
Biophytis®
LIVE HEALTHIER LONGER

Forward Looking Statements

All statements pertaining to future financial and/or operating results, future growth in research, clinical development, and potential opportunities for Biophytis SA (the "Company") and its products, along with other statements about the future expectations, beliefs, goals, plans, or prospects expressed by management constitute forward-looking statements.

Any statements that are not historical fact (including, but not limited to, statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") should also be considered to be forward-looking statements.

By their nature, forward-looking statements involve risks and uncertainties, including, without limitation, risks inherent in the development or commercialization of potential products, uncertainty in the results of clinical trials or regulatory approvals, need and ability to obtain future capital, and other risks discussed in the Company's registration statement on Form F-1 and other reports filed with the Securities and Exchange Commission (the "SEC"), which are available for review at http://www.sec.gov/.

Actual results may differ materially from the results anticipated in these forward-looking statements and as such should be evaluated together with the many uncertainties that affect the Company's business. Any forward-looking statements that we make in this presentation speak only as of the date of such statement, and we undertake no obligation to publicly update or review such statements to reflect events or circumstances after the date of this presentation, except as required by law.

A clinical-stage biotechnology company specialized in age-related diseases

Our goal

Prevent disabilities (muscular, respiratory and vision) and increase **health span** for patients suffering from **age-related diseases.**

Our small molecules are aimed at stimulating biological resilience and are developed through a drug discovery platform based on a reverse pharmacology approach.

COVID-19 & Neuromuscular diseases

Drug candidate **Sarconeos (BIO101)** in clinical development for:

COVID 19 respiratory failure
resulting from SARS-Co-V2 infection

Sarcopenia: Phase 2
An age-related degeneration of skeletal muscle

Duchenne's Muscular Dystrophy (DMD): IND granted
A rare pediatric genetic neuromuscular disease

Retinal diseases

Pre-clinical drug candidate **Macuneos (BIO201)** for diseases of the retina, such as dry **Age-related Macular Degeneration** (AMD) and Stargardt disease

Biophytis

Modern drug discovery process, inspired by traditional medicine

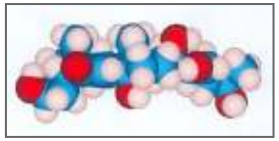
Our technology

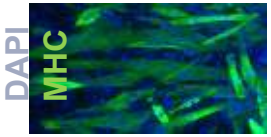
Reverse pharmacology for drug candidates in Age Related diseases

Build a proprietary collection of natural molecules & analogs from medicinal plant, produced under biotic or abiotic stress

Screen in cellular models of age related diseases and identification of targets & pathways

Selection of best drug candidates based on animal models of aging or genetic diseases





- **Sarconeos (BIO 101)**
- **Macuneos (BIO201)**

- Small molecules: natural and/or NCE (new chemical entity)
- New key target against aging
- Preclinical proof-of-concept & safety
- IP on use, process and composition of matter

biophytis

Executive team

Stanislas Veillet - Founder & CEO

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

Samuel Agus - CMO

- MD, PhD, Board-certified Neurologist
- 15+ years pharma/biotech experience including Abbott, Shire and Teva Pharmaceuticals

Pierre Dilda - CSO

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

Waly Dioh - COO

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

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

Our clinical pipeline

Candidate	Indication	Program
Sarconeos (BIO101)	Covid-19	COVA
	Sarcopenia	SARA
	DMD	MYODA
Macuneos (BIO201)	Dry AMD	MACA
	Stargardt	

- Second generation drug candidates, BIO103 and BIO203, are life-cycle extension candidates in the preclinical Phase

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CRÉATEURS DE FUTURS DEPUIS 1257

