

The logo for CYNBIOSE, featuring the company name in a white, sans-serif font with a small orange dot at the end of the word. The background of the slide is dark blue with large, overlapping, curved shapes in shades of purple, pink, and orange.

CYNBIOSE.

Your NHP expert partner for preclinical research

Solution provider for exploratory research in pharmacology, early safety and efficacy studies

Key highlights

2008
Incorporation

Privately owned



Lyon, France
HQ & Facility

Secure supply of NHPs 2025-2028

Full accreditation since 2015



Brand new unique state-of-the-art facility
BSL 1-3, GMO (C1-2)



25 employees

3 DVM, 3 PhD, 9 MsC

+ Network of preferred partners
CNS, Infectious, Bioanalytical capabilities

> 70

Scientific publications & contributions

Non-clinical services

non-GLP

- Exploratory DMPK & early tox
- PoC studies

GLP

in 2026

Sponsors worldwide

Big Pharma, Biotechs, Start-ups,
Research organizations

**1 tested COVID-19
vaccine approved**

BIMERVAX®

Science-driven preclinical CRO



Core expertises

- **NHP model:** 15+ years of in-depth expertise and experience
- **DMPK and Early Tox**
- **Infectious & respiratory infectious diseases**
- **CNS disorders**



Strengths

- **Highly skilled and experienced team**
- **Flexible, agile**
- **Scientific and technical advice**
- **Flexible design of protocols**
- **Close customer relationships**



Broad experience with NCEs and biotherapies

- Immunotherapies : mAbs, ADC, oncolytic virus, ...
- Vaccines (prophylactic and therapeutic)
- ATMPs : gene therapies
- Oligonucleotides
- Peptides
- LNP
- Small molecules (CNS, Infectious)



Unique European facility for preclinical research

ANIMAL FACILITIES

500m² of housing (ABSL 1-3) & laboratory space (BSL 1-3)

- NHP capacity: 100 ABSL 1-2, 50 ABSL 3
- Rodent & non-rodent species for infectious studies
- Highly energy-efficient building

ANIMAL WELFARE

Animal welfare, staff health & safety (AAALAC- accredited since 2015)
EU-compliant large enclosures, social housing, environmental enrichment

BIOCONTAINMENT

Handling of **pathogens BSL 1-3** (virus, bacteria, including aerosols) & **GMO C1-3**

SECURITY

24/7 CCTV, several alarm systems, strong IT security, local and cloud data backups, 48h autonomous power supply with global UPS...

3 000 M² OF FACILITIES AND OFFICES
STATE-OF-THE-ART ANIMAL FACILITIES



Unique European facility for preclinical research



1 autopsy room, 4 procedure rooms, 1 surgery room (X-ray enabled), 2 sample processing rooms

Quality, ethics and animal welfare



QUALITY ASSURANCE & MANAGEMENT

- GLP-like QMS, GLP accreditation aimed for 2026
- 2 FTE for QA
- SEND conversion, long-term archiving
- Equipment monitoring and metrology



ETHICS MONITORING & APPROVAL



- AAALAC accredited since 2015, full accreditation renewed in 2018 and June 2021
- Fully external & independent IACUC (Ethical committee) for protocol approvals
- Internal Animal welfare body: monthly meetings with a consulting veterinarian



ANIMAL WELFARE

- Behavioral enrichment, healthy nutrition and stress avoidance
- Social housing
- Routine animal training program during acclimation, tailored to protocol
- Most of the handling & sampling on awake animals; limited use of sedation or anesthesia



Overview of our preclinical services and capabilities

Non-clinical services & capabilities

Exploratory DMPK & early safety

- **Pharmacokinetics** incl. central and pulmonary PK
- **Pharmacodynamics**
- **Toxicity** (acute & chronic), **Toxicokinetics**, MTD, DRF
- **Immunogenicity**
- **Biodistribution studies** (incl. Gene therapies)
- **Immunotoxicity** (TDAR), **Neurotoxicity**

Proof-of-Concept

CNS, Infectious & respiratory diseases, Inflammation, Immunology

- Clinically relevant efficacy models
- Off-the-shelf or on-demand physiopathological models

Dedicated solutions

- Drugs targeting the CNS & infectious respiratory diseases
- Inhaled products / aerosoltherapies
- Nose-to-brain delivery strategies

