

HEALTHY FOR LIFE

within this generation

Ann Belien, CEO | RejuvenateBiomed





80+



Aging
is **not** a problem

Age-related
diseases are



Chronic disease

↓ Physical function

↓ Cognitive function

↓ Resistance to infection



Rejuvenate
Bio med

RJx-01

Are you busy later? I need corrections made on the design project. Can we try some other colors?

Drug Repurposing Upside

Triple Drug Repurposing : combination & new formulation & new indication

Drug Repurposing Advantages

Availability of:

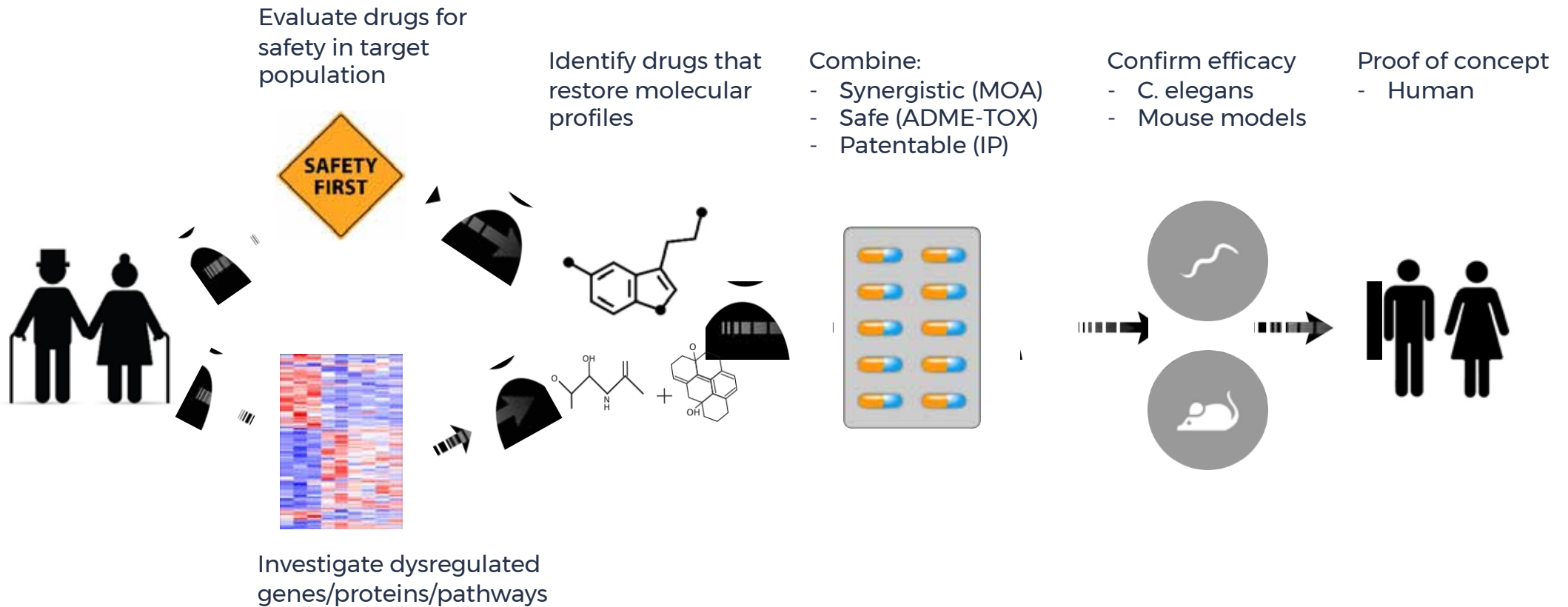
- ✓ Safety data
- ✓ Preclinical data
- ✓ Clinical trial/RWE data



Rejuvenate Biomed Advantage:

- ✓ Shorter development timelines
- ✓ Lower overall development risk
- ✓ Lower development costs
- ✓ IP protection similar to NME

Our way of working



What is aging

Hallmarks of aging

-  genomic instability
-  telomere attrition
-  epigenetic alterations
-  loss of proteostasis
-  deregulated nutrient sensing
-  mitochondrial dysfunction
-  cellular senescence
-  stem cell exhaustion
-  altered intercell. communications

Age-related disease

- Diabetes
- Fatty liver disease
- Metabolic syndrome
- Sarcopenia
- Osteoporosis
- Cardiovascular disease
- Cognitive disorders

Adapted from López-Otin et al., Cell, 2013










What about the Regulatory challenge?

We solved this by using a short term strategic solution being sarcopenia.

WHY sarcopenia?

What is sarcopenia

Hallmarks of aging

-  genomic instability
-  telomere attrition
-  epigenetic alterations
-  **loss of proteostasis**
-  **deregulated nutrient sensing**
-  **mitochondrial dysfunction**
-  **cellular senescence**
-  **stem cell exhaustion**
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Age-related disease

Diabetes

Fatty liver disease

Metabolic syndrome

Sarcopenia

Osteoporosis

Cardiovascular disease

Cognitive disorders

Adapted from López-Otin et al., Cell, 2013

SARCOPENIA



Progressive loss of skeletal muscle mass/quality and strength.

Risk of physical disability, poor quality of life and death.

Affects 6-22% of 65+ year-olds, and 50% of 80+ year-olds.

Muscle disuse induced sarcopenia is an additional medical need: every person will be impacted in their life.