INSTITUTE OF MYOLOGY

INSTITUT DE LA VISION
PARIS

Biophytis

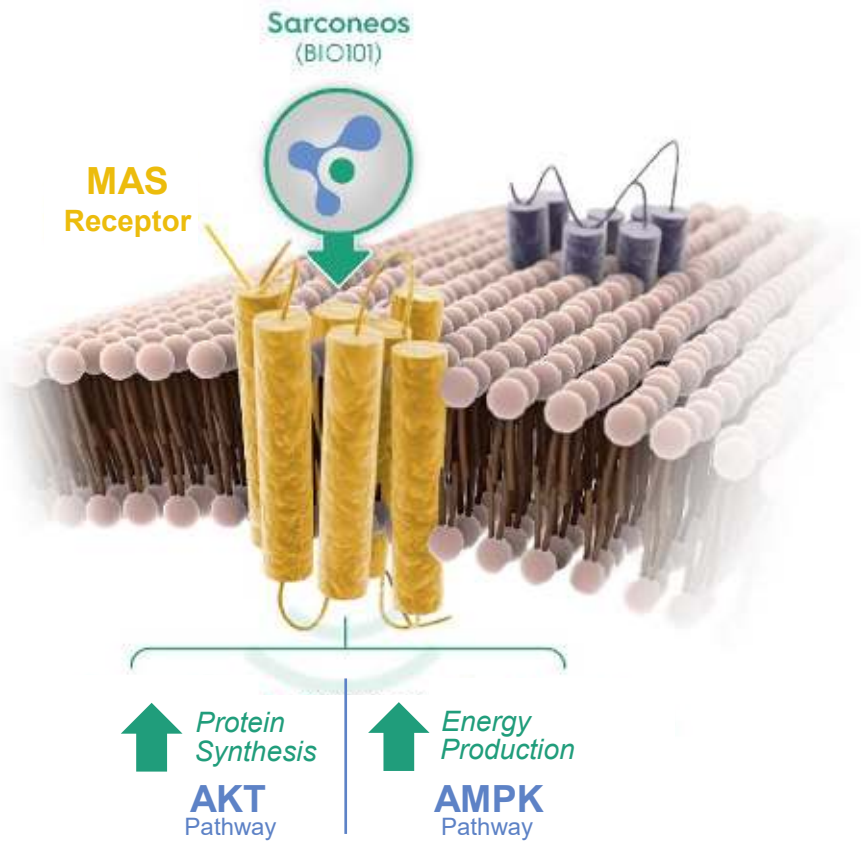
Key milestones

- ☑ COVA recruiting in Belgium, Brazil, France and US
- ☑ COVA completion of patient enrollment for Part 1 in January 2021
- ☑ COVA interim analysis of Part1 (50 patients) in Q1 2021
- ☑ COVA approvals to start Part 2 in Q1 2021
- ☐ COVA interim analysis for Part 2 (155 patients) expected in Q2 2021
- ☐ COVA completion of patient enrollment (Part 2) expected in Q2 2021
- ☐ COVA topline results and regulatory submissions expected in Q2 2021

- ☑ SARA-INT (Phase 2) patient enrollment completed in March 2020
- ☑ SARA-INT last patient out (LPO) completed in Dec 2020
- ☐ SARA-INT topline trial results expected in Q2 2021

Sarconeos (BIO101) is believed to activate MAS receptor, a key factor for muscle and respiratory functions

- MAS receptor: a key component of the Renin-Angiotensin System (RAS)
- Triggers two important downstream signaling-pathways in myocytes:

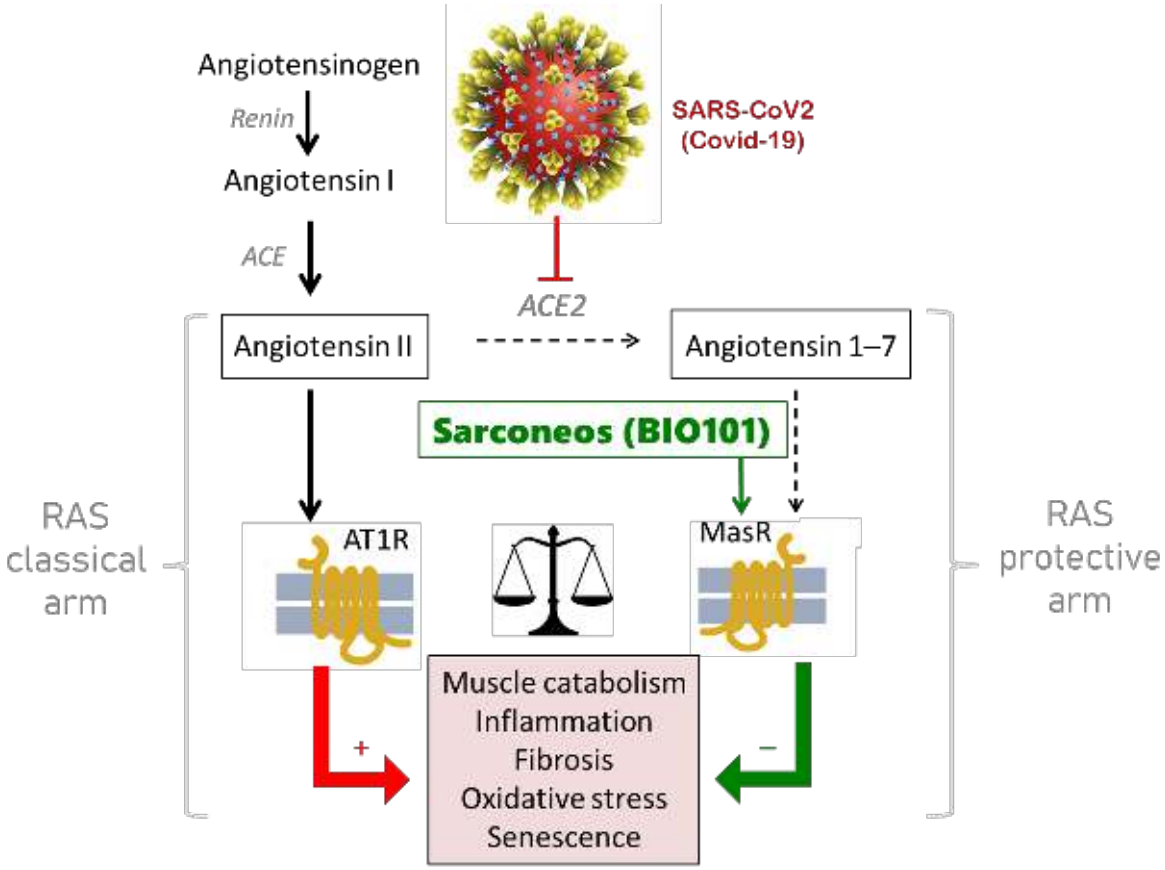


PI3K/AKT/mTOR: Increases **protein synthesis,** preserving muscle mass and increasing **muscle strength**

