



December 2021 | Euronext: ALBPS – Nasdaq: BPTS

## Forward Looking Statements

This presentation contains forward-looking statements. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify these forward-looking statements by the use of words such as "outlook," "believes," "expects," "potential," "continues," "may," "will," "should," "could," "seeks," "predicts," "intends," "trends," "plans," "estimates," "anticipates" or the negative version of these words or other comparable words. These forward-looking statements include statements regarding Biophytis' anticipated timing for its various Sarconeos (BIO101) clinical trials and expectations regarding commercialization. Such forward-looking statements are based on assumptions that Biophytis considers to be reasonable. However, there can be no assurance that the statements contained in such forward-looking statements will be verified, which are subject to various risks and uncertainties including, without limitation, delays in patient recruitment or retention, interruptions in sourcing or supply chain, its ability to obtain the necessary regulatory authorizations, COVID-19-related delays, and the impact of the current pandemic on the Company's clinical trials. The forward-looking statements contained in this presentation are also subject to risks not yet known to Biophytis or not currently considered material by Biophytis. Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. Please refer to the "Risk Factors" section of the Company's 2021 Half Year Financial Report available on BIOPHYTIS website ([www.biophytis.com](http://www.biophytis.com)) and to the risks discussed in the Company's registration statement on Form F-1 and other reports filed with the Securities and Exchange Commission (the "SEC"). We undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise, except as required by law.

## Corporate Highlights



HQ location: Paris, France



Founded: 2006



Employees: 35



Euronext growth (ALBPS) : July 2015



Nasdaq (BPTS): February 2021



Market cap: €62 M (November 15, 2021)



Cash: €23 M as of June 30, 2021



Key partner: Sorbonne University

### Biophytis SA

- Is a clinical-stage biotechnology company specialized in the development of therapeutics that are aimed at slowing the **degenerative processes associated with aging, including severe respiratory failure in patients suffering from COVID-19.**
- Our **small molecules** are aimed at stimulating **biological resilience**

### Sarconeos (BIO101)

- Our leading drug candidate is administered orally, for the treatment of mobility disability in elderly patients with **sarcopenia, with positive results in a Phase 2 clinical study (SARA)** completed in the United States and Europe
- It is also being studied for the treatment of **severe respiratory manifestations in COVID-19 in a Phase 2-3 clinical study (COVA)** in Europe, Brazil, and the US, **with intermediate results in the “promising zone”.**
- A pediatric formulation of Sarconeos (BIO101) is being developed with IND granted (MYODA) for the treatment of **Duchenne Muscular Dystrophy (DMD)**

## Executive Team



### **Stanislas Vellet - Founder & CEO**

- PhD in genetics, AgroParisTech
- 25+ years in biotech; Pharmacia-Monsanto, Danone Group



### **Evelyne Nguyen- CFO**

- 30+ years of experience in Corporate Finance for International Pharma & Biotech companies (BMS, LFB, Nicox SA, ANMPartners)
- Expertise in cross-borders transactions between Europe, US and Asia



### **Pierre Dilda - CSO**

- PhD in pharmacology (Paris V)
- 25 years experience in pharmaceutical research, in both academic and industrial settings



### **Waly Dloh - COO**

- PhD in phytopathology (Paris XI) and MBA
- 21+ years biotech experience in France and the U.S. and R&D at Monsanto



### **Benoit Canolle- CBO**















- PhD in Neurosciences (Aix-Marseille University)
- 17 years experience in Pharma R&D: Sanofi & Pierre Fabre



### **Rob van Maanen- CMO**

- MD from the University of Utrecht-NL, MBA from UvA Amsterdam-NL
- 20 years of experience in both large pharmaceutical companies and small biotechs (Khondrion, Astellas, Roche, Novartis, Eisai and Organon)

## Our Clinical Pipeline

Candidate	Indication	Program	Preclinical	Phase 1	Phase 2	Phase 3
<b>Sarconeos (BIO101)</b>	Covid-19					
	Sarcopenia					
	DMD					
<b>Macuneos (BIO201)</b>	Dry AMD					
	Stargardt					

## 2020-2021: Transformational Years for Biophytis

### Clinical Achievements

#### Launch of the new COVA study – COVID-19

- Part 1 first interim analysis achieved with positive DMC review in Q1 2021
- Part 2 second interim analysis achieved with recommendation by the Data Monitoring Committee (DMC) to continue the study without any modification of the protocol, after the interim efficacy data were found in the promising zone and confirming the good safety profile of Sarconeos (BIO101). Part 2 steadily progressing with 216 patients recruited as of November 2021
- Top line results for the full study are expected in Q1 2022 depending on the evolution of the pandemic

#### Completion of SARA-INT study – Sarcopenia

- Phase 2: positive top-line results on primary end-point (400-meter walk test) published in August 2021, full results presented at the ICFSR 2021
- Phase 3 program in preparation- expected to start in 2022

#### IND Approval to start MYODA – DMD

- US IND & Belgium authorization obtained
- Study to start in 2022 depending on the evolution of the pandemic



### Financial achievements

- \$20.1 million (€16.6 M) raise from Nasdaq IPO in Q1 2021
- €23.4 million raise in private placements on Euronext in 2020
- €23 million in cash and cash equivalents as of June 30, 2021