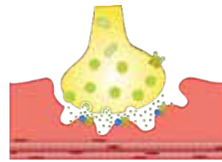
Recognized disease: ICD-10-CM (M62.84)

International diagnostic criteria

Approved endpoints

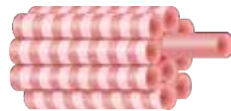
What are the Mechanisms involved in sarcopenia

Neuromuscular junction



Decreased neurotransmission
Compromised mitochondria

Skeletal muscle



Enhanced muscular inflammation
Reduced autophagy
Mitochondrial dysfunction
Attenuated angiogenesis
Reduced nutrient signaling

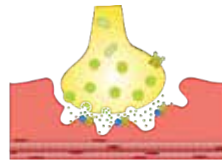
Circulation



Inflammaging

RJx-01 targets overlapping & distinct processes of sarcopenia

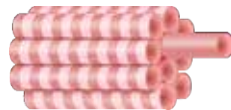
Neuromuscular junction



Decreased neurotransmission
Compromised mitochondria

A
B

Skeletal muscle



Enhanced muscular inflammation
Reduced autophagy
Mitochondrial dysfunction
Attenuated angiogenesis
Reduced nutrient signaling

A B
B
B
A
A B

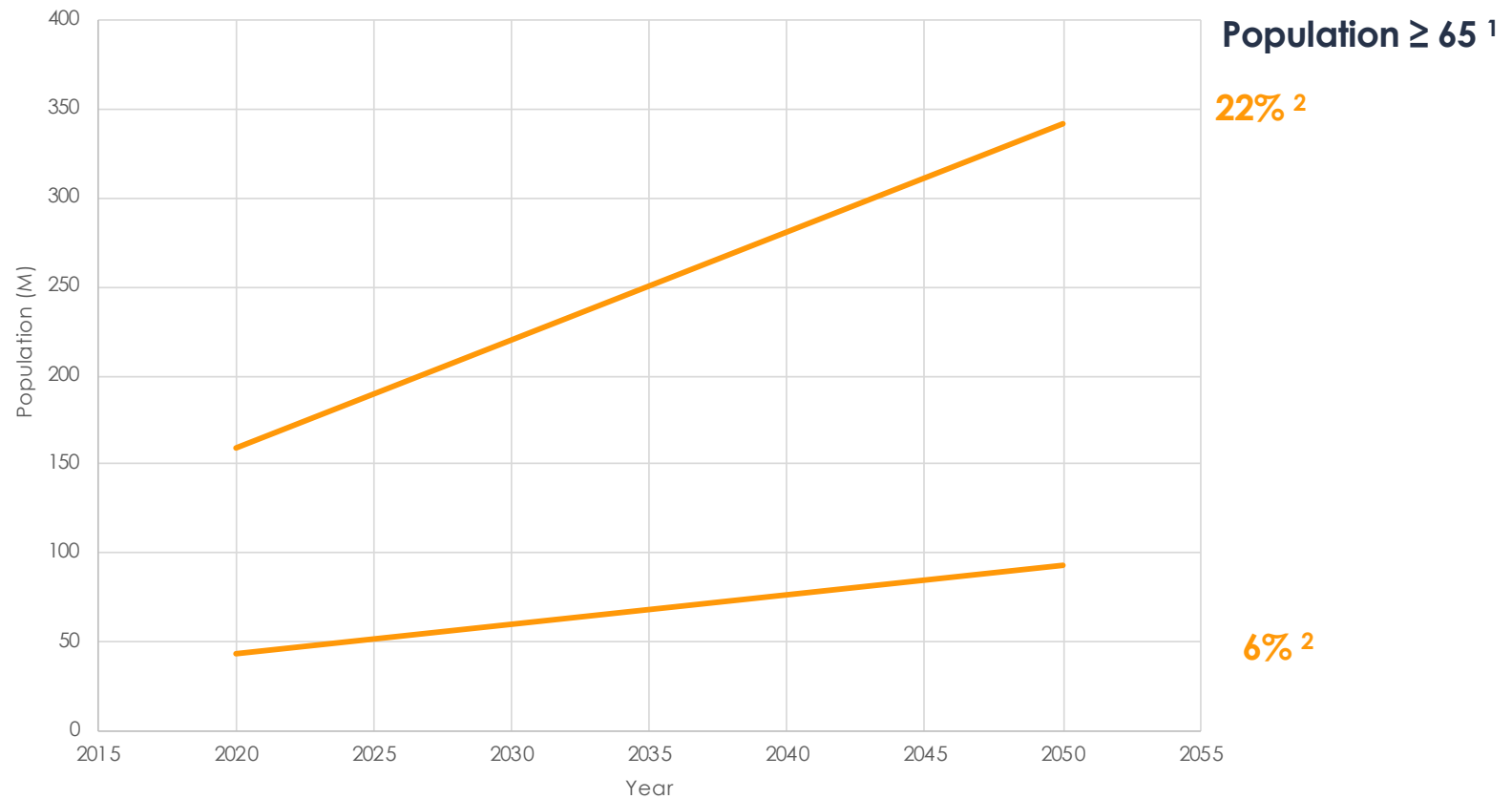
Circulation



Inflammaging

A B

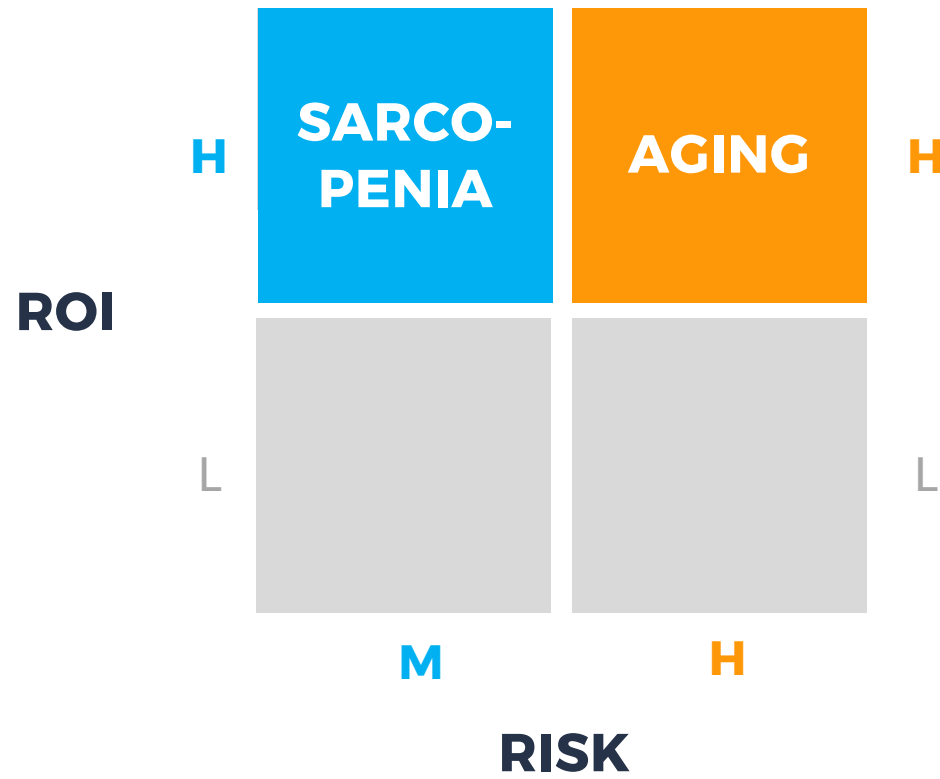
Anticipated global sarcopenia patient population in M









¹ www.populationpyramid.net

² Dent et al., J Nutr Health Aging, 2018

Balanced strategy



Sarcopenia landscape

 HEALTHY FOR LIFE RejuvenateBiomed	Small molecule	Phase Ib	Repurposing	RJx-01
	Small molecule	Phase II	NME	BIO-101
	Small molecule	Phase II	NME	FDY-5301
	Small molecule	Phase I	NME	ARM-210
	Small molecule	Phase I	NME	OPK-88004
	Large molecule	Discontinued	NME	Novartis: Strategic decision Regeneron: insufficient efficacy

18 NMEs in Preclinical Phase

RJx-01
Effective
in established
aging models



C. elegans



Mouse
(OPA1)

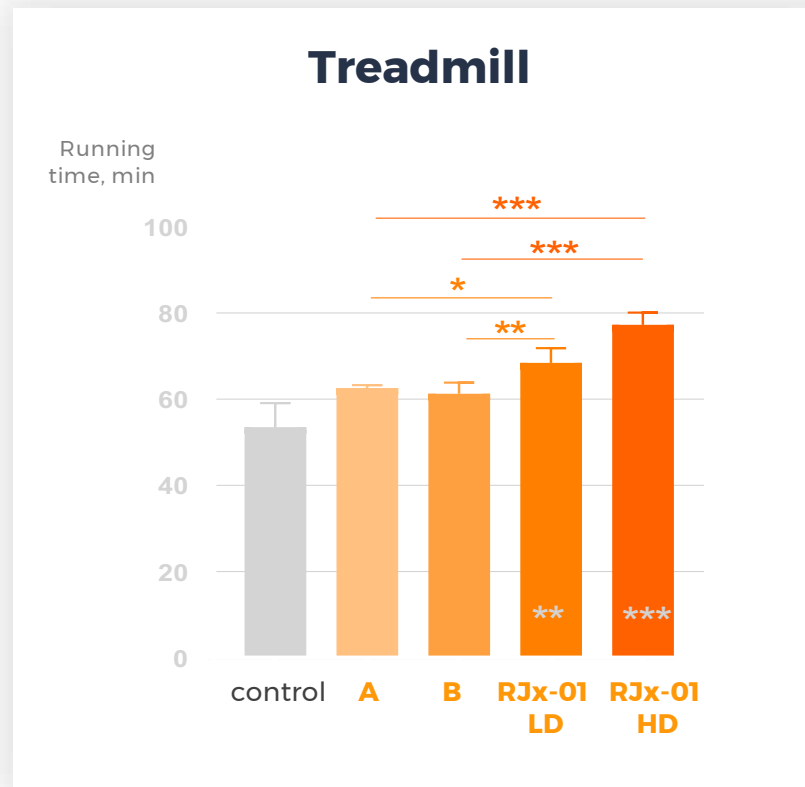
RJx-01
Effective
in established
aging models

