



Preclinical and regulatory package unique in Europe

INSPIRE

Integrated Neuroscience Solutions
for Preclinical REsearch

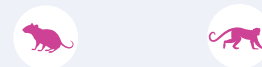


Scientific and technical continuity to support your
product development in neurology

from *in vitro* to *in vivo*,

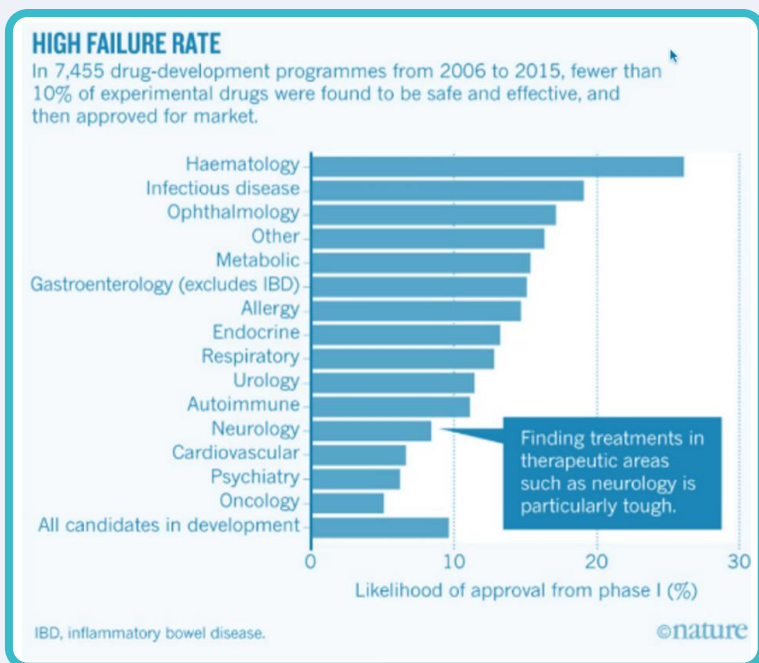


from **rodents** to **primates**,



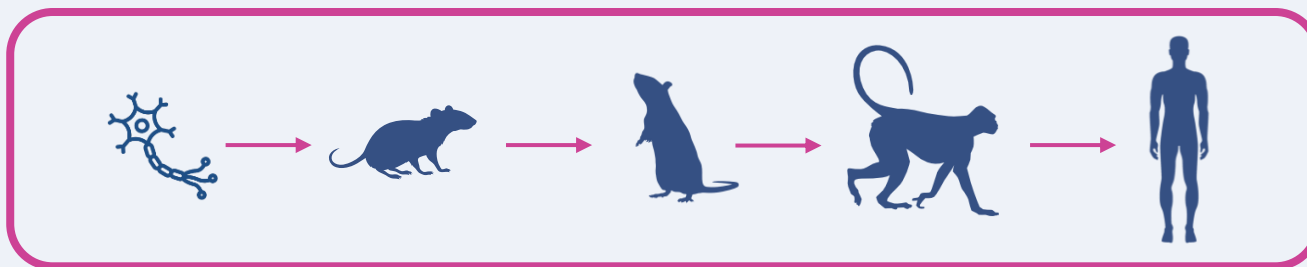


CNS: the challenges of preclinical studies

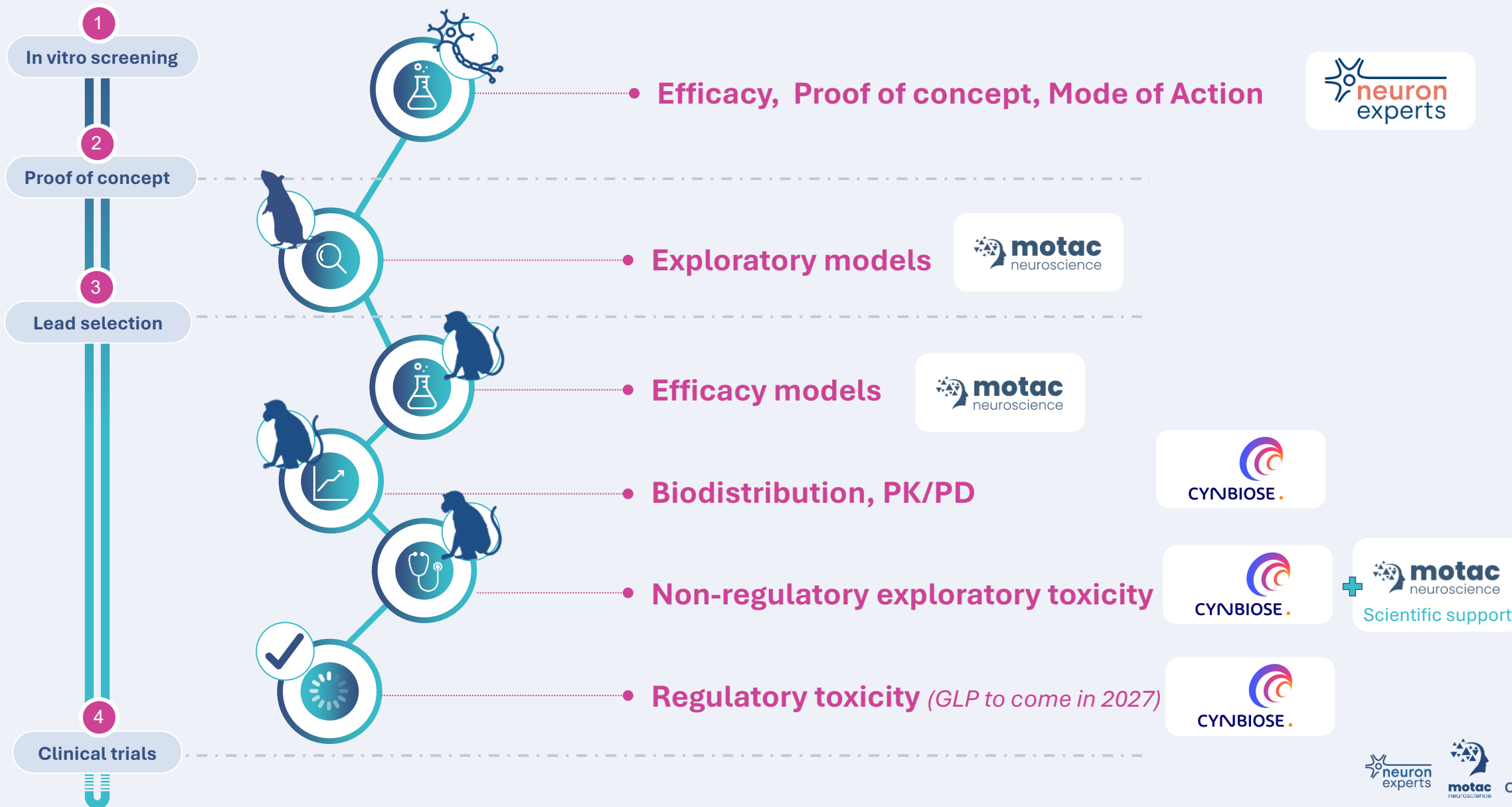


- ✓ **Reproducibility** crisis in biology
- ✓ **CNS: high attrition rate** (few studies on NHPs...)
- ✓ **Stability** and **continuity** of partners sought
- ✓ Need to control **study turnaround times**
- ✓ **Relevance** of large animal models compared with alternative models

🎯 **Translatability**
& **clinically-relevant endpoints**
are core tenets of a predictive animal model



Continuous preclinical program for CNS disease



✓ Species

Mouse cells



Rat cells



Human cells
(healthy and patient
IPS cells)



✓ Disease models

Parkinson's disease

Alzheimer's disease

Frontotemporal Dementia

Amyotrophic Lateral
Sclerosis

Multiple System Atrophy

Huntington's disease

Multiple Sclerosis

Neuropathies
& demyelinating diseases

✓ Model induction

Incubation of relevant disease recombinant oligomere protein (α -syn, β amyloid, etc..)

