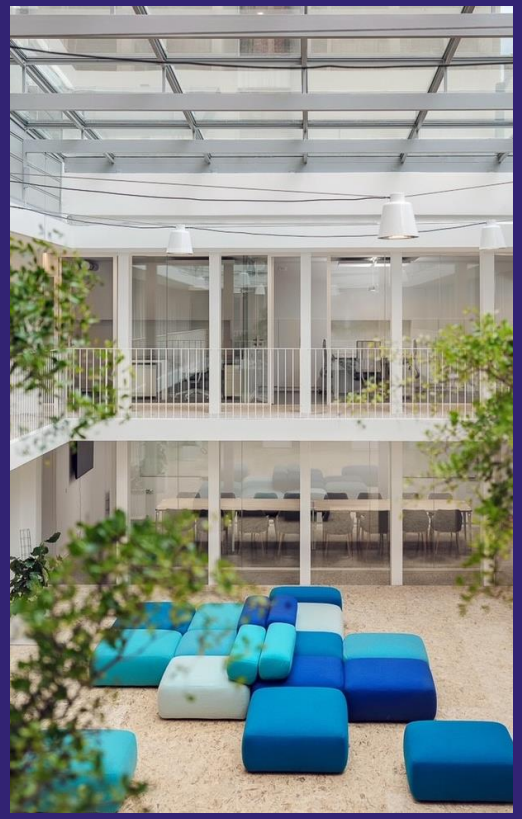


iPEPS
The Healthtech Hub
Institut du Cerveau

iPEPS incubator
the Healthtech Hub

A dedicated environment to technology development and acceleration in healthtech.