- 
1. increases lifespan
 2. enhances activity
 3. protects muscle integrity



Mouse
(OPA1)

increases physical performance in old mice



RJx-01 Effective in established aging models

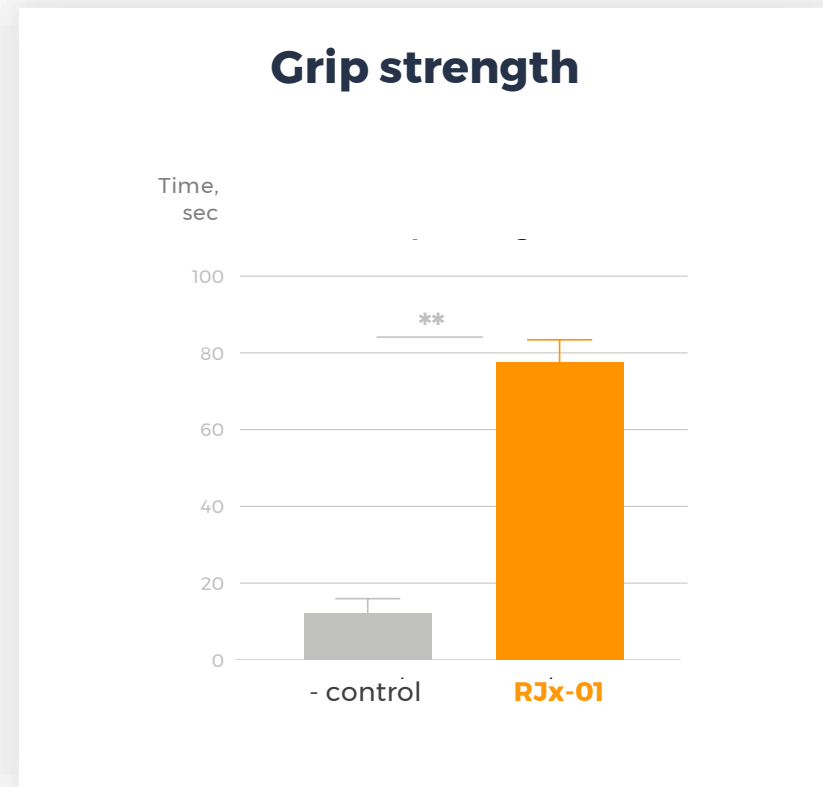
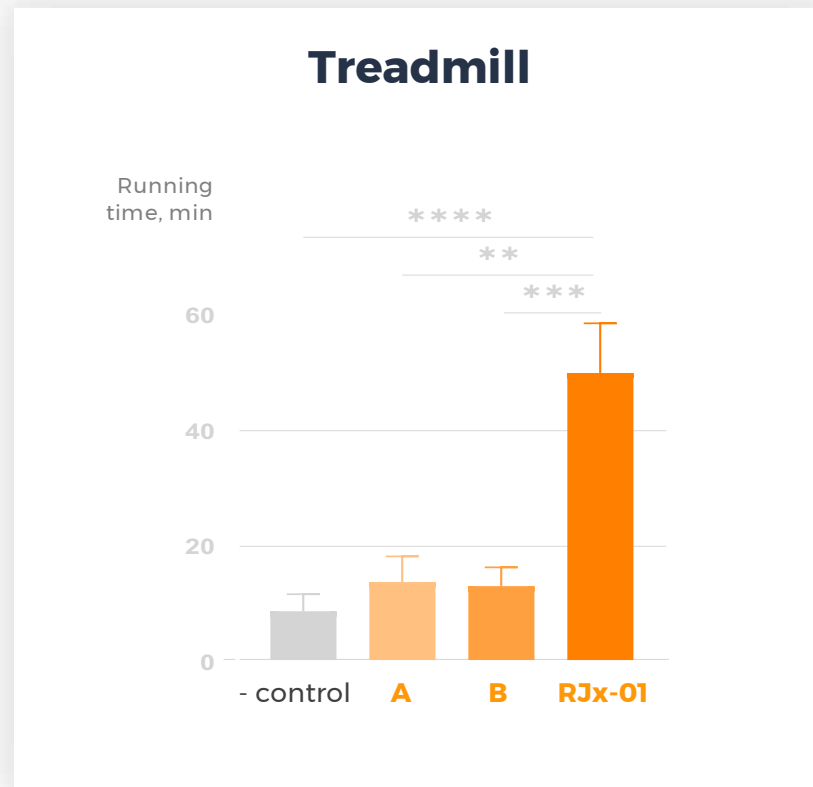