AMPK/ACC **Stimulates energy production**, increasing muscle strength and **mobility**

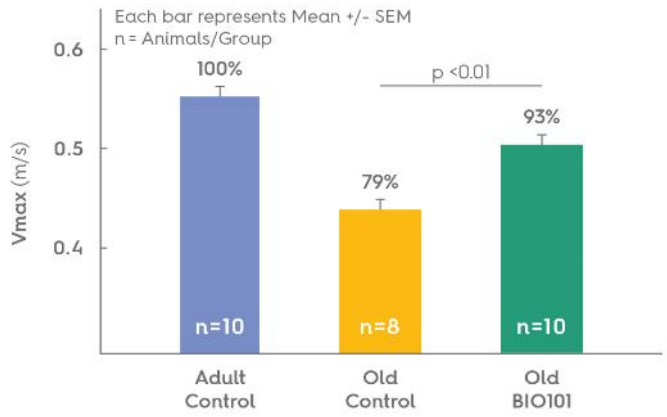
Sarconeos (BIO101) for respiratory failure in COVID-19

- SARS-CoV-2 uses ACE2 to penetrate the lungs destabilizing RAS system and causing respiratory failures
- Sarconeos (BIO101) activates the MAS receptor, a key component of the protective arm of the RAS system



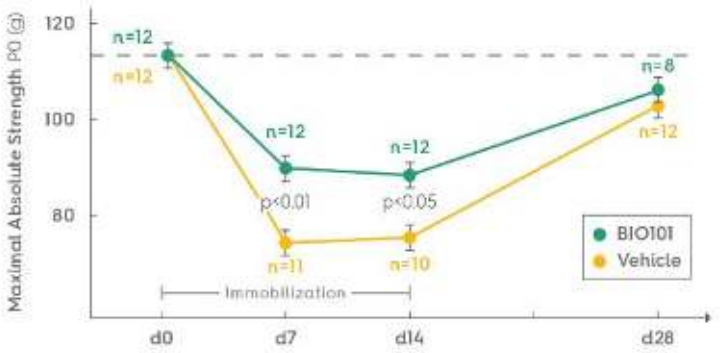
We believe Sarconeos (BIO101) improves muscle strength and mobility in animal model

Beneficial effect on mobility in aged mice fed with high fat diet[1]



Administration of 50 mg/kg/day of Sarconeos (BIO101) demonstrated a statistically significant (p<0.01) improvement in maximum running velocity (Vmax) compared to "old" control mice, compensating almost completely for the loss of mobility due to aging

Preservation of muscle strength in immobilized mice

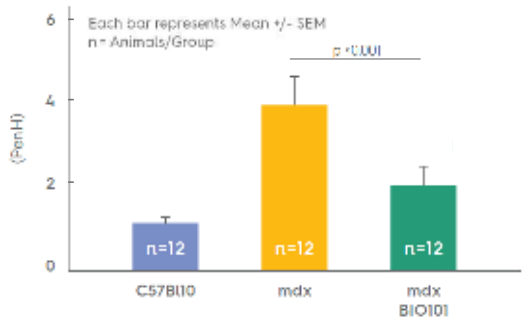


Administration of 50 mg/kg/day of Sarconeos (BIO101) demonstrated a preservation of muscle strength while immobilized (d0-d14) compared to vehicle control in hind limb-immobilized mice

1. Results were presented in a poster at the SCWD conference in December 2016 in Berlin, Germany.

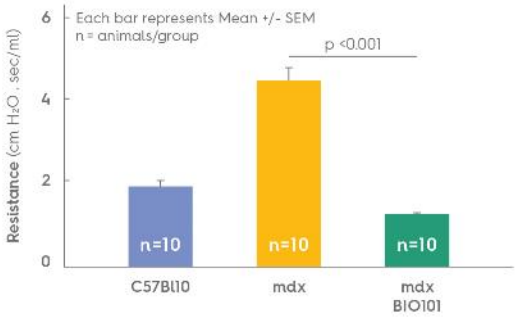
Early data suggests Sarconeos (BIO101) improves respiratory functions in animal model

Improves the time-dependent degradation of **respiratory function**



C57BL10-mdx mice treated with 50 mg/kg/day of Sarconeos (BIO101) over 8 weeks showed an **improvement in airway responsiveness (PenH)** as compared to untreated control C57BL10-*mdx* mice

