# THERANEXUS

Innovative biopharmaceutical company specialized in the treatment of rare central nervous system disorders

## INVESTOR PRESENTATION

**(updated following Batten-1 phase 1-2 trial results after 12 months of treatment)**

September 29th 2023

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# Speakers

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**CEO & Co-founder**

Ecole Polytechnique and
Mines Paris-Tech

Doctor in neuroscience and Cell Biology from the Pierre and Marie Curie Institute.

HEC Challenge + Program

## Thierry LAMBERT

**Chief Financial Officer**

Business Administration at the University of Birmingham

MBA (Master of Business Administration) from INSEAD

ICAEW Certified Public Accountant (Institute of Chartered Accountants in England and Wales)

# Theranexus, a company with a Phase 3 ready clinical asset

## ...developing drug candidates for rare neurological disorders

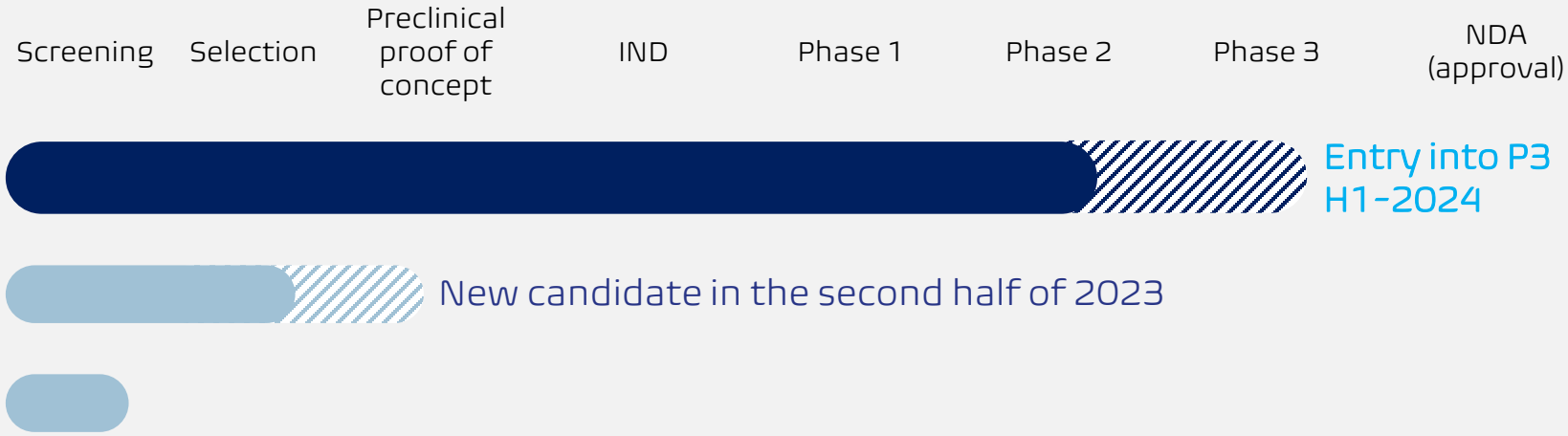
### Batten-1

BEYOND BATTEN DISEASE FOUNDATION

Juvenile Batten disease (CLN3)
P1-2 fully recruited and in progress

Platform dedicated to lysosomal diseases

Platform dedicated to diseases with neuronal hyperexcitability




The R&D platform is supported by

3 scientific collaborations:

| Neurolead | INSERM | AlstroSight |
|---|---|---|
| Platform for the identification of drug candidates based on pathological models of rare neurological diseases | Identification of innovative drug candidates (ASO )[1] in rare neurological diseases | Innovative numerical methods for the search of new drug candidates to treat rare neurological diseases |

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[1]ASO = Antisense oligonucleotide

# Batten-1, a particularly attractive clinical-stage asset

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# A particularly promising first clinical stage asset in juvenile Batten disease (CLN3)

### A structuring partnership

- BBDF: the leading patient foundation in this field

BEYOND BATTEN DISEASE FOUNDATION

### Recent discovery of the disease mechanism

- Central role of GSL accumulation[1] in neuronal death[2 3]

### Use of a registered molecule with a clinically validated mechanism of action

- Proven ability to cross BBB[4] and inhibit GSL formation in patients with CNS lysosomal diseases

### Batten-1: an exclusive liquid formulation

- Best suited to patients' needs
- Several levels of protection

### Dense short and medium-term newsflow

- Phase 3 US/Europe launch H1-2024
- P1/2 full end 2024
- Interim results Phase 3 from 2025