1. increases lifespan
2. enhances activity
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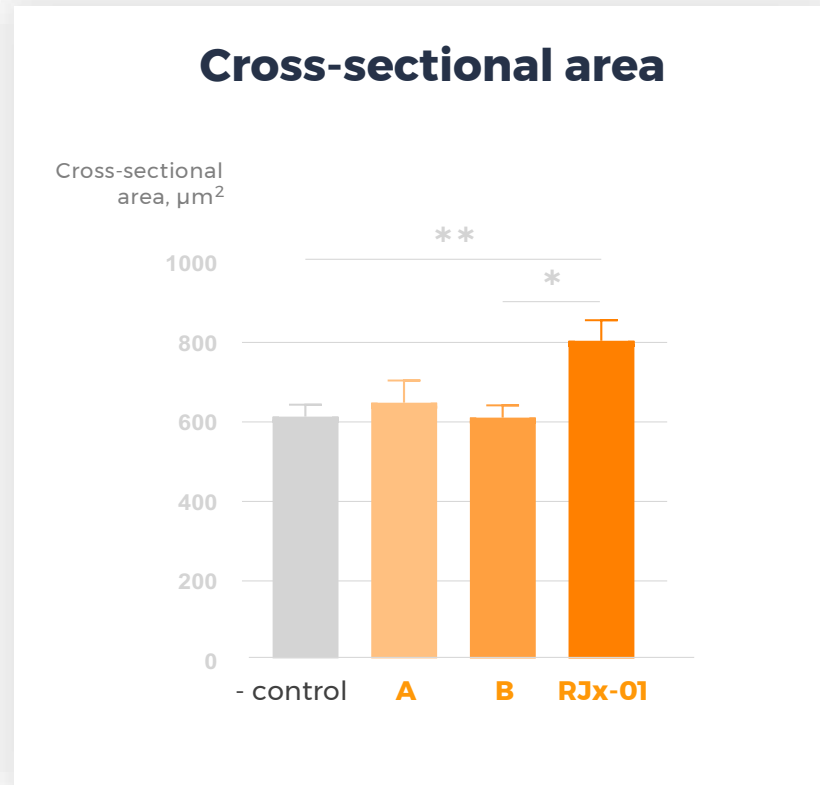
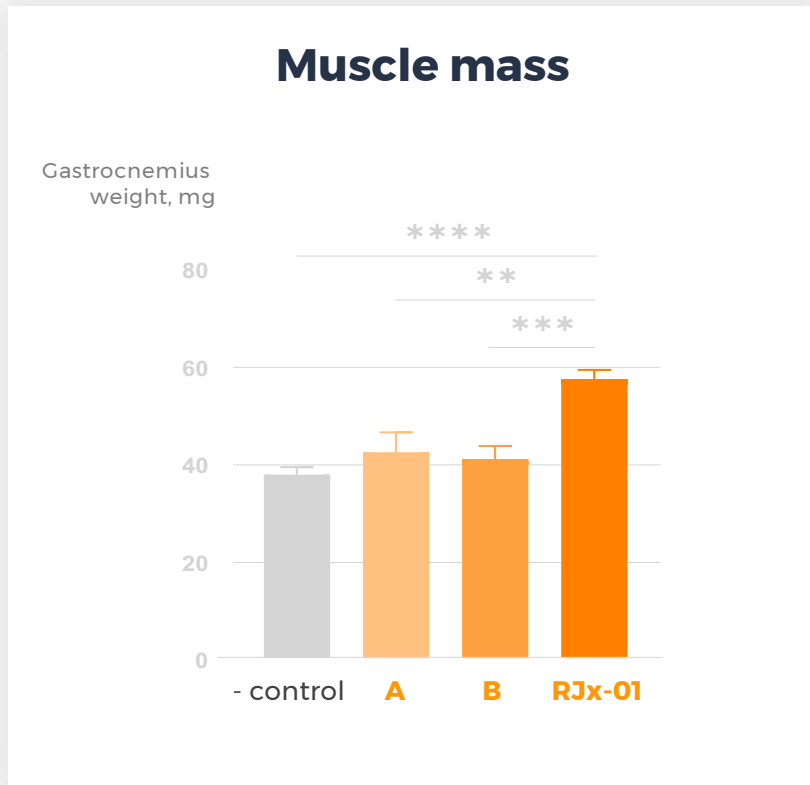


1. increases physical performance
2. improves muscle mass (OPA1)
3. improves muscle quality (OPA1)
4. reduces systemic inflammation (OPA1)