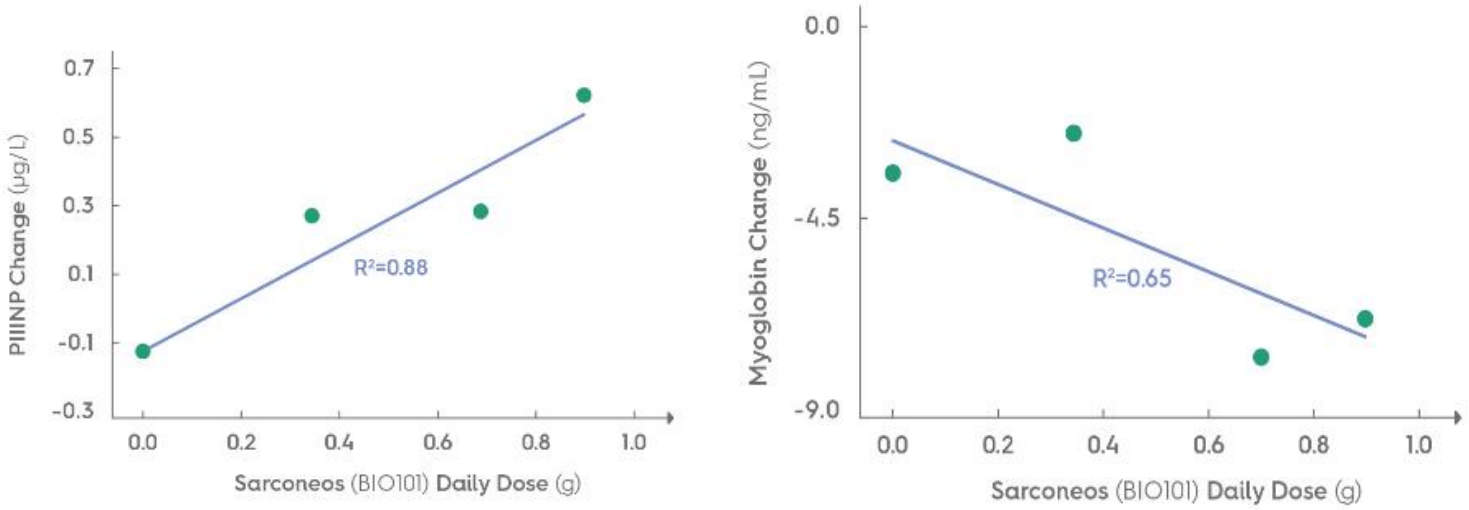
Improves **lungs mechanical properties**



Chronic (8 week) daily administration of 50 mg/kg/day of Sarconeos (BIO101) **statistically significantly (p<0.001) improved lungs mechanical properties** measured by airway resistance

Results were presented in October 2019 during the WMS conference in Copenhagen with posters, and in March 2019 at the annual international congress of Myology in Bordeaux, France

Sarconeos (BIO101) results in Phase 1 study (SARA-PK) in elderly healthy volunteers



Sarconeos (BIO101) showed a dose dependent effect on muscle growth and repair (PIIINP) and a dose dependent negative effect on muscle wasting (myoglobin)

- Single and multiple ascending doses tested in 54 healthy adult and elderly (over 65 years) volunteers
- **Safety profile**: No Severe Adverse Events
- **Two active doses** (175 & 350 mg b.i.d.) have been selected for the upcoming Phase 2 studies

Sarcopenia: a large unmet medical need with 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

Sarconeos (BIO101):

- ✓ **Only drug candidate in Phase 2 currently being tested for sarcopenia**
- ✓ Myostatin inhibitors halted for lack of effectiveness in neuromuscular diseases

- 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[1]

[1]United Nations' World Population Prospects: 2017 Revision

SARA-INT: Phase 2 clinical trial in sarcopenia

- Global, double-blind, randomized, placebo-controlled trial: NCT03452488
- Recruitment completed March 2020 for 233 elderly patients with sarcopenia at risk of mobility disability over 22 centers in the US and Belgium

Objectives	Key Endpoints	Inclusion Criteria
• Assess safety and efficacy of two doses of Sarconeos (BIO101) administered orally with a meal over 26 weeks, as compared to placebo • Treatment effect on improvement of physical function and on decrease of risk of mobility disability	**Primary** • 400-meter walk test (400MWT) - 0.05 m/s is considered the minimal meaningful change **Key secondary** • Changes in time to rise from a chair. • 400MWT responder analysis • Patient reported outcomes (PRO)	• Age (≥65 or over) • Low mobility measured by Short Performance Physical Battery (SPPB) ≤8 out of 12 • DEXA body composition as measured by ALM/BMI (appendicular lean mass / body mass index) • Able to exercise for 30 minutes per day 5 days per week

SARA-INT: topline results expected in Q2 2021

"The SARA-INT Phase 2 trial is investigating a new *treatment for sarcopenia, a disease of aging which is characterized by loss of muscle mass and function.*