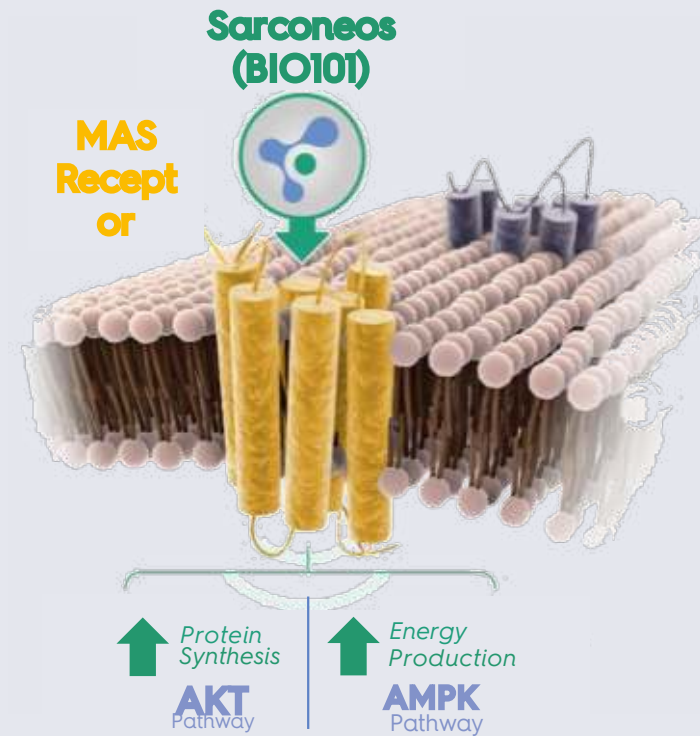


## Sarconeos (BIO101): Mechanism of Action

Sarconeos (BIO101) triggers two important MAS receptor downstream signaling-pathways in myocytes:

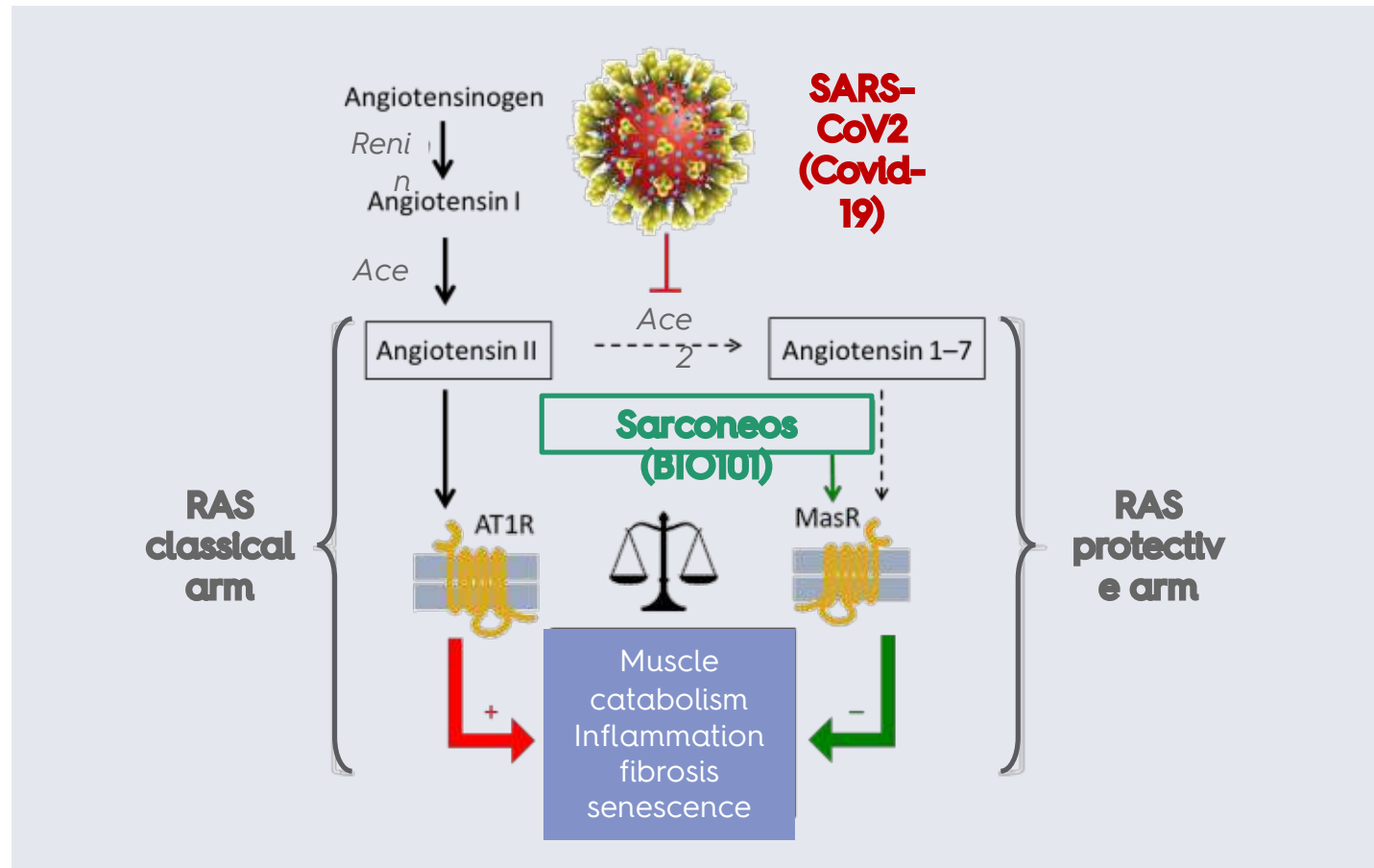
- **PI3K/AKT/mTOR:** Increases **protein synthesis**
- **AMPK/ACC:** Stimulates **energy production**

MAS activation in **skeletal and smooth muscles** stimulates muscle metabolism and strength with a potential impact on **mobility and/or respiratory functions**



## Sarconeos (BIO101): Potential Treatment for COVID-19 Patients

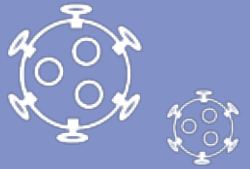
- Sarconeos (BIO101) activates the MAS receptor, a key component of the protective arm of the Renin-Angiotensin System (RAS), known for protecting muscles against catabolism, inflammation or fibrosis
- The production of Ang 1-7, the natural ligand of MAS receptor, is impaired by SARS-CoV-2, which uses ACE2 to penetrate the lungs, causing respiratory failures
- Sarconeos (BIO101) by reactivating the RAS protective arm, has the potential to restimulate respiratory capacity in COVID-19 patients