11 years

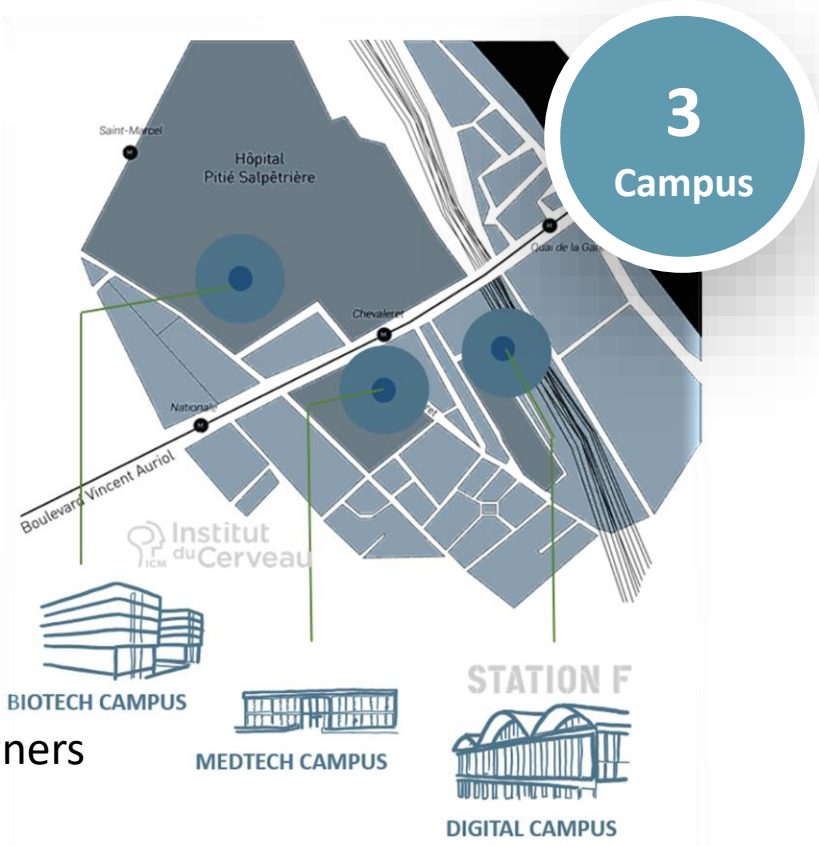
+100 startups

+650 Million euros

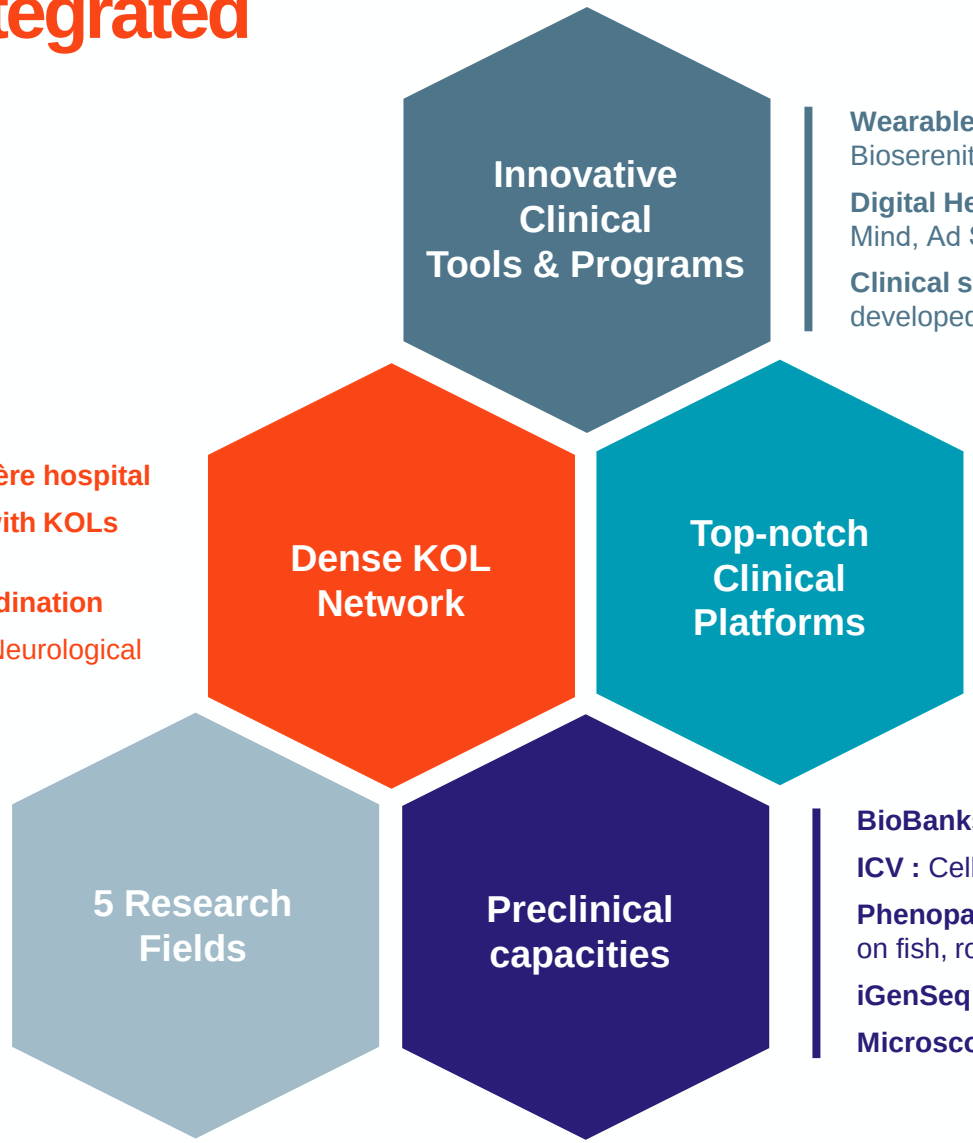
+15 products commercialized

3 calls for applications/year

>200 industrial and academic partners



ICM : a fully integrated ecosystem



Wearable & Devices :
Bioserenity, Carthera, Neuraltide

Digital Health : Mindmaze, Healthy Mind, Ad Scientiam…

Clinical scales and tools developed in house

Located inside the **Pitié-Salpetrière hospital**

Using a network of **5 hospitals with KOLs and specialty in CNS**

Clinical research network coordination

13 Reference centers for most Neurological & Pyschiatric disorders

CIC : Clinical investigation Center dedicated to CNS trials

CENIR : Center for Neuroimaging

PRISME : functional exploration of human behaviour and cognition

PANAM : Physiology & Analysis of Movement

Molecular and cellular Neurosciences
Computational Neurosciences
Translational Neurosciences
Cognitive Neurosciences
Integrated Neurophysiology