### First-to-market in a high-potential market

- Only drug in clinical development for CLN3
- Final results Phase 3 end 2026
- Registration S1-2027
- Estimated peak sales of >$500 million

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[1]Glycosphingolipids
[2]Work carried out by Emyr Llyod Evans' laboratory at Cardiff University (funded by the Beyond Batten Disease foundation).
[3] Glycosphingolipid reduction with miglustat as a therapeutic strategy for CLN3 and otherneuronal ceroid lipofuscinoses, Dr Emyr Lloyd-Evans, Cardiff University
4BBB=Blood-brain barrier

# CLN3: the mechanism of the disease has been discovered thanks to recent academic work financed by BBDF

700 to 1 000 patients in the U.S.[1]

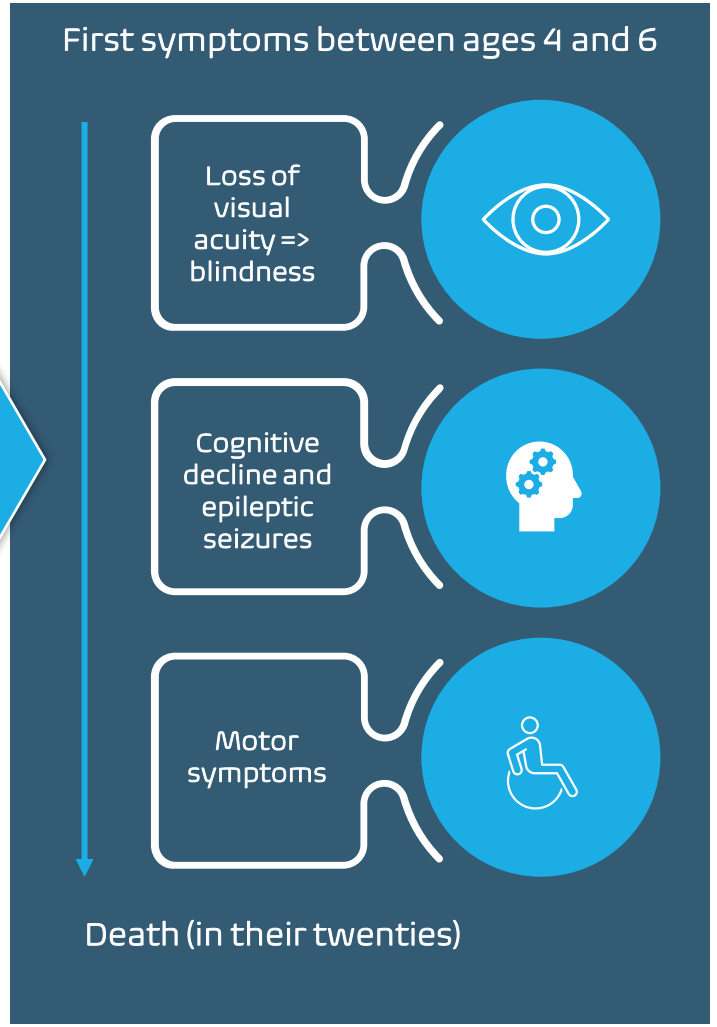
800 to 1 000 patients in the EU[2]

No treatment registered

Autosomal recessive transmission, founder effect localized in Nordic countries

## Scientific rationale that led to Batten-1: how to reduce glycosphingolipid accumulation?

Mutation in the CLN3 protein → Toxic accumulation of glycosphingolipids (GSL) in the brain[3] → Neuronal death leading to disabling neurological symptoms[3]

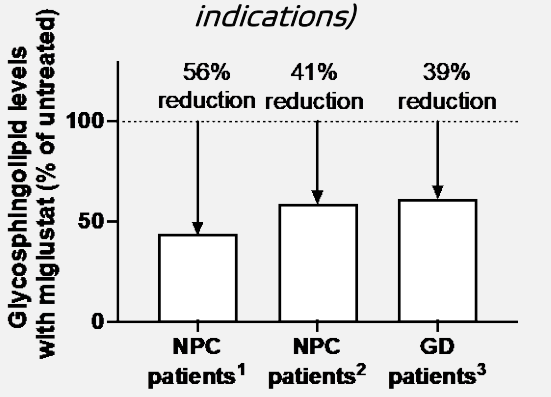



[1]Based on health insurance data (Decision Resources Group)
[2]Orphanet data
[3]Work carried out by Emyr Lloyd Evans' laboratory at Cardiff University (funded by the Beyond Batten Disease foundation) and confirmatory work carried out by Theranexus