EXTENSIVE TRAINING PROGRAMS

For dosing and sample collection on awake animals

SPECIFIC CAPABILITIES

- Advanced **surgical** capabilities
- **Screening** capability for gene therapy
- Infectious & respiratory diseases : Ecological **mode of infection**, *rodent & non-rodent efficacy models*
- **Dosing routes**: standard & specific: *Infusion (up to 4/6h), intrathecal (Lumbar, ICM), Intracerebral, Intranasal, Inhalation, intratracheal...*

IN-LIFE

- **Clinical pathology**
- **Clinical, behavioral and neurological assessment** : proprietary grid, FOB, cognitive & sensorimotor assessment (cognitive)
- **Standard & specific sampling** : Blood, CSF, BM, BAL, SWAB, Urine, Feces, Biopsies, tissues & organs (incl. deep brain structures)

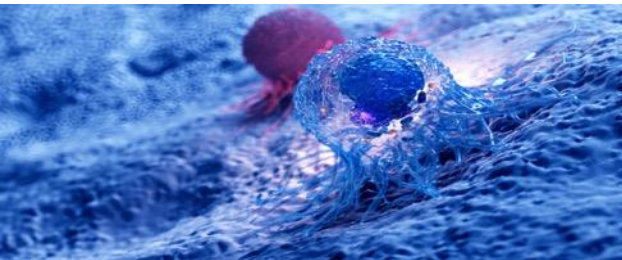
BIOANALYSIS

Preferred network of partners

IN VITRO & EX VIVO

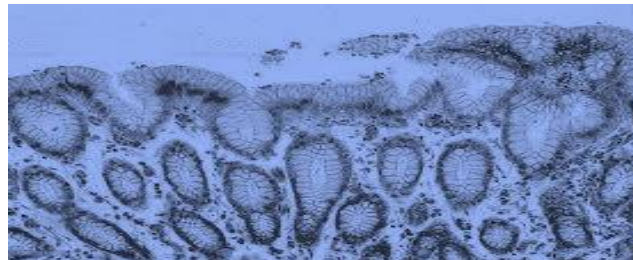
Full package services from in vitro / ex vivo screening to in vivo studies

Full service package with bioanalytical capabilities



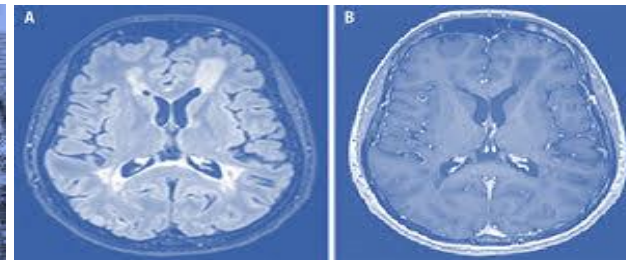
IMMUNOLOGY

- PK/TK
- Receptor Occupancy
- Immunogenicity
- Biomarkers of efficacy / PD
- Biomarkers of safety
- Functional assays
- Development & validation of methods
- On-demand biomarkers



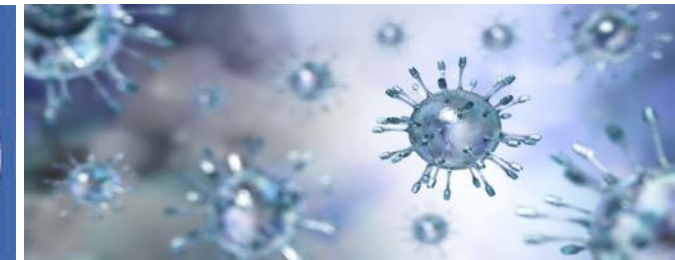
HISTOPATHOLOGY

- Tissue fixation
- Tissue staining (incl IHC)
- Histopathological evaluation
- Immunohistochemistry



TRANSLATIONAL IMAGING

- MRI
- MRS (CSI)
- PET
- PET-MRI, CT scanner, μ CT scanner,
...