BioBanks : DNA, Cells, Blood fluid, Brain Tissues

ICV : Cell culture, IPSC, Vectorology

Phenopark : in vivo functional exploration on fish, rodent & apes

iGenSeq : NGS of RNA and DNA

Microscopy : fluorescence, biphotonic, TEM

Alzheimer‘s

Parkinson

ALS/FTD

Multiple Sclerosis

Depression

Huntington

Glioblastoma

Epilepsy

Stroke

Rare diseases

iPEPS – Selection process

Open Application

3 open call per year : January, April & September
Open to start-up in Neurology, Psychiatry and Mental Health

Due Diligence

Selection of 3-6 start-ups for the Selection Committee
Criteria of selection : Team, Technology, Financing strategy, global ambition, possible synergy with the ecosystem

Selection Committee

Evaluation by 10 experts (Clinicians, Researchers, VCs, Innovation Expert, Entrepreneurs, Public partners)

iPEPS – Incubation Services & Programs

Hosting

3 incubation sites
All-inclusive services (coffee, mailing, unlimited copy machines, meeting rooms…)
Labs and offices
Events (afterwork, breakfast, yearly gatherings)
Dedicated team

R&D development

Access to technological platforms (fab lab, imaging, microscopy etc)
Research collaborations with top tier neuroscientific researchers
In house CRO and Clinical Investigation Center

Business acceleration

Support for the growth of the company (fund raising, recruitment, structuring)
Thematic workshops
Mentoring program
Investor Network (BA and VC)
Industrial partnerships
Corporate and institutional acceleration programs

iPEPS – BioTech Campus

CERES BRAIN THERAPEUTICS

Preclinical company addressing brain creatine deficiency through nose-to-brain delivery of creatine prodrugs

coave THERAPEUTICS

A clinical stage biotechnology company focused on developing life changing gene therapies in rare ocular and neurologic diseases.

kolibri

A highly technical startup, at the physics & biology border, incorporated in 02/2021 and based on the technical and business knowledge of its co-founders.

Saber

A life science tools company that develops fully integrated single cell analysis instruments and assays to accelerate drug discovery and development, advance complex biology understanding, and enhance accuracy in precision medicine.

AskBio

Ask bio acquire Brainvectis who develops a novel gene therapy for the treatment of neurodegenerative diseases by restoring brain cholesterol metabolism. The startup has been acquired the american company AskBio in 2020.

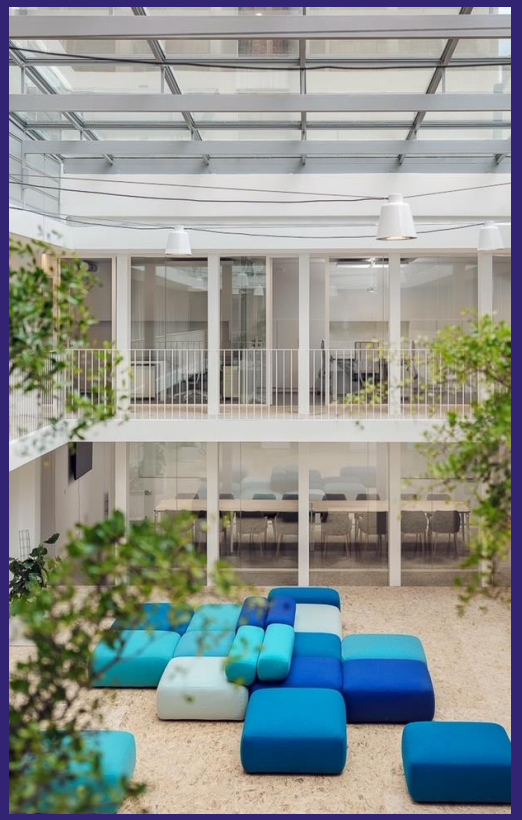
asfalia BIOLOGICS

Company whose goal is to enable the clinical application of gene and cell therapies in humans while ensuring their safety