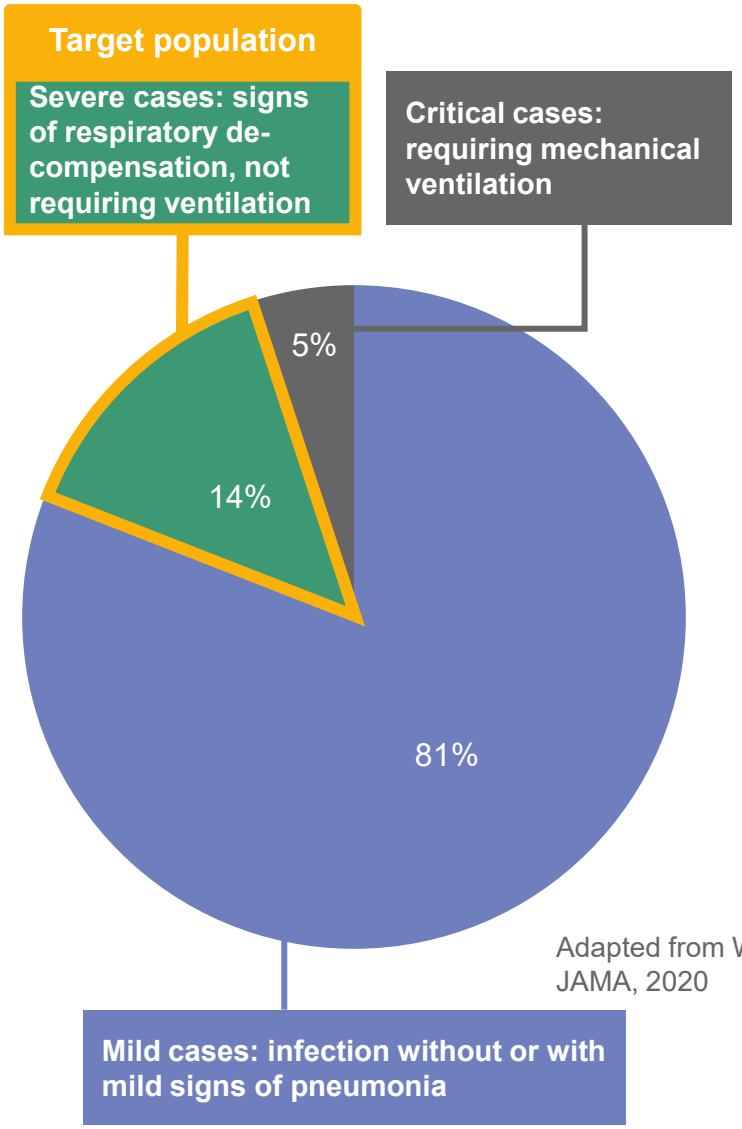
Dr. Roger Fielding, PhD, Director of the Nutrition, Exercise Physiology & Sarcopenia Laboratory at **Tufts University** in Boston and Principal Investigator of SARA-INT trial

Product	2019	2020	2021
175 & 350 mg b.i.d of Sarconeos (BIO101)	SARA-INT Phase 2		

- **No safety issue** observed to date, with multiple DSMB**/DMC** Meetings with the conclusion that the benefit – risk ratio permits study continuation.
- **Last patient out in December 2020** with **196 patients having completed** the study.
- **Top line trial results** expected in **Q2 2021.**

COVA Study: targeting hospitalized patients with respiratory failure, and not intubated

- Patients **aged 45 and above**, with proven COVID-19, and severe respiratory symptoms:
  - With evidence of respiratory decompensation ≤7 days before start of study medication, meeting one of the following:
    - Tachypnea: ≥ 25 breaths per minute
    - Arterial oxygen saturation ≤92%
- Allowed medications:
  - antiviral agents such as Remdesivir, Bamlanivimab,
  - anti- inflammatory agents such as Dexamethasone

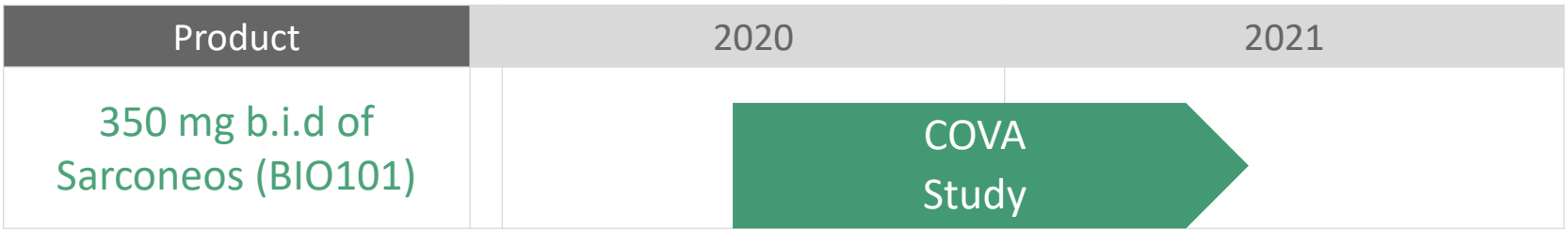


Adapted from Wu et al. JAMA, 2020

COVA : Sarconeos (BI0101) evaluating prevention of further respiratory deterioration linked to COVID-19