Incubation of recombinant disease-relevant misfolded protein (syn, tau, TDP-43, etc..)

Modulation of a disease-relevant gene (Plasmide vector and Viral vector)

✓ Readouts

Immunofluorescence staining, automate image analysis
(survival cells, apoptosis, synapse loss, oxydative stress, hyperphosphorylated protein)

Autophagy evaluation
(Lamp-2, LC3b, ...)

Intracellular Calcium Quantification

Mitochondria injuries

Cytokines release

Translational model
with in vivo

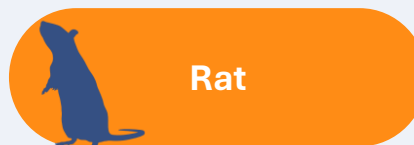
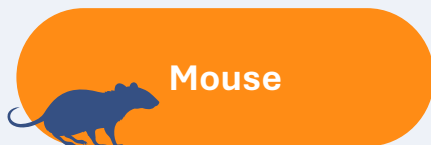
Neuronal Primary culture
or IPS cells

Screening
Proof of concept
Mode of action



In vivo translational neurological disease models

✓ Species



✓ Disease models

Parkinson's, Multiple System Atrophy, Dementia with Lewy Bodies

Alzheimer's, Progressive Supranuclear Palsy

Amyotrophic Lateral Sclerosis, Frontotemporal Dementia

Spinal Cord Injury

Psychiatric conditions

✓ Model induction

Patient-derived or recombinant misfolded protein (syn, tau, TDP-43, etc..)

Viral vector

Stereotactic injection, spinal surgery



In vivo translational neurological disease models



motac
neuroscience

✓ Readouts

Motor behaviour, kinematics

Cognition
(from simple tasks to CANTAB-based tasks)

Physiology
(electrophysiology, in vivo calcium imaging)

Wake/sleep EEG

Post-mortem brain analysis
(histo, immunohisto, biochemistry, molecular biology)

Secured access
to primate resources

World-leading
CNS experts

Unique Translational
Track-record



In vivo exploratory biodistribution, PK/PD and neurotoxicity

✓ Species



**Cynomolgus
macaques**



✓ ROA

Classic

IV (infusion up to 6h), SC, etc.

Intranasal

(nose-to-brain)

Stereotactic

intraventricular or intraparenchymal

Intrathecal

w or w/o catheterization, laminectomy,
lumbar or cisternal

✓ Specific sample collection

Chronic CSF collection

Brain microdialysis

Expert collection of fresh neural tissue (brain structures, DRG)



In vivo exploratory biodistribution, PK/PD and neurotoxicity

✓ Readouts

Neurobehavioral FOB

MRI (fMRI, CSI MRS), PET-MRI

Clinical pathology

Histopathology, IHC

FACS, cytokines, complement fragments, ELISA, LC/MS-MS, etc.

Secured access
to primate resources

Focus on
animal welfare

GLP-like QMS
(SOP, archives, SEND)

Biosafety
GMO, pathogens

Integrated CNS preclinical models from *in vitro* to primate studies



- ✓ 200 m² of independent laboratory with high-tech equipment
- ✓ Neuronal cell culture-based tests (primary, iPSC)
- ✓ Fluorescence microscopy high-content screening



- ✓ Neurological disease models in mice, rats and NHP
- ✓ Physiological and neurobehavioral readouts
- ✓ Post-mortem analyses (IHC, ISH, IHF...)



- ✓ Brand-new primate facility [BSL 1-3] w/ AAALAC accreditation
- ✓ Large experience in biodistribution, PK/PD and toxicity studies
- ✓ GLP-like QMS, expertise with IND-enabling studies





Contact us!

The sun never sets on your CNS research!



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