1. increases physical performance



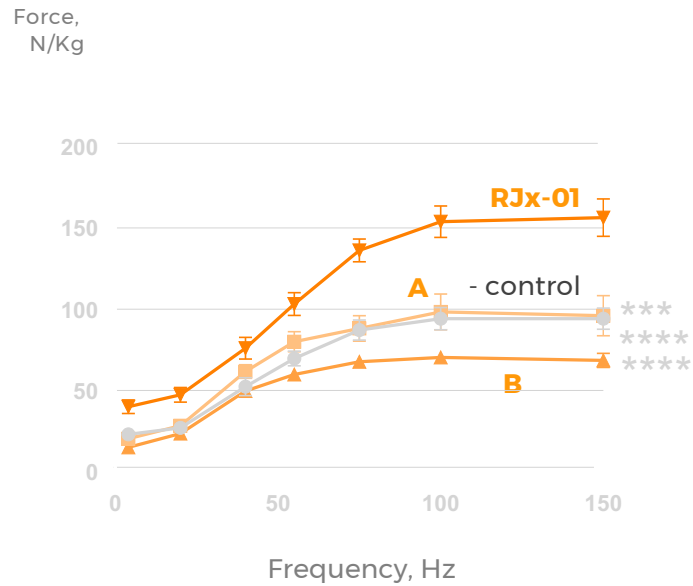
2. improves muscle mass



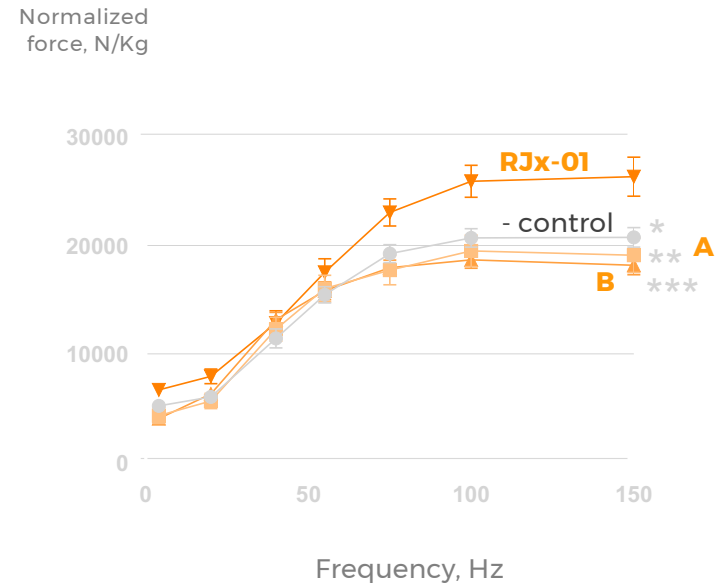
3. improves muscle quality



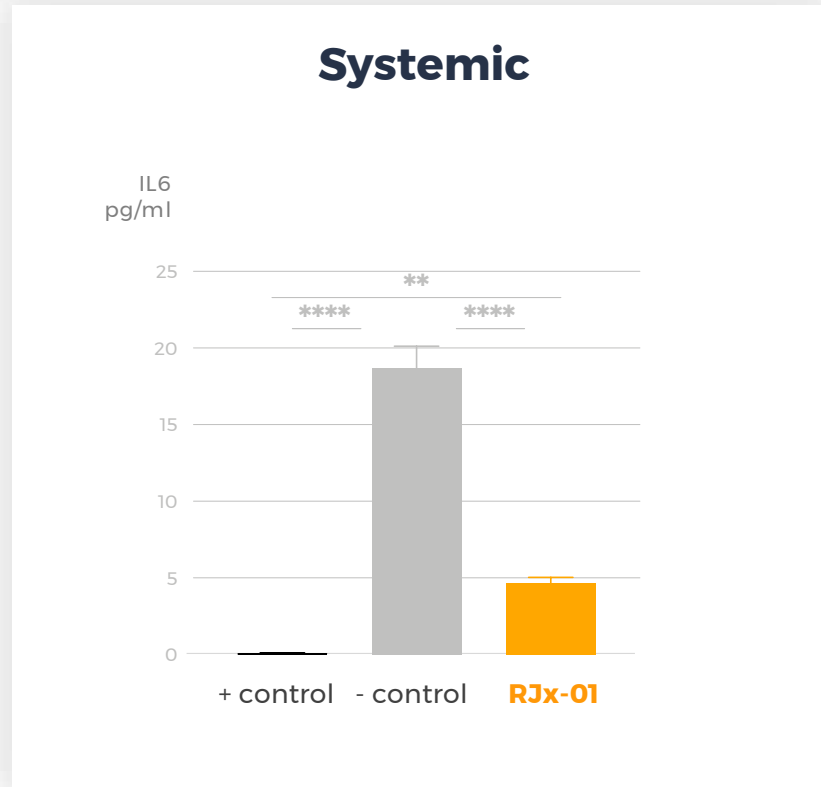
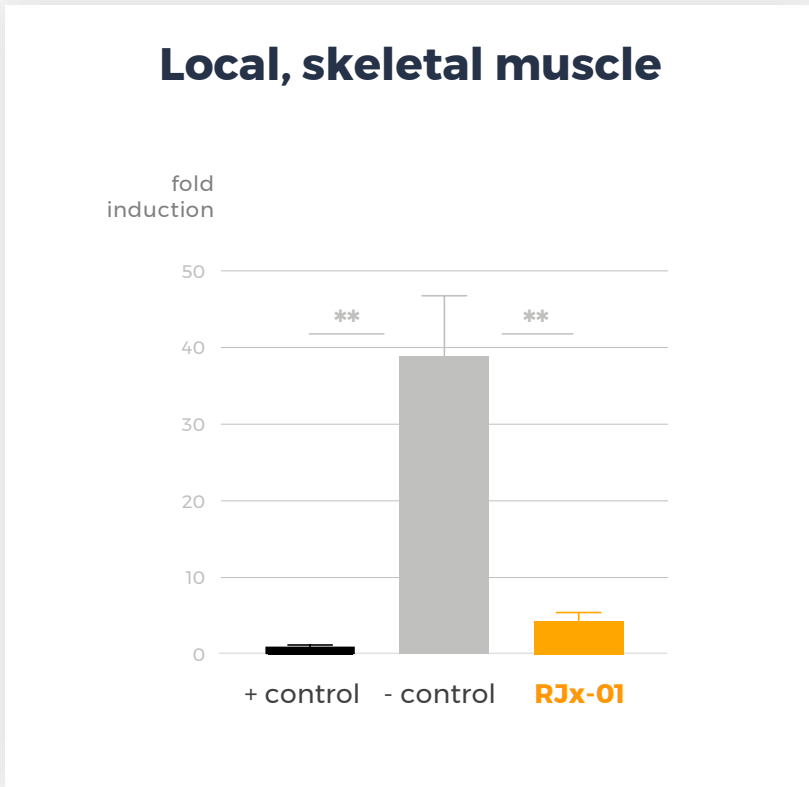
Muscle absolute strength



Muscle specific strength



4. reduces inflammation



Clinical plan in place

EMA-FAMHP-CAB

Study 1

Phase Ib randomized, double-blind, placebo-controlled, exploratory study in elderly, muscle impaired subjects.



RJx-01-101

Mechanistic POC & PK & target engagement & dose selection

Study 2a

Phase IIb randomized, double-blind, placebo-controlled study in sarcopenic patients.

Study 2b

Phase IIb randomized, double-blind, placebo-controlled study in “muscle disorder” patients.