VIROLOGY MONITORING

- Viremia
 - Viral genome quantification by RT-qPCR
 - Infectious titration (TCID50)
- Inflammation
- Immunophenotyping
- Seroneutralization assays
- Biological markers



Respiratory viral infection models in NHP

RSV | hMPV | SARS-COV-2

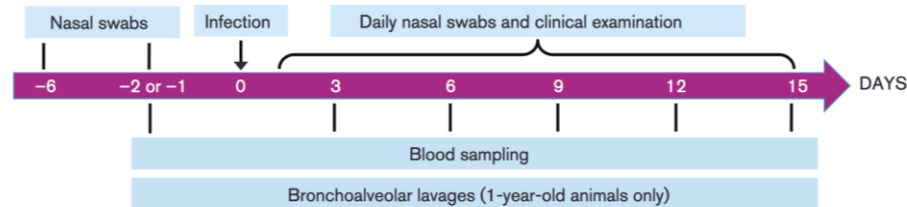
NHP Model to Evaluate Immunotherapies against hRSV Infection

OBJECTIVES

- Immunogenicity , Toxicology
- Viral challenge

METHODS

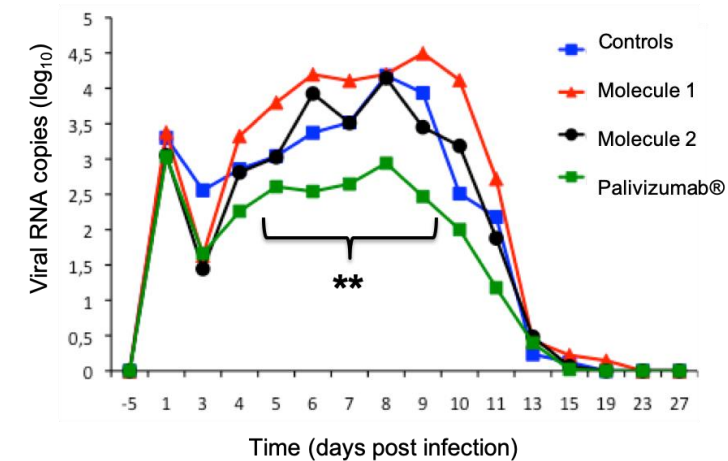
- Biocontainment level : A2
- Infection : IT, IN, aerosolization, nebulization



- Clinical observations (BW, HR, RR), temperature (autonomous logger)
- Sampling : nasal & nasopharyngeal swabs, BAL, urine, blood ...
- Analysis of viral RNA copies of hRSV, cytokines
- Option: organs and tissues collection
- Reference compound: palivizumab

RESULTS

- Upper respiratory tract infection : Viral RNA copies (qRT-PCR)



- Newborn monkeys are not more susceptible to infections than monkeys of standard age
- HRSV-infected animals are protected from reinfection 6 months after 1st injection
- First POC of antiviral efficacy of intranasal Palivizumab

References

Grandin C et al. J Gen Virol. 2015 Apr 96(Pt 4): 782-792.
Grandin C et al. Antiviral Res. 2016 Jan 19;125:58-62.

Cited in Sanofi's paper: Swanson K.A et al, Science Immunology, 2020 May, 5 (47).