# Introduction on COVA study

# COVA Study: Targeting COVID-19 Hospitalized Patients with Respiratory Failure



45+



Patients **aged 45 and above**, with proven COVID-19, and severe respiratory symptoms:

- With evidence of respiratory decompensation  $\leq 7$  days before start of study medication, meeting one of the following:
  - Tachypnea:  $\geq 25$  breaths per minute
  - Arterial oxygen saturation  $\leq 92\%$



## Allowed medications:

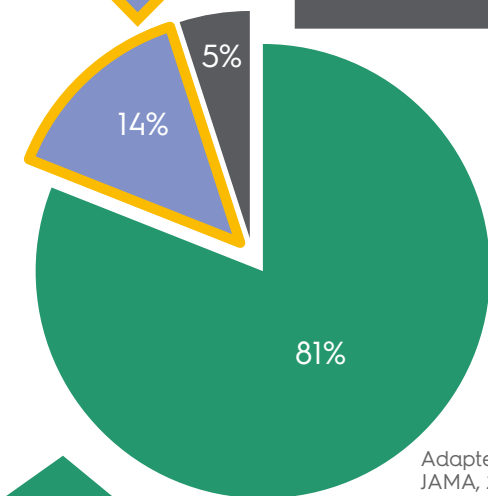
- Antiviral agents such as remdesivir, bamlanivimab
- Anti-inflammatory agents such as dexamethasone



## Targeted populations

Severe cases:  
signs of respiratory de-compensation,  
not requiring ventilation

Critical cases:  
requiring mechanical ventilation



Mild cases:  
infection without or with mild  
signs of pneumonia

Adapted from Wu et al.  
JAMA, 2020

## COVA Study: Phase 2-3 Trial Overview

Design	Endpoints & Study Follow-Up	Patient Population
<ul style="list-style-type: none"> <li>A Phase 2-3 seamless study design</li> <li>Global, multi-center, double-blind, placebo-controlled group sequential (2 parts), adaptive design</li> <li>International study including 34 clinical centers in US, Brazil, France &amp; Belgium. 15 additional sites to be opened soon, including UK.</li> <li>iDMC is monitoring the safety and efficacy of the treatment by running two interim analyses</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of participants with 'negative' events: all-cause mortality &amp; respiratory failure (requiring mechanical ventilation or ECMO)-Target efficacy : <math>\leq 25\%</math> (BIO101) with 15% difference vs Placebo.</li> <li>Part 1 (N=50): First interim analysis (IA1), Q1 21, based on safety; Positive recommendation from DMC to progress into part 2</li> <li>Part 2 (N=155): Second interim analysis (IA2), Q3 21. Positive recommendation from DMC to complete the study w/o protocol modification (good safety profile, efficacy data in the promising zone)</li> <li>Final analysis (N=310, up to 465) Q1 22, confirmation of the effect of Sarconeos (BIO101) in preventing further respiratory deterioration</li> </ul>	<ul style="list-style-type: none"> <li>Age: 45 years old or over</li> <li>Hospitalized for severe respiratory symptoms and with proven Covid-19 infection</li> <li>Patients with respiratory failure not yet requiring mechanical ventilation</li> <li>Oxygen saturation less than 92%</li> </ul>
Product	2020	2021
<b>350 mg b.l.d of Sarconeos (BIO101)</b>	COVA Phase 2-3	
		2022
		★ TLRs Q1 22
		★ Commercialization H1 22

## Interim Analysis 2 September 2021: a major clinical achievement

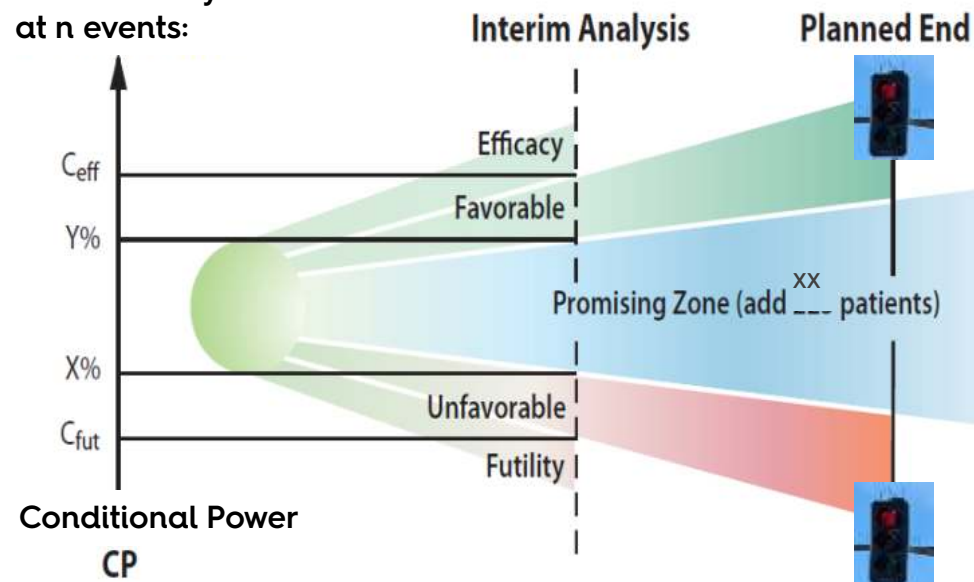
### Positive feedback from DMC based on Promising Zone of efficacy



COVA STUDY PRIMARY ENDPOINT: % OF PATIENTS WITH NEGATIVE EVENTS

- All-cause mortality and Respiratory failure requiring intubation
- Target: 25% (treatment) vs 40% (Placebo)

Interim analysis  
at n events:



*Recommendation from  
DMC based on results  
of the Interim Analysis  
2:*

- No futility, Good Safety Profile & Promising Zone of Efficacy.
- Continue with no modification of the protocol



# Introduction on SARA study

## SARA project: Treatment for Sarcopenia, A Large Unmet Medical Need

### NO CURRENTLY APPROVED DRUGS

- Age-related degeneration of skeletal muscle characterized by **a loss of muscle mass, strength and functional issues** such as the ability to stand and/or walk
- A major cause of mobility disability, resulting in **a loss of independence and increased risk of adverse events (for example falls)**, which can shorten life expectancy
- **Prevalence estimated between 6-22% in the elderly** (defined as over 60 years of age), a population expected to double from approximately 962 million in 2017 to 2.1 billion by 2050<sup>1</sup>

### Sarconeos (BIO101):



- ✓ First drug candidate to complete Phase 2 (SARA-INT) with clinically meaningful outcome on mobility
- ✓ On track to prepare the Phase 3 program
- ✓ Myostatin inhibitors halted for lack of effectiveness in neuromuscular diseases

<sup>1</sup>United Nations' World Population Prospects: 2017 Revision

## SARA-INT: Phase 2 Trial Overview



Design	Endpoints			Patient Population
<ul style="list-style-type: none"> <li>Global, double-blind, randomized, placebo-controlled trial: NCT03452488</li> <li>Assess safety and efficacy of two doses of Sarconeos (BIO101) administered orally with a meal over 26 weeks, as compared to placebo</li> <li>Treatment effect on improvement of physical function and on decrease of risk of mobility disability</li> </ul>	<b>Primary</b> <ul style="list-style-type: none"> <li>400-meter walk test (400MWT) - 0.05 m/s is considered the minimal meaningful change</li> </ul> <b>Secondary</b> <ul style="list-style-type: none"> <li>Handgrip muscle strength</li> <li>Patient reported outcomes (PRO)</li> </ul>			<ul style="list-style-type: none"> <li>Age: 65 years old or over</li> <li>Low mobility measured by Short Performance Physical Battery (SPPB) <math>\leq 8</math> out of 12</li> <li>DEXA body composition as measured by ALM/BMI (appendicular lean mass / body mass index)</li> <li>Able to exercise for 30 minutes per day 5 days per week</li> </ul>
Product	2019	2020	2021	
175 & 350 mg b.i.d of Sarconeos (BIO101)	SARA-INT Phase 2			★ TLRs Aug 21 ★ Phase 3 program preparation-Q4

## SARA-INT: Phase 2 Top Line Results

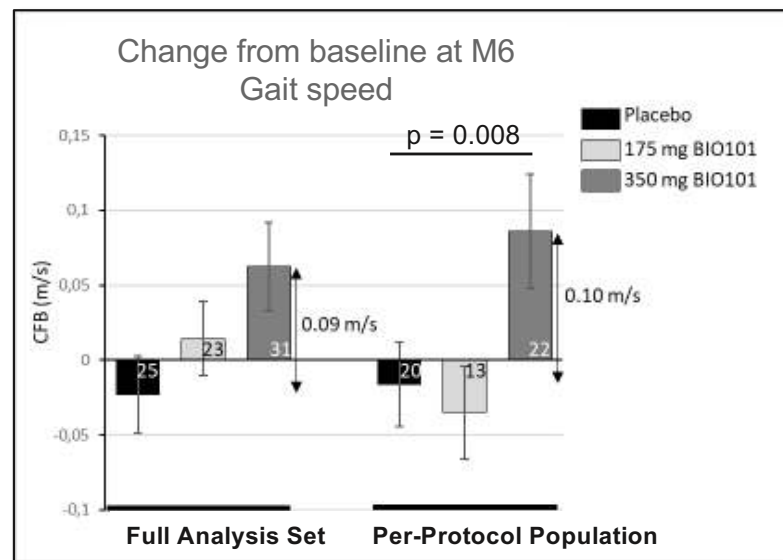


- **Sarconeos (BIO101) at the highest dose (350 mg bid) showed a clinically meaningful improvement in the 400-meter walk test (400MWT), the primary endpoint of the study\***
- **Sarconeos (BIO101) showed a very good safety profile** at the doses of 175 mg bid and of 350 mg bid with no Serious Adverse Events (AE) related to the product
- **On track to prepare Phase 3 program**

\*Sarconeos (BIO101) at the highest dose of 350 mg bid showed a clinically meaningful improvement compared to placebo in gait speed, as measured in the 400MWT after 6 months of treatment, of 0.09 m/s in the FAS population and 0.1 m/s in the PP population (treatment effect significant,  $p < 0.01$ ). The effect of Sarconeos (BIO101) at 350 mg bid is close to the Minimal Clinically Important Difference (MCID) in sarcopenia (0.1 m/s), associated with a reduction in mobility disability and mortality in elderly

## Preparation of Phase 3 has started based on positive results of SARA-INT Phase 2 trial

Sarconeos (BIO101) significantly improves the gait speed in the 400 MWT, the primary endpoint of the study, in the PP population after 6 months of treatment



⇒ Treatment effect is statistically significant in PP population at M6 ( $p = 0.008$ ).

- Sarconeos (BIO101) at the highest dose of 350 mg bid showed a clinically meaningful improvement of 0.09 m/s in the FAS population (not significant) and of 0.10 m/s in the PP population (significant,  $p=0.008$ ) compared to placebo **for the 400MWT in gait speed after 6 months of treatment**
- Clinical Relevance: the Minimal Clinically Important Difference (MCID) in sarcopenia (0.1 m/s) is known to be associated with a reduction in mobility disability and mortality in elderly.
- Sarconeos (BIO101) showed a very good safety profile at the doses of 175 mg bid and of 350 mg bid with no Serious Adverse Events (AE) related to the product



# Introduction on MYODA study

# MYODA: Treatment Overview for Duchenne Muscular Dystrophy (DMD)



Rare, genetic neuromuscular disease in male children characterized by accelerated degeneration of muscles, responsible for loss of mobility, respiratory failure and cardiomyopathy, leading to premature death.