# Batten-1 (miglustat) targets glycosphingolipid synthesis, whose accumulation is toxic to neurons

GSL reduction by miglustat already validated in humans for other indications…

*Significantly reduced GSL levels (clinical demonstration in similar indications)*

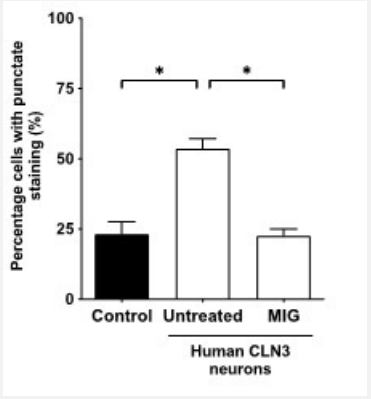



[1] Lachmann et al, 2004
[2] Fan et al, 2013
[3] Zavesca labeling package, EMA, 2005
(GD = Gaucher Disease / NPC = Niemann-Pick C Disease)

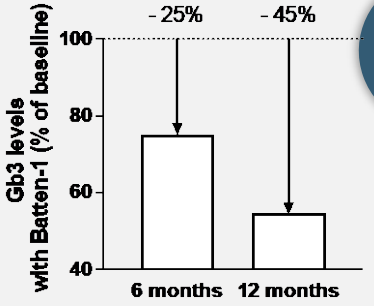
..an activity also validated on preclinical models in CLN3…

*GSL accumulation strongly reduced in CLN3*

Human cells CLN3 models[1]

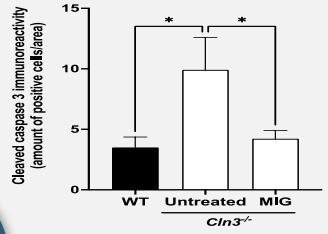



P1/2 clinical data



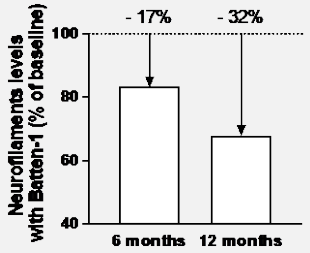

…leading to a reduction of cell death in the brain

Apoptosis
(preclinical data)[2]

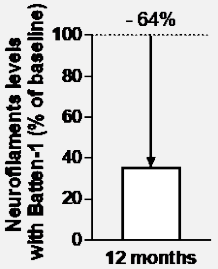



Reduction in NfL, biomarker of neuronal death
(P1/2 clinical data)[3]

Serum




cerebrospinal fluid




## Batten-1 : a well-known mechanism of action already validated in humans

[1]1 Glycosphingolipid reduction with miglustat as a therapeutic strategy for CLN3 and otherneuronal ceroid lipofuscinoses, Dr Emyr Lloyd-Evans, Cardiff University, Work carried out by Emyr Lloyd Evans' laboratory at Cardiff University (funded by the Beyond Batten Disease foundation), and confirmatory work carried out by Theranexus.
[2]Work performed at Marco Sardiello's lab (Baylor College of Medicine, US) funded by BBDF
[3]Interim results after 12 months of treatment in Phase 1/2 of Batten-1

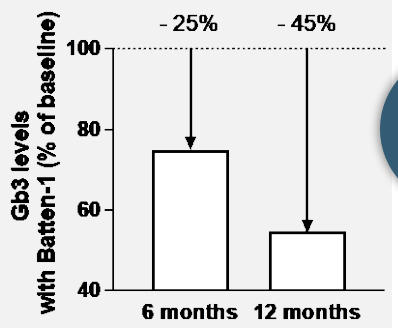
# Encouraging Phase 1/2 clinical results after 12 months of treatment

- **6 patients** with juvenile Batten disease, **aged 17 and more**
- Study conducted by Batten disease reference centers in the United States
- Good safety profile and pharmacokinetics in line with expectations after 9 weeks