SARS-CoV-2: Bimervax efficacy study

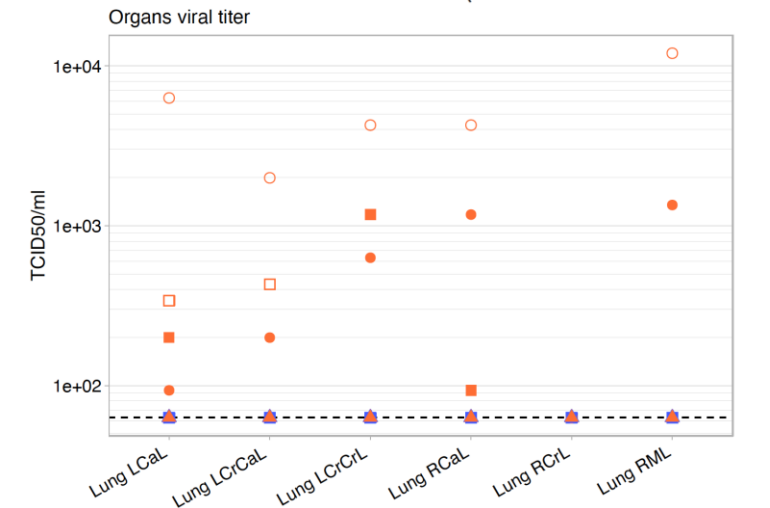
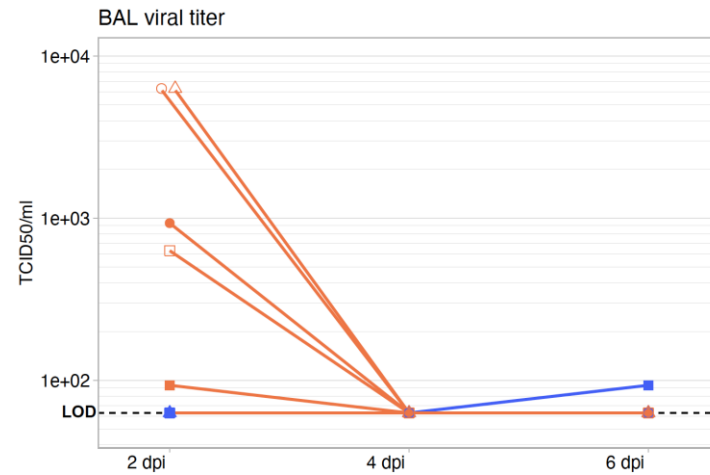
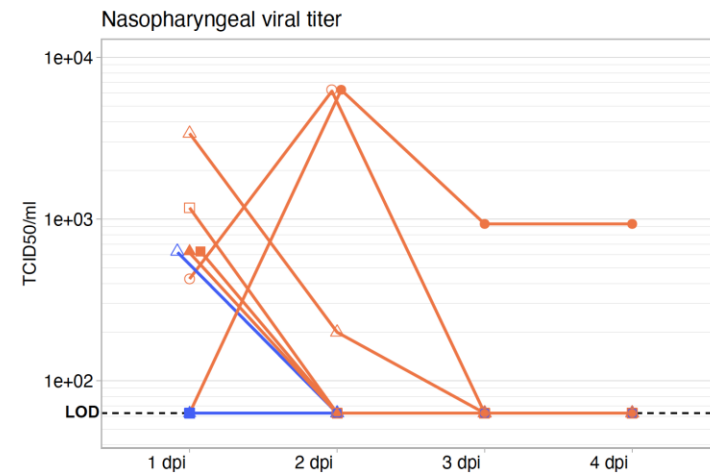
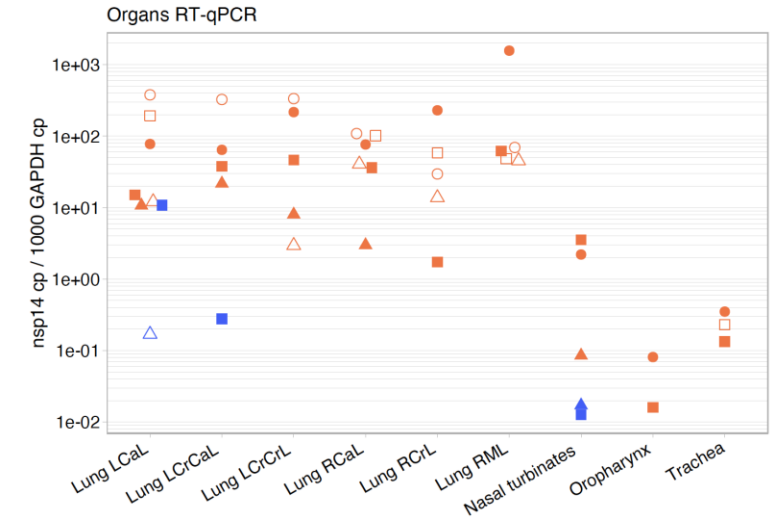
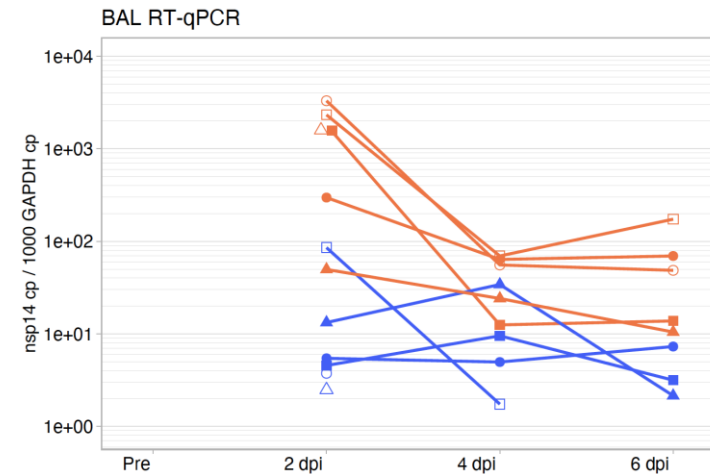
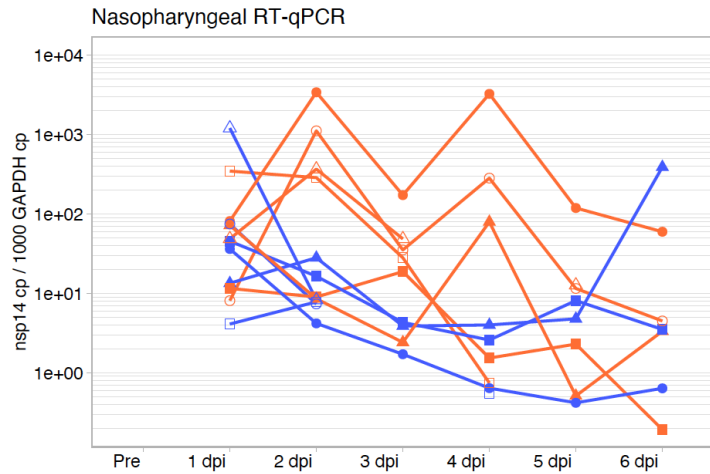