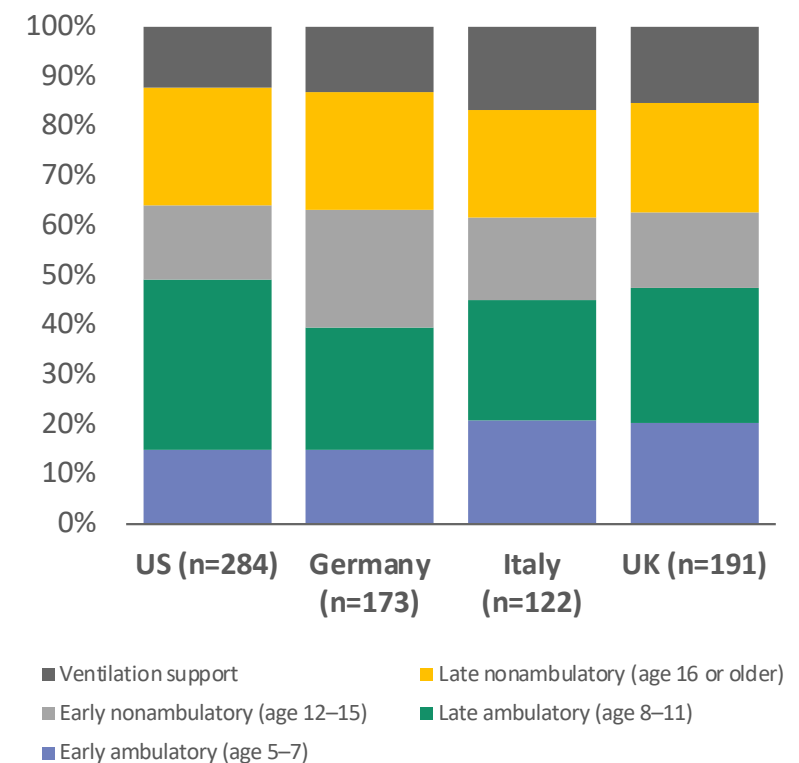


No known cure and limited treatment options, including corticosteroids and targeted therapies (exon-skipping in U.S. & stop codon in EU) that treat approximately 13% of DMD patients with specific genetic mutations.



We received **orphan drug designation (ODD)** in 2018 from the FDA and EMA for Sarconeos (BIO101) in DMD.

**Proportion of ambulatory class in DMD<sup>1</sup>**



## MYODA: Overview of Clinical Trial Aimed to Start in H1 2022\*

Design	Endpoints	Patient Population
<ul style="list-style-type: none"> <li>Global, double-blind, randomized, placebo-controlled trial: NCT03452488</li> <li>Assess safety and efficacy of two doses of Sarconeos (BIO101) administered orally with a meal over 26 weeks, as compared to placebo</li> <li>Treatment effect on improvement of physical function and on decrease of risk of mobility disability</li> </ul>	<ul style="list-style-type: none"> <li>Part 1 (N=18): Safety, tolerability &amp; PK (initial 7 days of dosing of escalating dose of Sarconeos BIO(101))</li> <li>Part 2 (N=48): Efficacy of Sarconeos: Respiratory function after dosing for 52 weeks</li> <li>Part 3 (N= up to 200): Efficacy of Sarconeos BIO(101): Respiratory function after dosing for 52 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Age: ≥12 years old</li> <li>Non-ambulatory DMD patients</li> <li>Patients with respiratory failure not yet requiring mechanical ventilation</li> </ul>

Product	2020	2021	2022	2023
<b>Sarconeos (BIO101)</b>	FDA IND and CTA in Belgium granted in 2020		MYODA Phase 1-2-3	

<sup>1</sup>Independent Data Safety Monitoring Board

\*Timing is subject to COVID-19- pandemic and availability of financial resources

## Key Milestones

### Milestones Achieved in 2021

<b>COVA</b>	Recruiting in Belgium, Brazil, France and US
<b>COVA</b>	Completion of Part 1 patient enrollment in January 2021
<b>COVA</b>	Interim analysis of Part 1 (50 patients) in Q1 2021
<b>COVA</b>	Approvals to start Part 2 in Q1 2021
<b>COVA</b>	Interim analysis for Part 2 (155 patients) in Q3 2021
<b>SARA</b>	Patient enrollment in the USA and Belgium completed in March 2020
<b>SARA</b>	Positive topline study results in August 2021
<b>SARA</b>	Full study results communicated during ICFSR in September 2021

### Short-Term Upcoming Milestones

<b>COVA</b>	End of patient enrollment expected in Q1 2022
<b>COVA</b>	Final study results (Part 1 and Part 2) expected in Q1 2022
<b>SARA</b>	Phase 3 program in sarcopenia in 2022

## Cash Position and Covering Analysts

**€ 23M Consolidated cash as of June 30, 2021**

**vs**

**18.8M€ vs December 31, 2020**



### Support from the Financial Community

- Kepler Chevreux: Pierre Alexandre Désir
- Invest Securities: Jamina El Bougrini
- HC Wainwright: Joe Pantginis



## 2021/2022 Outlook



*\* Timing is subject to COVID-19-pandemic and availability of financial resources*

### **The COVA study**

- Final study results (Part 1 and Part 2) expected in Q1 2022.
- Assuming positive data, subject to any COVID-19 related delays, the Company anticipates applying for EUA in the US and conditional market approvals in EU early 2022.
- Assuming authorizations for the above applications, marketing preparation could start during H1 2022, with active BD activities for partnering underway.

### **The SARA -INT study**

- Positive top-line results of the Phase 2 announced in August 2021.
- Preparation for Phase 3 is on going , with active BD activities for partnering underway.