Study 2c

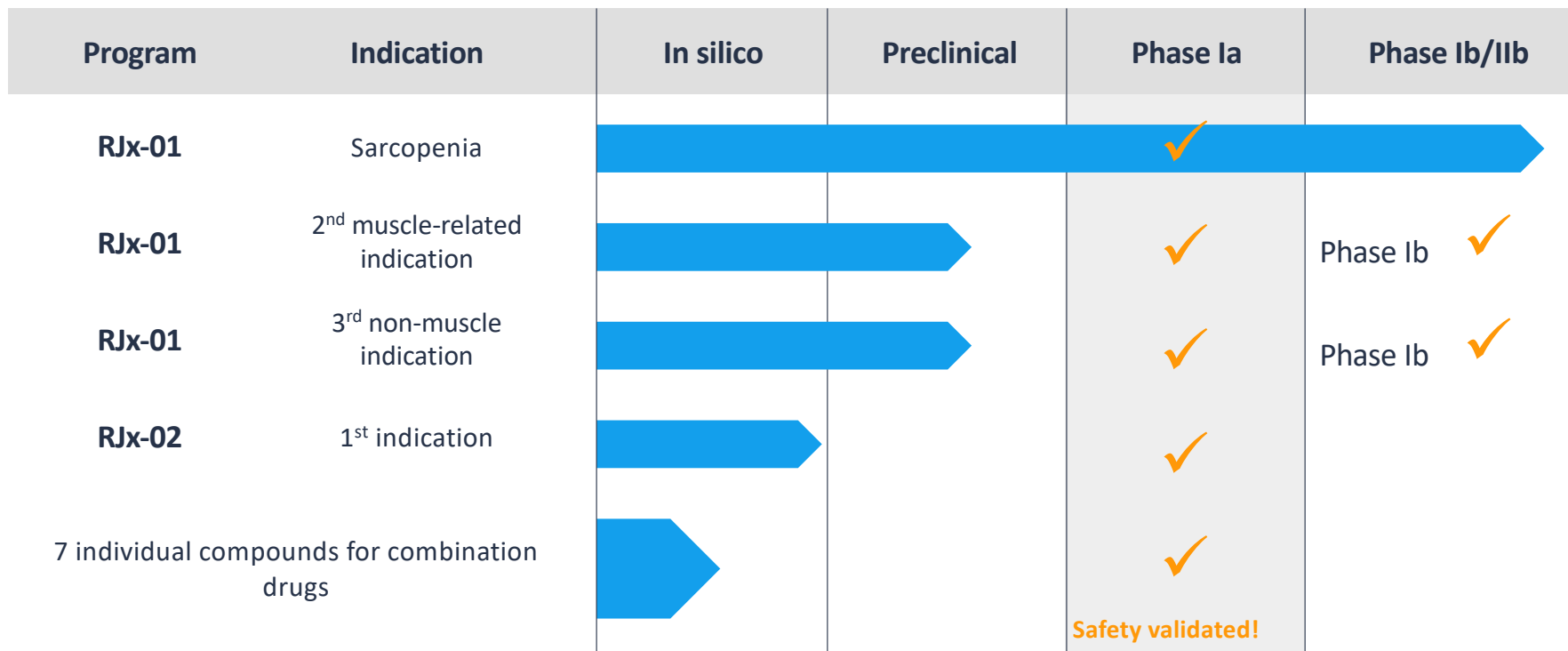
Phase IIb randomized, double-blind, placebo-controlled study in “non-muscle related disorder” patients.

RJx-01-201

Clinical POC in optimal dose & individual compounds comparison

Next-generation Drug Combinations for Aging Diseases

Broad and renewable pipeline of anti-aging therapies...



... with accelerated development

Funding & Use

Series A €9 M

Platform

Validate elements:
in silico &
C. elegans via
collaboration

RJx-01

Clinical proof of concept **Mechanistic** human
trial supporting multiple indications

Preclinical proof of concept **second and third
indication**

Funding & Use

Series B 18 M

Platform

Validate
and internalize

RJx-01

Clinical proof of
concept **sarcopenia**

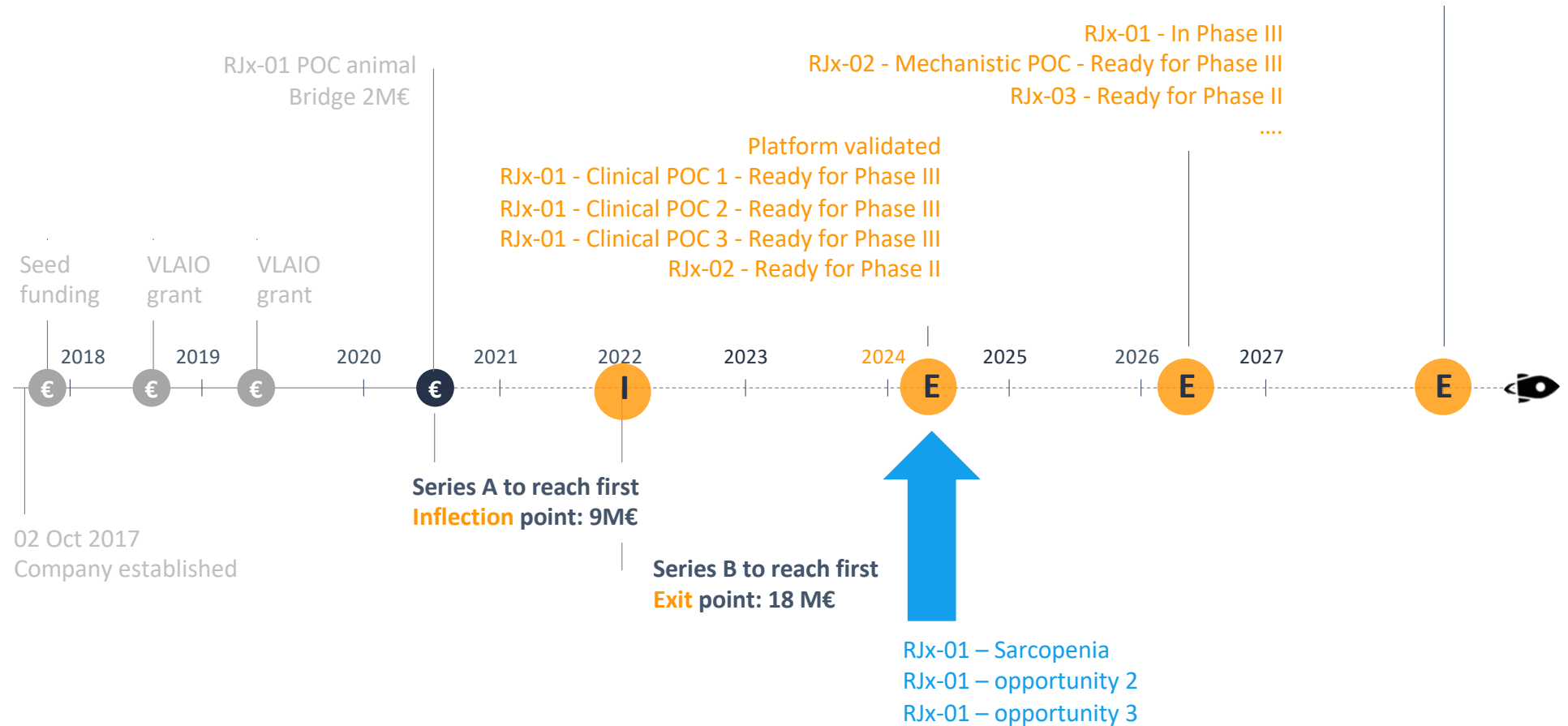
Clinical proof of
concept **second
and third indication**