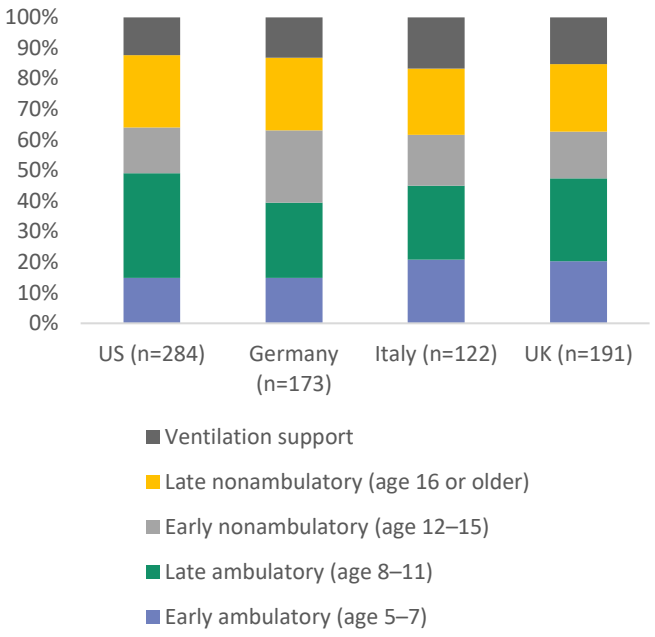
- This is a Phase 2/3 seamless study design
- Global, multi-center
- Double-blind, placebo controlled
- Group sequential (2 parts), adaptive design
- Sarconeos (BIO101) 350mg BID vs. Placebo

Part	Goal	Analysis by the DSMB/DMC	Number of participants
1	1. Obtain safety and tolerability data on (BIO101) 2. Obtain an indication of activity for BIO101	IA1: 1st interim analysis Decide on the beginning of part 2 recruitment (based on safety analysis from the first 20 patients) Assess indication of activity of BIO101	50 1:1 randomization
2	Re-assess the sample size for step 2	IA2: 2nd interim analysis to confirm sample size for Part 2	155 (an addition of 105 participants) 1:1 randomization
	Confirmation of the effect of BIO101 in preventing further respiratory deterioration	Final analysis	310, potentially increased by 50% (up to 465, based on interim analysis 2) 1:1 randomization



DMD: No cure and limited treatment options

Proportion of ambulatory class in DMD[1]



- 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.

1. Source: Landfeldt *et al.*, Neurology, 2014.

MYODA: IND granted by FDA to start Phase 2/3 clinical study

Product	2020	2021	2022	2023
Sarconeos (BIO101)		**MYODA (Phase 2/3)**		

Design

- Global, multicenter, double-blind, placebo-controlled, seamless, Phase 1-2-3 clinical trial
- Part 1: Safety, tolerability & PK (initial 7 days of dosing of escalating dose of Sarconeos BIO(101)
- Part 2: Efficacy of Sarconeos (Respiratory function after dosing for 52 weeks)
- Part 3: Efficacy of Sarconeos (Respiratory function after dosing for 52 weeks)

Patients

- Non-ambulatory DMD patients:
  - Part 1: 18 participants
  - Part 2: an addition of 30 participants
  - Part 3: up to 200 participants
- Interim analysis at the end of parts 1 and 2
- Enrollment in the U.S. and EU
- Patient advocacy group support
  - AFM Téléthon in France

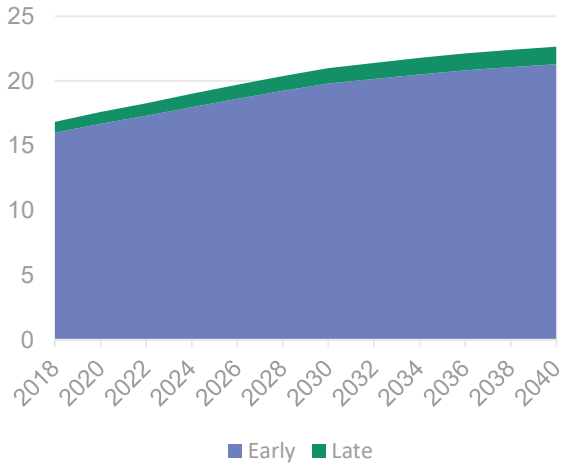
Regulatory Status

- Orphan drug designation in US and Europe granted in 2018
- **FDA IND and CTA in Belgium granted in 2020**

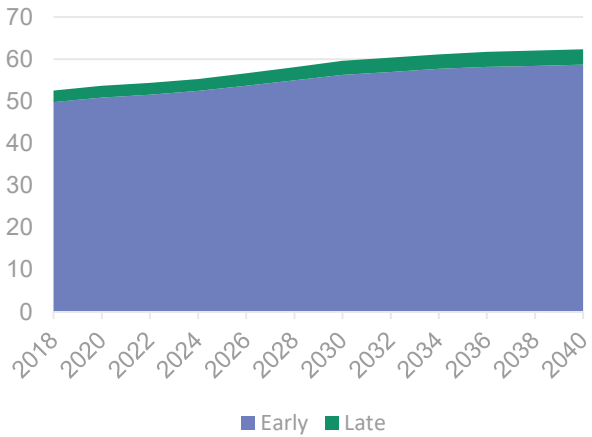
Dry AMD is an unmet medical need with no approved drugs