OKOMERA

Develops a miniaturized 3D assay to help clinical decision. From a biopsy of the tumor, Okomera cell culture technology includes: a fluidic machine, reagents, and a software analysis aims to estimate and find the best drug treatment for every cancer patient

Chevaleret – MedTech & Digital Campus



P3Lab
Pragmatic healthcare emPowering People

P3lab's mission is to empower Neurologists in the diagnosis and prognosis of neurological disorders (PD, AD and MS) with NeuroClues

Dextrain

Dextrain develops medical technologies for diagnosis and treatment of hand impairments based on neuroscience.

Cline | Research

Cline Research democratize clinical research by facilitating access to clinical trials for patients and practitioners, in particular by improving recruitment on clinical trials using a web platform and a mobile app

DIAMPARK

DiamPark is a neurotech whose mission is to design and deploy innovative solutions based on the capture, measurement and analysis of digital neuromarkers specific to Parkinson's disease.

Qairnel

Qairnel is spin off of the Paris Brain Institute. They are developing AI-based digital solutions to better detect and anticipate the progression of Alzheimer's disease. The technology developed by Qairnel will allow to better sort and stratify patients in order to obtain "Real World Evidence" that will allow to recommend more personalized treatments to patients.

STATION F – Digital Campus

Emobot

Specialized in digital health, Emobot is developing a solution to care for the elderly in the form of a behavioral and emotional monitoring device powered by artificial intelligence

LITDHOSPI

An innovative web-based solution, aims at facilitate and accelerate the hospital bed search. The app helps identify, filter and get more information about available inpatient beds and also fluidifies & enriches the communication flow between hospital/clinic psychiatric units.

Callyope

Callyope is developing a speech-based technology to monitor brain diseases by assessing the severity of cognitive, motor and psychiatric symptoms. The first objective is to develop a tool to monitor psychiatric disorders in order to develop a remote monitoring solution (reimbursed) for recently hospitalized patients that detects manic or depressive episodes, in order to decrease re-hospitalization rates.

HYPEREDGE INSTRUMENTS

Hyperedge Instruments is a dynamic health start-up that wants to contribute to the building of personalized medicine. The mission of Hyperedge Instruments is to advance knowledge on taste loss in order to advance scientific research on taste, to help medical practice and the management of patients in a large number of pathologies.

AiiNTENSE

AiiNTENSE develops a digital platform for medical decision support and management of patients suffering from neurological or post-resuscitation pathologies through a set of tools : 1/ Business applications for personalized patient management 2/ Tools for textual data structuring and semantic enrichment of health data warehouses for a better efficiency and valorization of medical research projects

ACTIPULSE NEUROSCIENCE

Actipulse Neuroscience is a brain technology company developing a non-invasive brain stimulation platform to treat an array of different CNS disorders, from home. Currently in Phase 3 pivotal study for the treatment of Major Depressive Disorder, while also conducting trials for the treatment of brain tumours.

CERES BRAIN THERAPEUTICS - BioTech -

CERES BRAIN Therapeutics is dedicated to treating brain diseases by firstly focusing on rescuing suffering neurons with creatine, through an innovative “creatine to neurons” concept. The first indication is Creatine Transporter Deficiency syndrome, a rare disease without treatment that affects children.

Team

Thomas Joudinaud
Cofounder, CEO

Henri Bénech,
Cofounder, COO

Fund Raised

- Seed : 5,7 M€ (65% in Equity and 35% in Grants)
- Looking for 20M€ at a Serie A stage

Stage of Development

- Full preclinical POC (distribution & efficacy) in patient cell ex-vivo and in animals models (KO mice and NHP)
- On-going regulatory toxicity in rats and dogs,.

- Preparing IND/IMPD for Phase I study by the end of 2024
- Enf of 2025 : Phase II in CTD indication.

- Early 2026 : Phase II - Mitochondriopathies and in Epigenetic diseases.