RJx-02

Preclinical proof of
concept in
animal model

NEW Road map and exit opportunities

RJx-02 - Clinical POC 1/2/3 - Ready for Phase III
 RJx-03 - Mechanistic POC - Ready for Phase II



Meet the **management team**



Ann Beliën, PhD, PMP
CEO



Ludo Haazen, MD
CMO



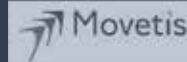
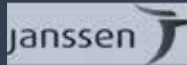
Evi Mercken, PhD
CSO



Lars Bastiaanse, PhD
COO



Lizzy-Anne Neven
CFO & HR



And our **extended team**

**REJUVENATE
BIOMED team**

MODIS
formerly CMAST
strategic partner

PhaRA
regulatory
strategic partner

BIOQUBE
business
support

JLABS
business
support

JANSSEN
Pharmaceutical
companies of
Johnson and Johnson
drug dev. support

CECAD
Cluster of Excellence
for Aging Research, DE
scientific
collaborator

NIA
National Institute on
Aging, US
scientific
collaborator

UNI. PADOVA
Venetian institute of
aging, IT
scientific
collaborator

**KU LEUVEN &
UGENT**
C. elegans aging
scientific
collaborator

BDO
Legal & Financial
audit

LC PATENTS
IP
support

EUROFINS
drug dev.
support

LAGA
legal
support

ERNST YOUNG
business
support

Many thanks to our colaborators and advisors



Bart Braeckman, Prof, PhD
Ghent University, BE
Aging biology and molecular
evolution



Rafael de Cabo, Prof, PhD
NIA, NIH, US
Study of Longitudinal Aging in
Mice: SLAM



Marco Sandri, Prof, MD, PhD
University of Padova, IT
Sarcopenia



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University of Cologne, DE
CECAD Cluster of Excellence for
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Mitochondrial function



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University of Liège, BE
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Geriatric revalidation and frailty
Clinical Advisory Board member



Alfonso Cruz-Jentoft, Prof, MD, PhD
Madrid University, ES
Geriatric Medicine & Gerontology
Clinical Advisory Board member

De-risked and fast development

Solid science

Big opportunity





Rejuvenate
Biomed.com

**LET'S
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invest@rejuvenatebiomed.com

Executive summary



Science-based healthy aging company

- Founded in 2017 as a spin-out of the Janssen Pharmaceutical Companies of Johnson & Johnson
- Develops therapies for age-related diseases to improve quality of life by repurposing prescription medicines (combination, new formulation, new indication) and providing strong IP protection

Next-generation drug repurposing platform



- Systems Biology: In silico identification of synergistic drug combinations based on clinical evidence, pathways & safety with the target population
- Broad and renewable pipeline

Highly potent repurposed drugs for aging & chronic diseases

Protected by strong IP



Rapid pipeline generation of synergistic drug combinations

Accelerated development times and giant markets



Phase Ib/IIb ready, anti-aging compound RJx-01

- Combination drug with synergistic action on pathways of aging and sarcopenia
- Strong preclinical efficacy in sarcopenia models with well-known clinical safety
- Upside potential in COVID-19 immobilized and ICU acquired weakness patients: opportunity to accelerate and broaden strategy
- Additional targetable diseases based on preclinical data

Large & global market opportunities



- Large global increase in the 65+ elderly population: demand for new therapies for age-related diseases
- Global sarcopenia market: 50M patients in 2020, 100M in 2050, peak sales of € 1B with just a 2% market penetration in a limited region of 1.6M patients
- Broad targetable markets: muscle & non-muscle related diseases, orphan diseases & genetic disorders

€ 9M Series A: RJx-01 Mechanistic POC in human, PreClin POC 2nd indication RJx-01: inflection point

€ 18M Series B: RJx-01 phase II clinical POC in sarcopenia (&option 2 other indications) & RJx-02 preclinical POC: exit point