### **The MYODA study**

- Subject to any COVID-19 related delays, the Company intends to start the Phase 1-2-3 MYODA trial in 2022.

## Scientific Advisory Board



**Pr. Jean Mariani**

- Professor of neuroscience and biology of aging and Director of Charles Foix Institute of Longevity at Sorbonne University
- Emeritus Professor (PU-PH) at the Sorbonne University's School of Medicine



**René Lafont**

- Co-Founder & Professor emeritus and former Dean of the life sciences department at Sorbonne University
- 185 scientific articles + 59 reviews and book chapters



**Pr. Jose-Alain Sahel**

- Chair of the department of ophthalmology at University of Pittsburgh School of Medicine and director of the UPMC eye center
- Founder and director of the Vision Institute in Paris and professor at the Sorbonne's medical school



**Dr. Roger Fielding**

- Professor of Medicine, Tufts University School of Medicine
- Director and Sr. Scientist Jean Mayer USDA Human Nutrition Research Center on Aging



**Dr. Thomas Volt**

- Professor, University College London
- Director of the Research Centre of the Great Ormond Street Hospital for Children



**Dr. Ivana Klm**

- Associate Professor Harvard Medical School, Massachusetts Eye and Ear
- Co-Director of the Harvard Medical School Department of Ophthalmology AMD Center of Excellence; Associate Scientist, Massachusetts Eye and Ear

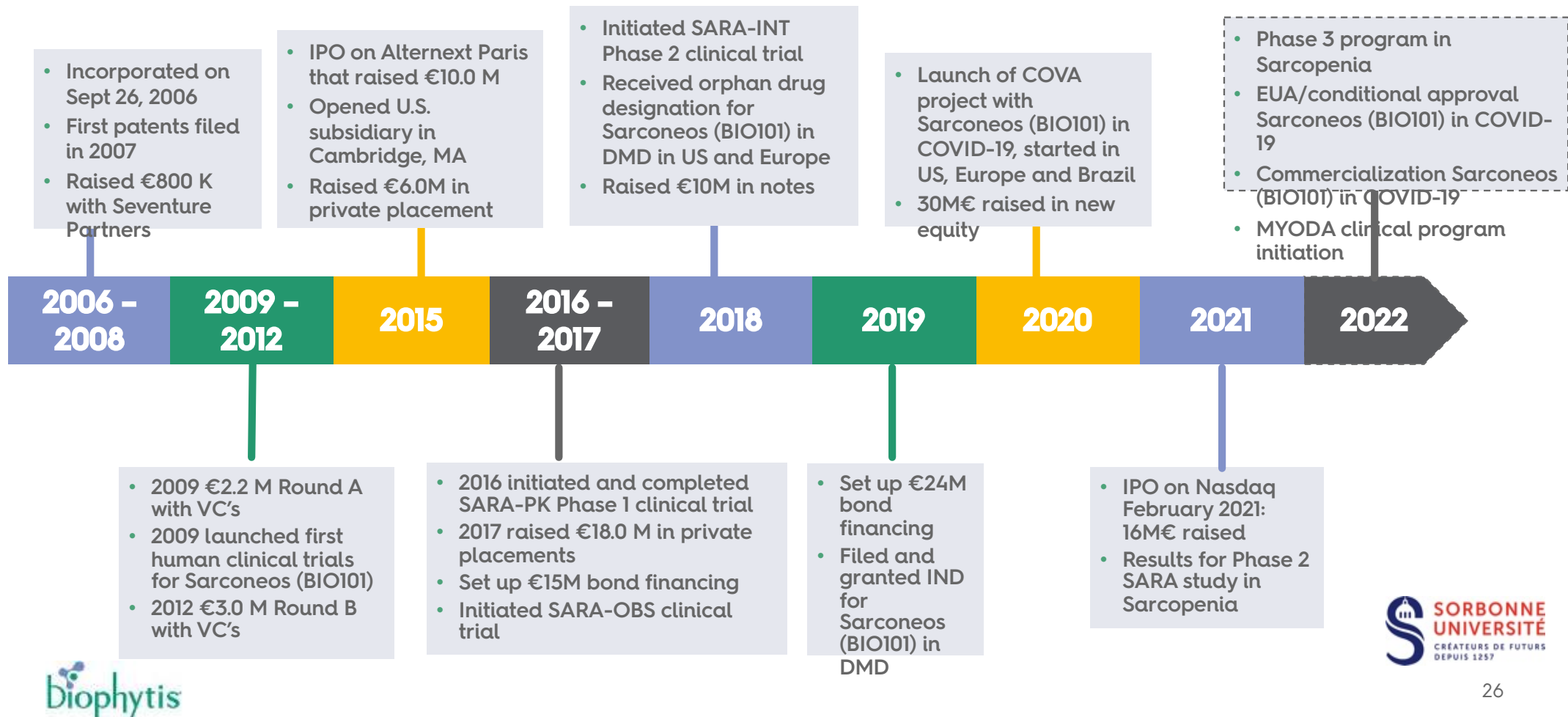


# Appendix



# From a Sorbonne University spin-off to a successful clinical-stage Biotechnology Company:

## 100M€ raised since inception



## Intellectual Property Portfolio: Neuromuscular & Respiratory Diseases

- We hold exclusive commercial rights through licenses of each of our drug candidates.
- IP is jointly owned with Sorbonne University & sometimes with other academic research institutions<sup>1</sup>.
- Patent portfolio covers 10 patent families, including a total of **24 co-owned issued patents** and a total of **26 co-owned patent applications**.
- Issued patents: 5 European, 2 U.S., and 17 in ROW, including **China, Japan**.
- Pending applications: 2 European, 5 U.S., and 19 in ROW, including **China, Japan, South Korea**.