- AMD is a common eye disorder among people over 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 that we believe is mainly caused by accumulation of A2E (a byproduct of the visual pigment cycle) that leads to retinal degeneration

Projection of AMD prevalence in North America (in M, mean projection)[1]



Projection of AMD prevalence in Europe (in M, mean projection)[1]

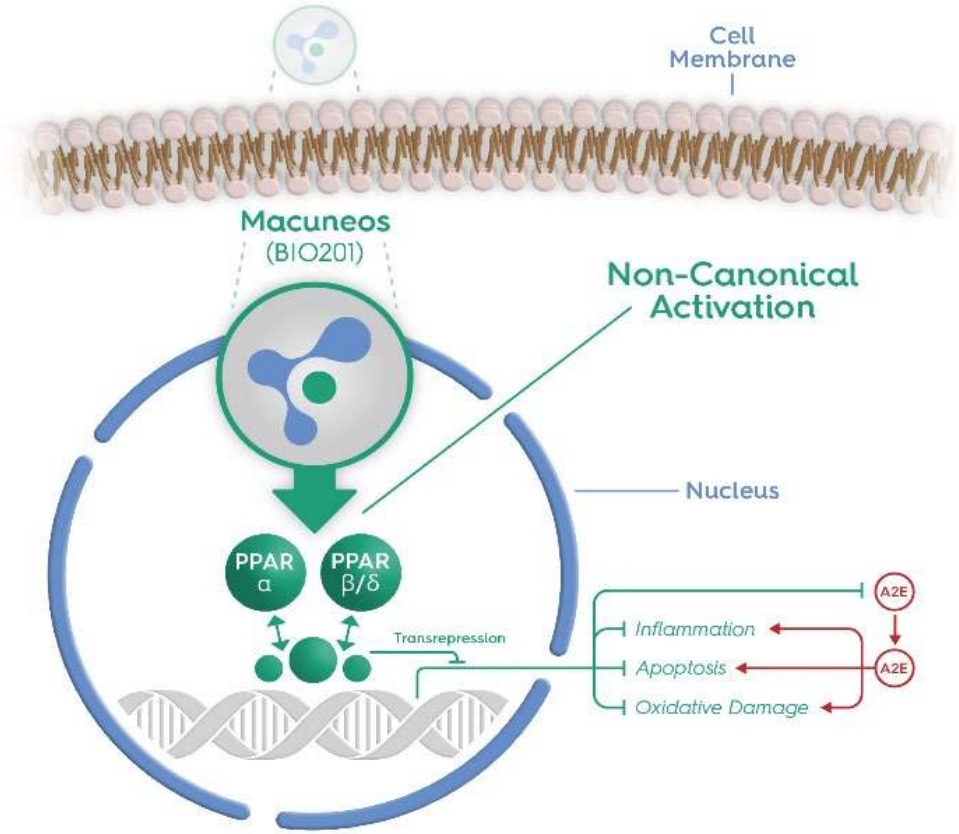


- 85 - 90% of AMD patients have dry AMD in some form; either early, intermediate or late stage, known as geographic atrophy (GA)
- No approved treatments for any stage of dry AMD, including GA
- We are developing Macuneos to treat patients with intermediate dry AMD to prevent the development to advanced 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

Macuneos (BIO201) mechanism of action: Non-canonical activation of PPARs

- We believe Macuneos potentially counteracts the phototoxic effects of A2E by selective non-canonical activation of the transrepressive activity of PPARα and PPARβ/δ in the retina
- Most other PPAR ligands mainly exhibit canonical activity and are associated with side effects



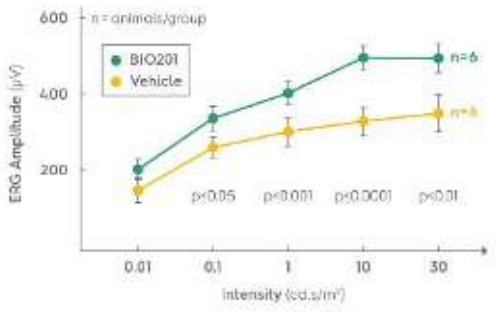
Anti-inflammatory activity (promotes the expression of anti-inflammatory genes)

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

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

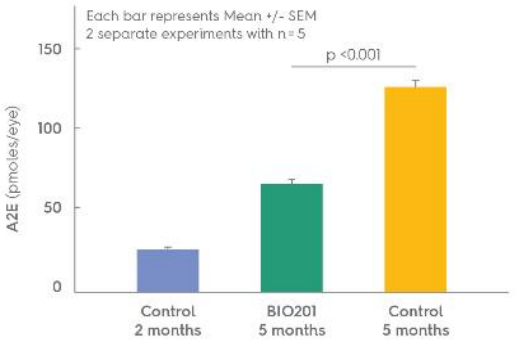
Macuneos (BIO201) protects the retina in rodent models of dry AMD and Stargardt disease

Preservation of visual function in mice



Chronic oral administration of Macuneos for 3 and 6 months **increases ERG amplitude** in ABCA4$^{-/-}$ RDH8$^{-/-}$ mice

Reduced A2E accumulation in mice



Chronic oral administration of Macuneos decreased A2E accumulation by **approximately 45%** in Abca4$^{-/-}$ Rdh8$^{-/-}$ 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 PLoSONE (Fontaine *et al.*; 2016).