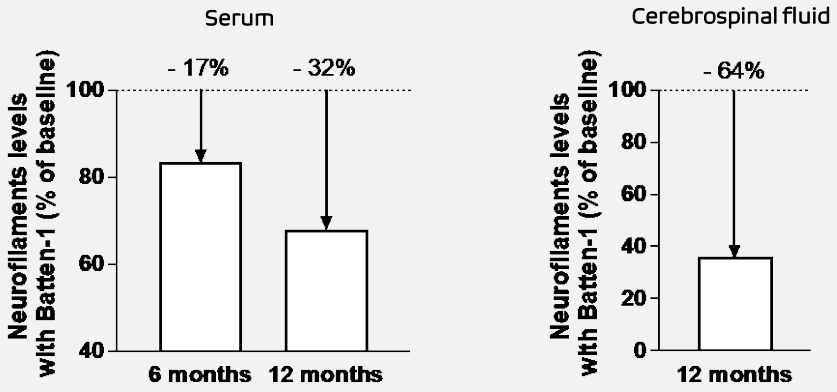
## Interim results at 12 months

- **Decrease of neurofilament light chain (NFL)** in the blood and cerebrospinal fluid of patients dosed
- **Reduction of glycosphingolipids involved in the pathology** (-45% for Gb3) whose accumulation is toxic in neurons
- **Absence of notable deterioration of motor symptoms,** compared to an estimated linear aggravation in an untreated population[1,2]

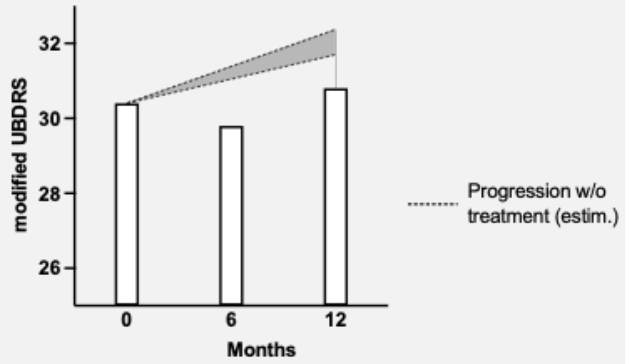
### Reduction of GSL involved in the pathology[1]




### Reduction in NfL, biomarker of neuronal death (P1/2 clinical data)[1]




### Absence of notable deterioration of motor symptoms[1,2]




[1] Interim Batten-1 P1/2 results after 12 months of treatment
[2] Kwon et al, 2011

# Batten-1: Phase 3 study design validated by the FDA and EMA

## FDA and EMA approvals obtained for design and efficacy endpoints of pivotal Phase 3 study

- **A single Phase 3 study** would enable registration of the Batten-1 candidate in Batten disease
- Study conducted in parallel at several centers in the **United States and Europe**

- **Randomized**, double-blind **study** evaluating the efficacy of Batten-1 over 2 years of treatment, versus placebo

**Target population:** approximately 60 patients aged 4 to 16 years old

**Additional cohort** of 9 open-label patients generating intermediate results every 6 month

Primary endpoint: Visual acuity

Evaluated by :

- A quantitative measurement scale in LogMar[1]
- A qualitative scale for the most severely affected patients who cannot be assessed quantitatively

Secondary endpoints :