**24 co-owned issued  
patents**  
**26 co-owned patent applications**

### Neuromuscular and respiratory diseases

10 families of patents covering production process, second generation compounds and various applications such as sarcopenia, myopathies (DMD), disuse atrophy, spinal muscular atrophy, respiratory function and COVID-19



## Intellectual Property Portfolio: Retinal Diseases

- We hold exclusive commercial rights through licenses of each of our drug candidates.
- IP is jointly owned with Sorbonne University & sometimes with other academic research institutions.
- Patent portfolio covers 5 patent families, including a total of **16 co-owned issued patents** and a total of **10 co-owned patent applications**.
- Issued patents: 4 European, 3 U.S., and 9 in ROW, including **China, Japan**.
- Pending applications: 10 in ROW, including **China, Japan, South Korea**.



**16 co-owned issued patents**  
**10 co-owned patent applications**

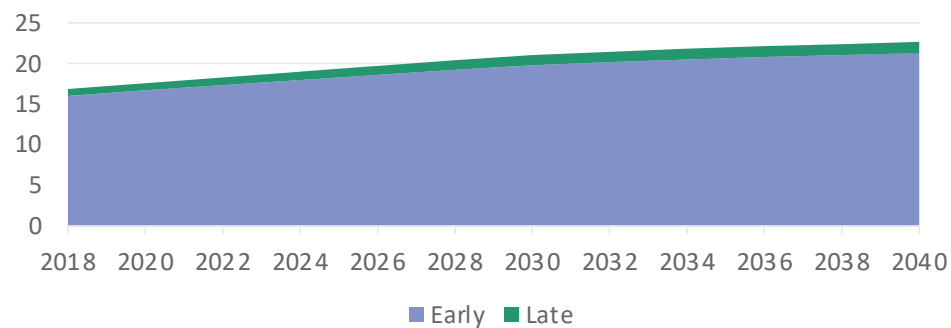
### Retinal diseases

5 families of patents covering 2 classes of compounds and their applications for dry age-related macular degeneration (AMD) and Stargardt disease

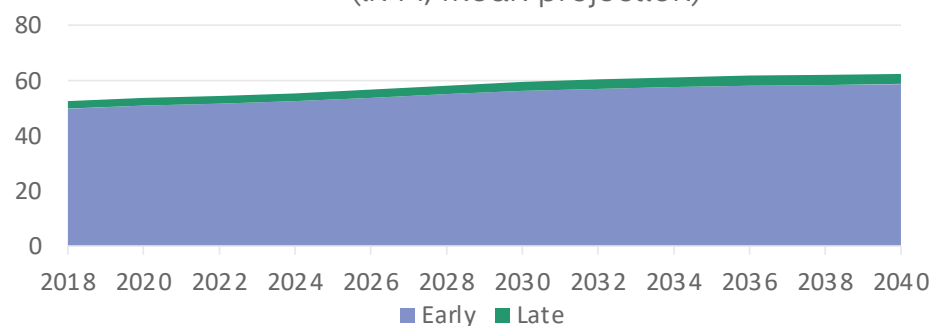


## MACA: Treatment Overview for Dry AMD

Projection of AMD prevalence in North America  
(in M, mean projection)<sup>1</sup>



Projection of AMD prevalence in Europe  
(in M, mean projection)<sup>1</sup>



- AMD is a common eye disorder among people 50+ that affects the central part of the retina, known as the macula
- Can impair functions such as reading, driving, and facial recognition, and has a major impact on QoL and the ability to live independently
- Multifactorial disease we believe is mainly caused by accumulation of A2E (a byproduct of the visual pigment cycle) that leads to retinal degeneration
- 85 – 90% of AMD patients have dry AMD in some form; either early, intermediate or late stage, known as geographic atrophy (GA)
- No approved treatments for any stage of dry AMD, including GA
- We are developing Macuneos to treat patients with intermediate dry AMD to prevent the development to advanced stages (wet AMD + GA), which lead to severe vision loss

1. Source: Wang *et al.*, Lancet Glob Health 2014; 2: e106–16. Supplemental Table 7: Projection of Number of People with Early, Late and Any AMD by Regions

## MACA: Mechanism of Action

- We believe Macuneos potentially counteracts the phototoxic effects of A2E by selective non-canonical activation of the trans-repressive activity of PPAR $\alpha$  and PPAR $\beta/\delta$  in the retina
- Most other PPAR ligands mainly exhibit canonical activity and are associated with side effects



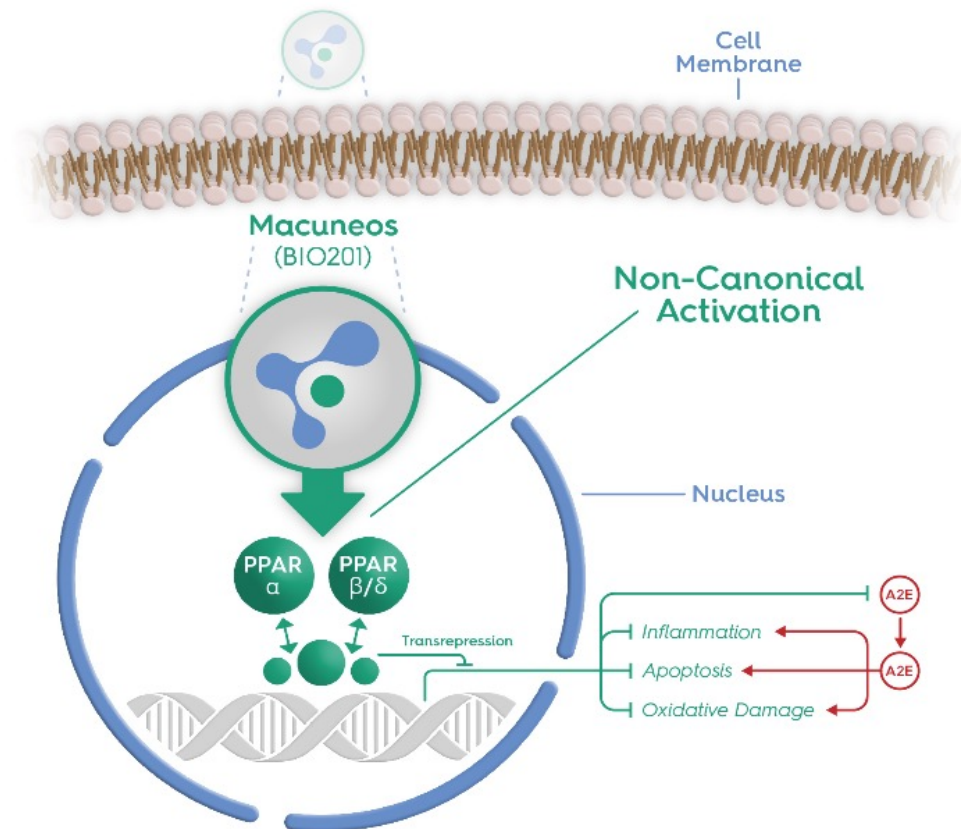
**Anti-inflammatory activity** (promotes the expression of anti-inflammatory genes)