Request by Hipra (Spain) to test preclinical efficacy of a vaccine based on a fusion protein

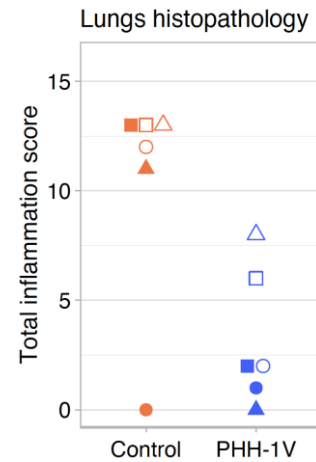
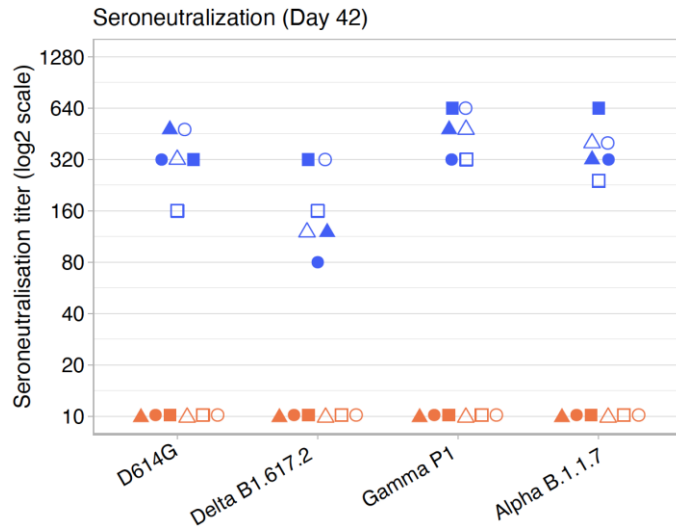
- 2 groups (6 animals each, 3M/F)
- Prime/boost vaccination
- Infection and follow-up for 7 days
- BAL, swabs, temperature, serum, necropsy.
- Virpath: inoculum, RT-qPCR, TCID50, Seroneut

The HIPRA logo is a dark blue rectangle with the word 'HIPRA' in white, bold, uppercase letters.

SARS-CoV-2: Bimervax efficacy study



SARS-CoV-2: Bimervax efficacy study



- Clear viral replication in lower and upper airways in control group
- Clear difference in viral load between groups, despite complete blind design
- Clear difference of lung inflammation between groups
- Clear neutralizing efficacy across strains, even against delta variant.
- => EMA authorized phase 2 clinical trial!
- => Publication with HIPRA and VirPath



Prenafeta, A., Bech-Sàbat, G., Moros, A., Barreiro, A., Fernández, A., Cañete, M., Roca, M., González-González, L., Garriga, C., Confais, J., Toussenot, M., Contamin, H., Pizzorno, A., Rosa-Calatrava, M., Pradenas, E., Marfil, S., Blanco, J., Rica, P. C., Sisteré-Oró, M., ... Ferrer, L. (2023). Preclinical evaluation of PHH-1V vaccine candidate against SARS-CoV-2 in non-human primates. *IScience*, 26(7). <https://doi.org/10.1016/j.isci.2023.107224>



CYNBIOSE .

Joachim Confais, PhD

CSO - COO

joachim.confais@cynbiose.com

+33 (0)7 87 96 99 13

Erwan Corcuff, MsC

CBO

erwan.corcuff@cynbiose.com

+33 (0)6 08 41 21 86