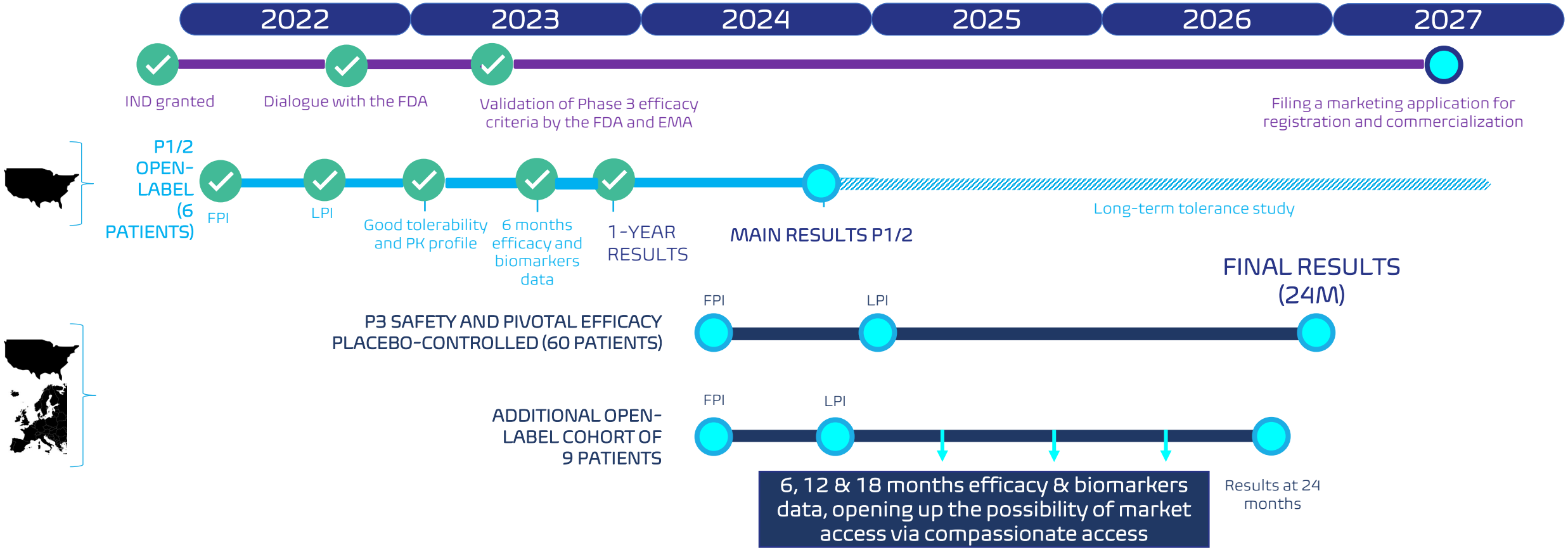
Cognitive functions

Motor functions

A P3 design validated by the FDA and EMA, offering a steady newsflow until Batten-1 registration

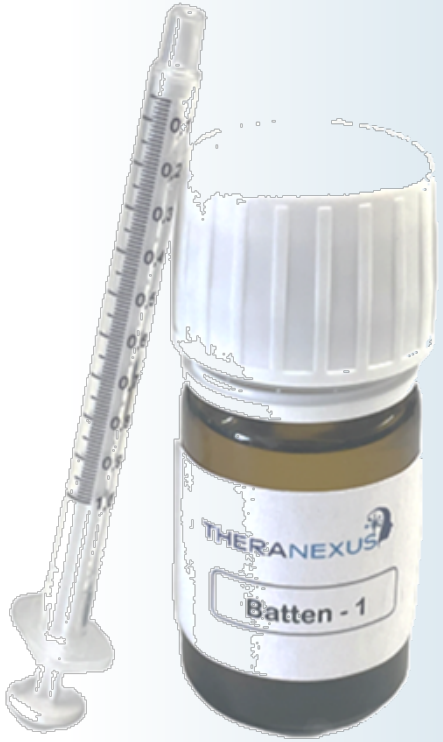
[1]LogMAR (or Log MAR) is a unit for quantifying visual acuity, enabling statistical calculations such as mean, standard deviation, etc. to be made.

# Development plan with Phase 3 results by the end of 2026, followed by marketing authorization




Final results by the end of 2026, followed by marketing approval and commercialization (in particular in the US and Europe)

# Batten-1: development of a proprietary oral solution for CLN3 patients




## A drinkable solution that makes treatment easier to take and modulate

- Drinkable solution :
  - Suitable for pediatric patients and patients presenting swallowing difficulties.
  - High concentration, enabling treatment of all patients, regardless of age or weight.
- Graduated pipette
  - Fine dose modulation, aiming for the best possible tolerance by gradually increasing the dose at the start of treatment.

## Protected by :

**-1-**

Method-of-use and formulation patents filed in main markets (2021 and 2022)

**-2-**

Orphan Drug Designations granted by the FDA (USA) and EMA (EU)

# Batten-1: global sales peak at over $500 million a year

## Market estimates obtained by an independent study commissioned by Theranexus, demonstrating a strong market opportunity

| Territories | Currently diagnosed patients / estimated prevalence[4] | Sales based on diagnosed patients (usd millions)[1] | Sales based on estimated patients (usd millions)[1] |
|---|---|---|---|
| United States | 750[2] / 1,200 | 480 | 765 |
| EU5 (Germany, France, Italy, Spain, United Kingdom) | 340[3] / 500 | 50 | 75 |
| Nordic countries | 120[3] / 180 | 15 | 20 |
| MARKET OPPORTUNITY | | $545 million | $860 million |

*1: Price estimates based on interviews with payers and KOLs (source: Justin Stindt Consulting report).*
*2: Estimated population diagnosed based on insurance claims (source: DRG - Clarivate analytical report for Theranexus).*
*3: Estimated population diagnosed based on data from hospital discharge reports (RW Health report for Theranexus).*
*4: Estimates based on literature analysis (DRG - Clarivate analytical report for Theranexus; RW Health report for Theranexus)*