Ceres – brain therapeutics (ceres-brain.com) CERES BRAIN Therapeutics : Présentation | LinkedIn

Ceres Creatine-to-Neurons™ approach

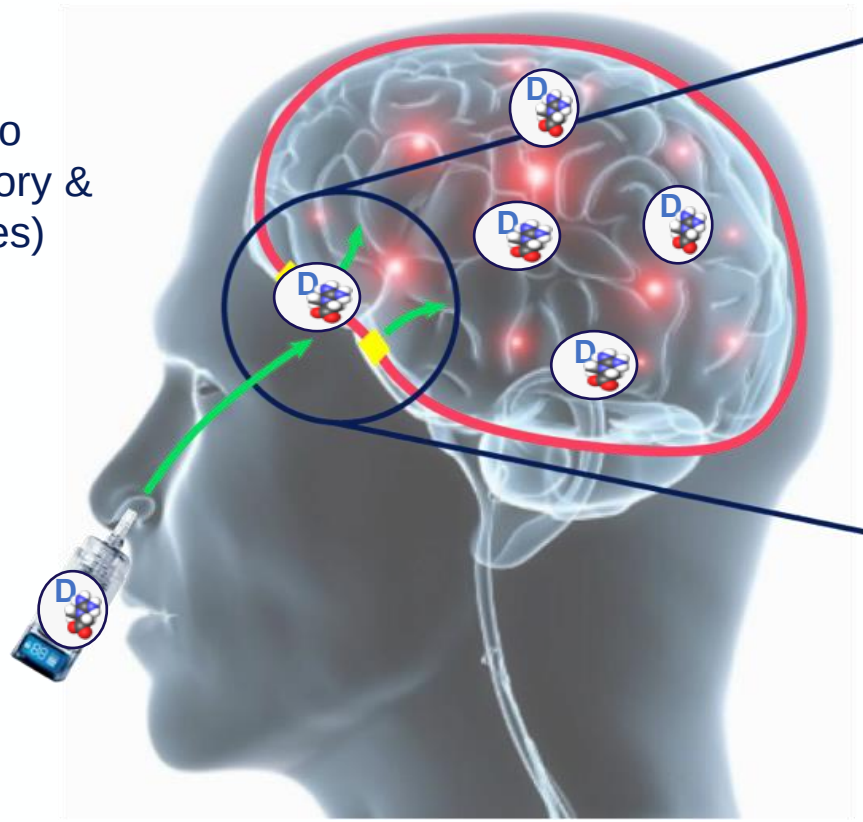
Release **creatine** in brain neurons

2

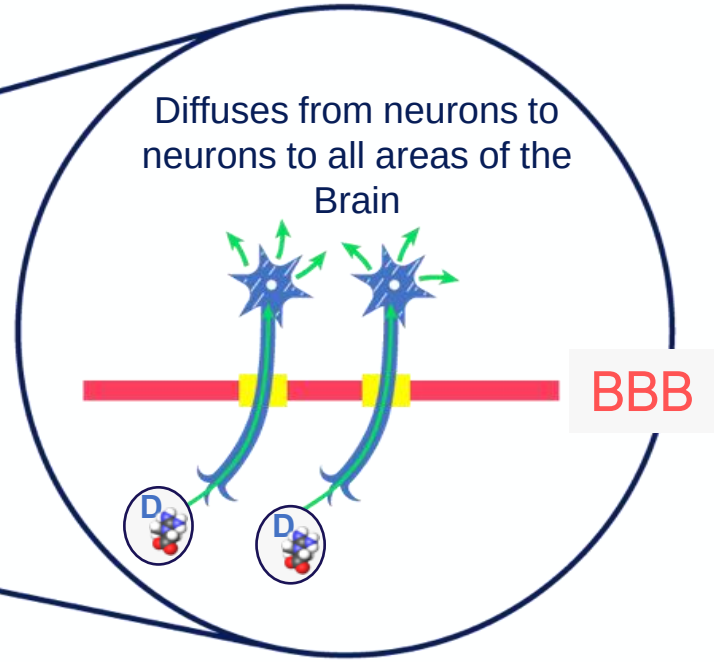
Direct Access to Neurons (Olfactory & Trigeminal nerves)