**Anti-oxidant activity** (promotes the expression of anti-oxidant genes)

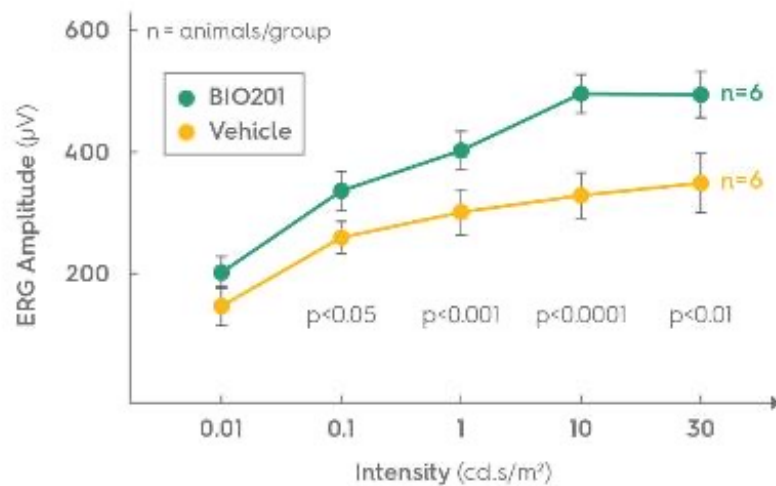


**Anti-apoptotic activity** (enables pathways that prevent cell death)



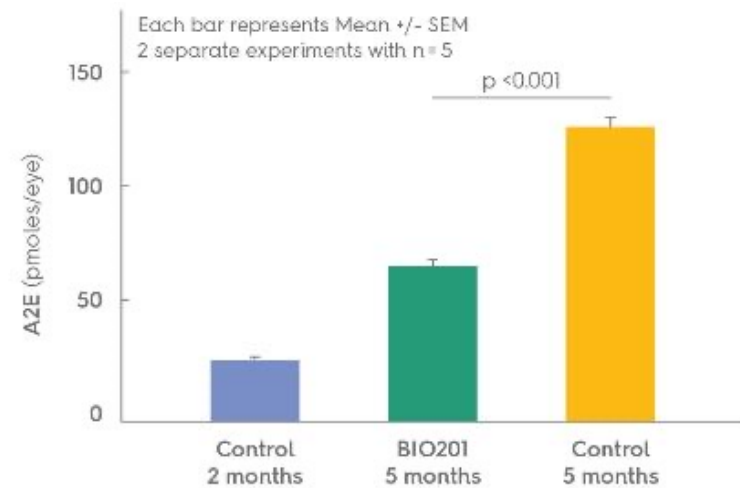
# MACA: Protects the Retina of Dry AMD and Stargardt Disease in AMACA Models

## Preservation of visual function in mice



Chronic oral administration of Macuneos for 3 and 6 months **increases ERG amplitude** in ABCA4<sup>-/-</sup> RDH8<sup>-/-</sup> mice

## Reduced A2E accumulation in mice



Chronic oral administration of Macuneos decreased A2E accumulation by **approximately 45%** in Abca4<sup>-/-</sup> Rdh8<sup>-/-</sup> mice as compared to vehicle control mice

Results were presented in May 2016 at the ARVO conference in Seattle, WA in a poster presentation and published in PLoS ONE (Fontaine *et al.*; 2016).

## Board of Directors



### **Stanislas Vellet - Founder & CEO**

- PhD in genetics, AgroParisTech
- 25+ years in biotech; Pharmacia-Monsanto, Danone Group



### **Pr. Jean Mariani**

- Professor of neuroscience and biology of aging and Director of Charles Foix Institute of Longevity at Sorbonne University
- Emeritus Professor (PU-PH) at the Sorbonne University's School of Medicine



### **Claude Allary**

- Independent Director
- Co-founder of Bionest
- Strategic & Management Advisor
- 40 of experience in Life Sciences sectors (Sanofi, Arthur D. Little, Bionest, ...)



### **Dimitri Batsis**

- Independent Director
- Entrepreneur, Founder of Zeni Corporation, Drone Volt
- 20 years in the High-Tech sector



### **Nadine Coulm**

- Independent Director
- 20 years of experience as CFO in charge of IR & Financing with Korian, FNAC, Darty Danone & Casino



# THANK YOU

## Contacts:

Stanislas Veillet – CEO  
[stanislas.veillet@biophytis.com](mailto:stanislas.veillet@biophytis.com)

Evelyne Nguyen – CFO  
[evelyne.nguyen@biophytis.com](mailto:evelyne.nguyen@biophytis.com)

Benoît Canolle –CBO  
[benoit.canolle@biophytis.com](mailto:benoit.canolle@biophytis.com)

Investor relations:  
[investors@biophytis.com](mailto:investors@biophytis.com)

[www.biophytis.com](http://www.biophytis.com)