## A favorable pricing environment for rare diseases

| Product (company) | Target population (7MM)[1] | US annual price[2] |
|---|---|---|
| Zavesca (J&J) | 1,950 | $653k |
| Brineura (Biomarin) | 550 | $795k |
| Procysbi (Horizon) | 1,250 | $1,074k |
| Xenpozyme (Sanofi) | ~100 | $1,949k |

*[1] 7 Major Markets*
*[2]Drug price per patient in the United States ; source GlobalData: Drug Pricing Intelligence (POLI) Database*

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# Financial information

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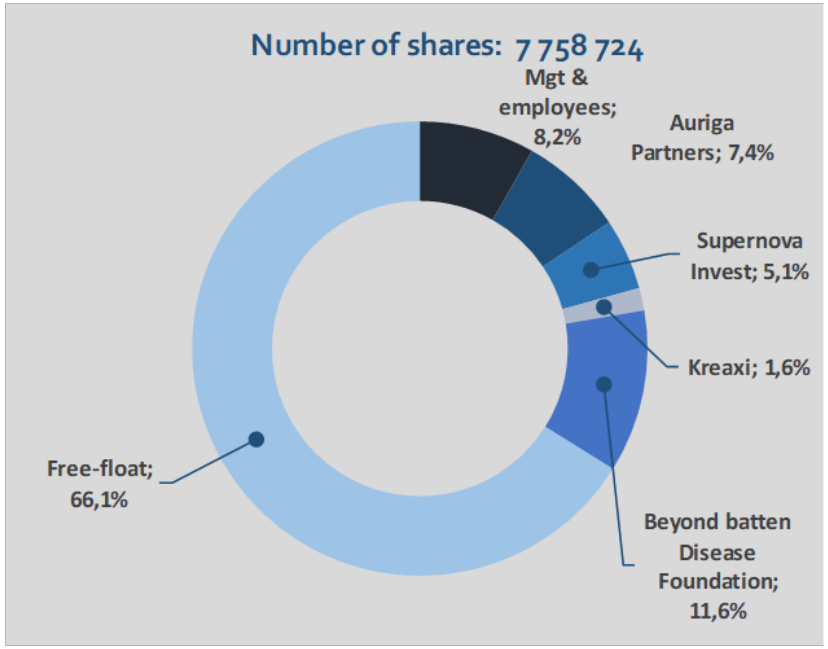
# Listing and shareholders

## Financial data

- ISIN: FR0013286259 - Mnemo: ALTHX
- Market: Euronext Growth
- Share price on September 28, 2023: 1.17 €
- Market capitalization: 9.1 M€
- Coverage: Portzamparc
- Liquidity contract: Portzamparc

## Capital structure




ELIGIBLE PEA PME

bpifrance Entreprise Innovante

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# Simplified income statement

| In thousands of euros (French accounting standards) | H1-2023 | H1-2022 | 2022 | 2021 |
|---|---|---|---|---|
| **Operating income** | **254** | 462 | **1,246** | **25** |
| Other purchases and external charges | 2480 | **1 950** | 3,967 | 5,591 |
| Salaries and social charges | 1520 | **1 509** | 3,165 | 2,689 |
| Depreciation and amortization | 168 | **166** | 332 | 1,204 |
| Other expenses | 8 | **24** | 39 | 53 |
| **Operating results** | **(3 921)** | (3 187) | **(6,257)** | **(9,512)** |
| Financial result | 59 | **(121)** | (158) | (396) |
| Extraordinary expenses | 0 | **0** | (771) | - |
| Income tax | 216 | **18** | 619 | 1,758 |
| **Net income** | **(3 646)** | (3 290) | **(6,567)** | **(8,150)** |

## Proforma Cash and cash equivalents on June 30th 2023:

**€7.8M€** (including the proceeds from the capital increase of 3.1M€ on July 11th 2023)

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# Theranexus: a strong opportunity to create value for investors

## Innovative biopharmaceutical company with many strengths

Batten-1:

- A clinical asset approaching Phase 3, with a mechanism validated in humans
- Very encouraging Phase 1/ 2 results, providing early evidence of clinical efficacy
- A first-to-market drug candidate with a market opportunity of over $500 million

An R&D platform dedicated to rare neurological diseases:

- Supported by top-level scientific collaborations
- With a new ASO candidate in development in the second half of 2023

## A dynamic Batten-1 newsflow over the next 3 years

**H1 2024**
Launch of the phase 3 pivotal trial

**H2 2024**
Main results Phase 1/2 at two years of treatment

**2024 & 2025**
Open cohort efficacy & biomarker data at 6, 12, 18 & 24 months

**H2 2026**
Phase 3 results

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