1

Formulated creatine prodrug (CBT101)



Diffuses from neurons to neurons to all areas of the Brain



Strong evidence of efficacy in 2 different Creatine Transporter Deficiency animal models

SLC6A8 KO

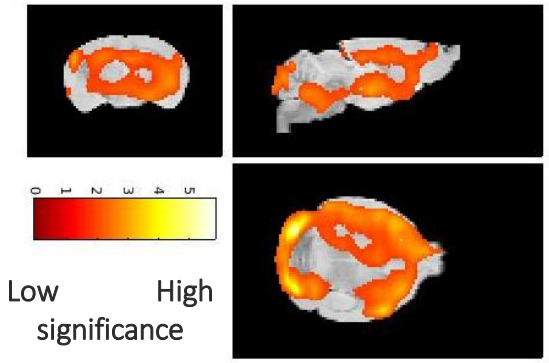
CBT101 nasal dosing vs control

Brain Plasticity

Expression of synaptic biomarkers (CREB, PSD95)

Brain Metabolism

Cerebral energy Consumption (FDG test - Pet SCAN)



Cognition

Restored

NOR test

IGHOR (Inhibitor for Glioblastoma Growth Hormone receptor)- BioTech -

GLIOTEX

Gliotex is a project born from the close collaboration between the Pitié Salpêtrière Hospital and the Paris Brain Institute. Gliasblastoma remains an incurable disease, the current gold standard doesn't cross the BBB. There is a strong and urgent need for a new therapy.

Team

Ahmed Idbaih
MD, PhD

Maite Verreault,
PhD

Fund Raised

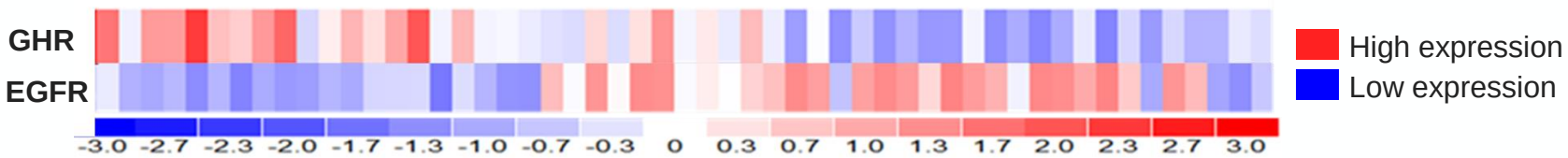
- 200 K€ Lauréat NeuRal (iPEPS Acceleration Program)

Stage of Develoment

- *In vitro (PDCL established by the team), in vivo (GBM models established by Gliotex)* and preclinical experiments.
- Synthesis of lead candidates and Analogs testing
- Preclinical and clinical evaluation of lead candidates on GBM indication

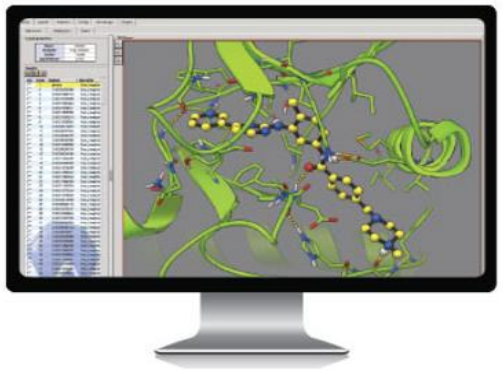
Over-expression of GHR in 1/3 of GBM and how to inhibit them ?