Appendix

Scientific advisory board

Pr. Jean Mariani, Chairman

- 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 Voit

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

Dr. Ivana Kim

- 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

Board of directors

Stanislas Veillet - Founder & CEO

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

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

Jean M. Franchi

- Independent Director,
- RepImmune CFO
- 30+ years as finance director, including 15 years at Genzyme

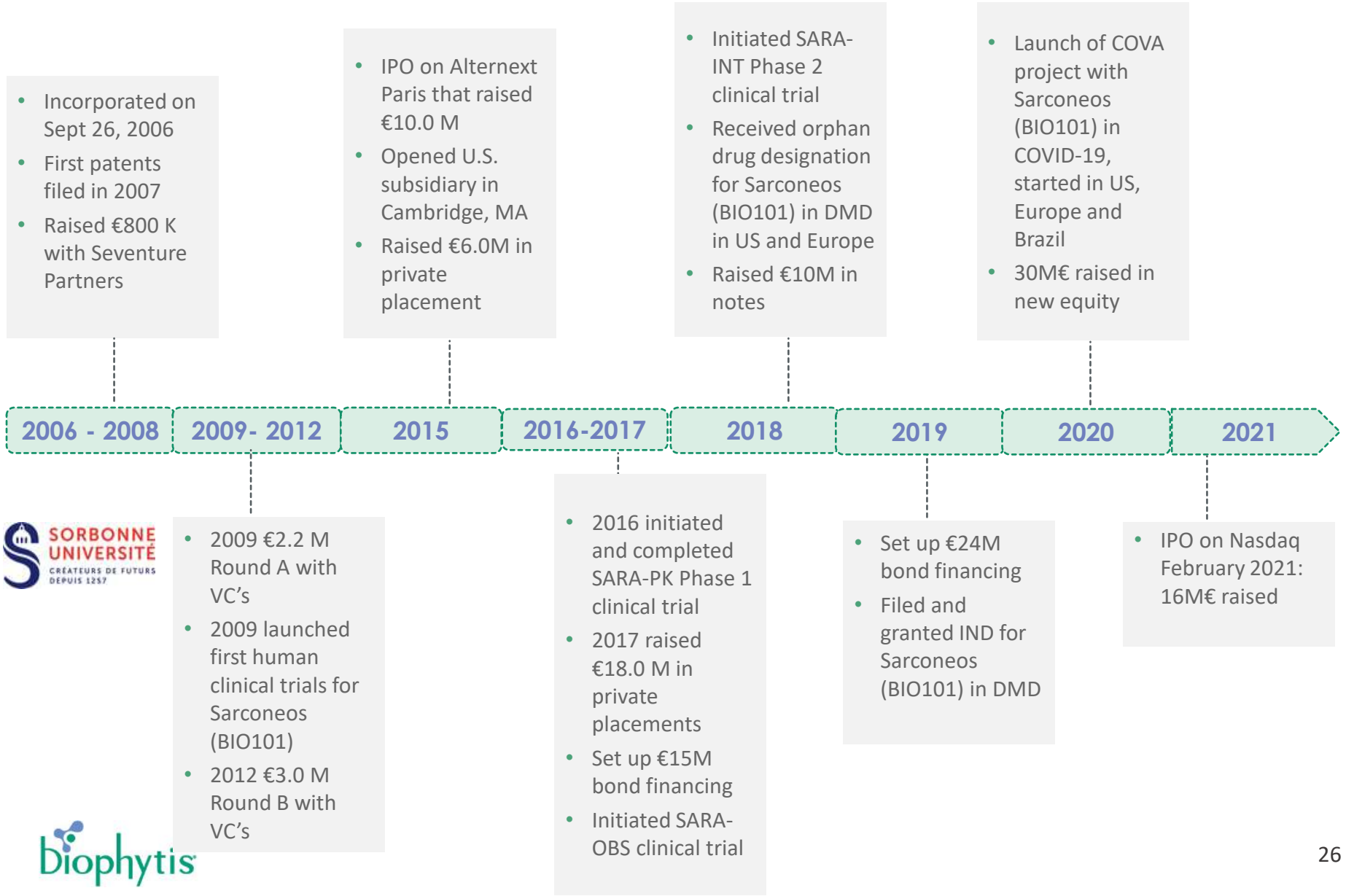
Dimitri Batsis

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

Nadine Coulm

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

From a Sorbonne University spin-off to a successful clinical-stage biotechnology company: 100M€ raised to date



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[1].
- 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**

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.**

Retinal diseases

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

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Thank you

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