- EGFR (known oncogene) is overexpressed in 60% of GBM



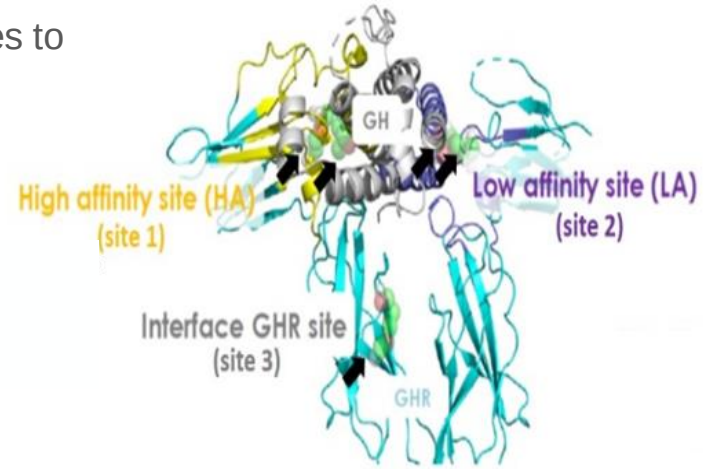
Identification of 1 subgroups that represents -30% of GBM :**GHR^{high}**/EGFR^{low}

75 millions of molecules

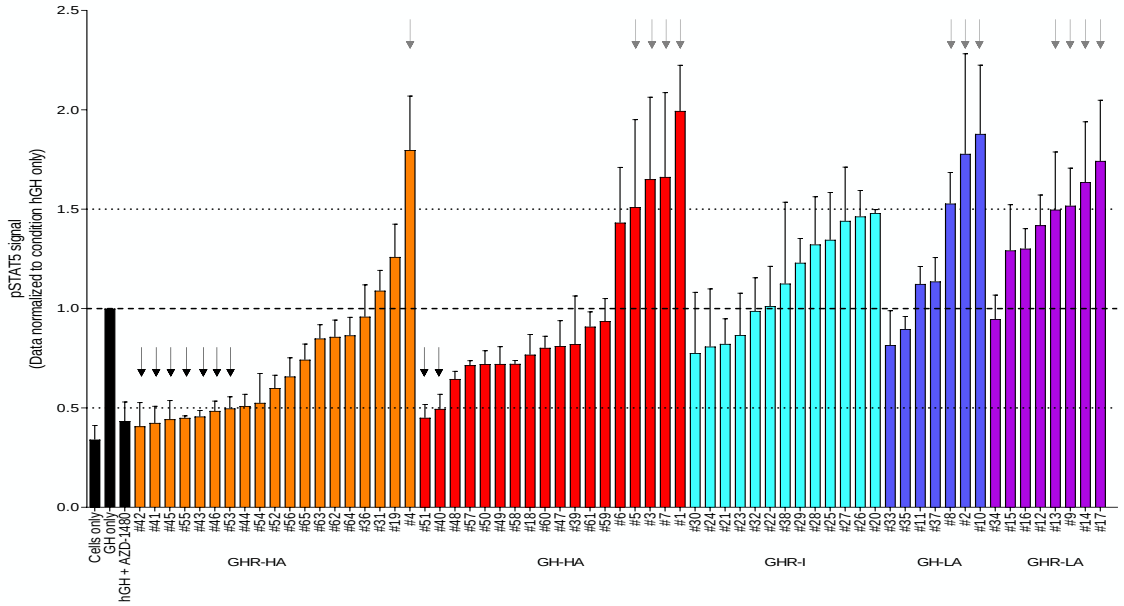


Predicted properties to cross the BBB

66 finals molecules



Functional screening of 66 molecules and choosing top candidates



9 molecules inhibit 50% of the phosphorylation of STAT5
(biomarker of interest)

One molecule of interest :

- **inhibit GBM cell proliferation**
- **Inhibit cell migration**
- **active in an in vivo GBM model**
- **crosses the BBB**

More studies to come… (optimization, evaluation)

iPEPS – Scientific and regulatory challenges

Challenges :

- Timeline : When is the right time to contact the EMA ? At what stage of development ?
- Proof needed : What needs to be proven to go in pre-clinical development ? What are the gold standards ?
- Lack of clear answers : Experts always needed
    - Not always found or not specialised enough.
- Budget allocation
- Interaction between National and European agencies
- Clinical validation
    - Difficulty of recruitment

On a positive note : Access to an EMA referent as support

Paris Brain Institute

ICM

Thank you for your Attention !

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