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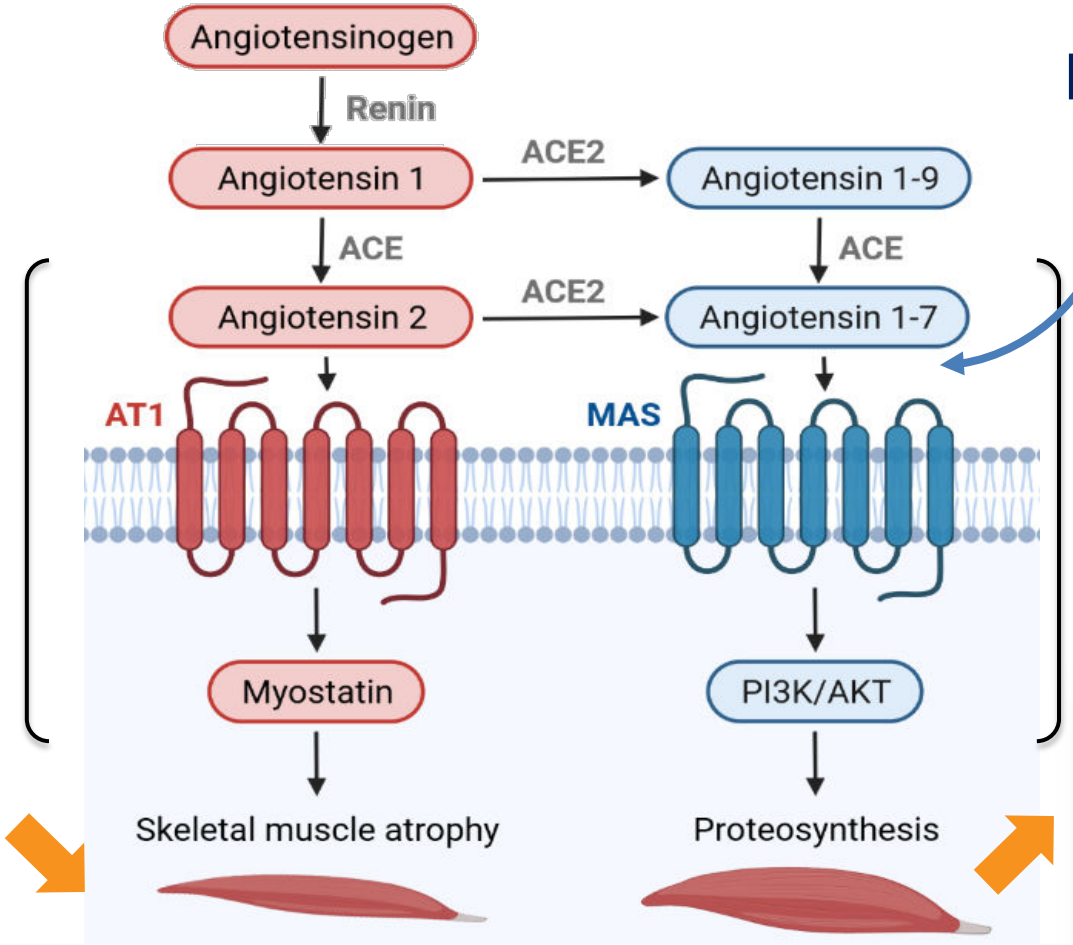
Abstract n°: W4
Poster session n° 3,2

Waly Dioh PhD, MBA
Chief Clinical Officer

OBA: a phase 2 clinical trial testing the drug candidate BIO101 (20E) to limit the loss of muscle mass and function induced by semaglutide in patients with obesity.

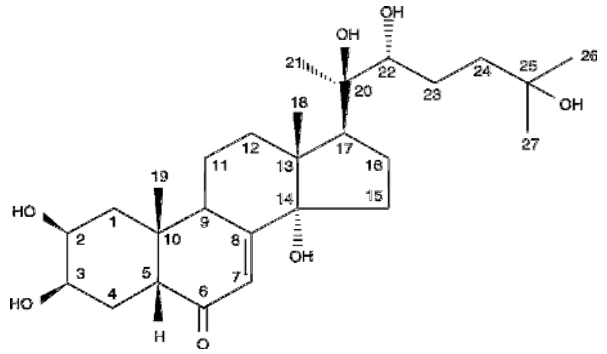
BIO101, a MAS receptor activator with beneficial effect on muscle



Classical arm

Protective arm

BIO101 / 20E



Ecdysteroids = class of steroid hormones

J Mol Endocrinol. 2021 Dec 23;68(2):77-87. doi: 10.1530/JME-21-0033.

20-Hydroxyecdysone activates the protective arm of the RAAS via the MAS receptor

René Lafont [1] [2], Maria Serova [1], Blaise Didry-Barca [1], Sophie Raynal [1], Louis Guibout [1], Laurence Dinan [1], Stanislas Veillet [1], Mathilde Latil [1], Waly Dioh [1], Pierre J Dilda [1]

Affiliations + expand

PMID: 34825653 DOI: 10.1530/JME-21-0033

Preclinical 20E efficacy in Diet Induced Obese (DIO) mice (I)

C57BL6/J DIO, JanvierLabs
(male, 22 week-old, fed with specific diet* during 16 weeks)
n=48

*High fat (60%), D12492 from Research diet.

Treatment groups (n=12/group):
- Group 1: DIO, control, untreated
- Group 2: DIO, semaglutide 0.12mg/kg, s.c., 5 x/ week
- Group 3: DIO, semaglutide 0.12mg/kg, s.c. 5 x/ week + BIO101 68mg/kg (drinking water): «COMBO»

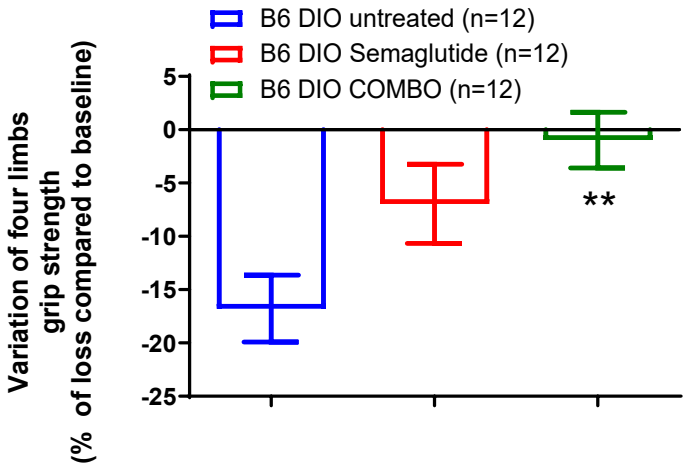
Treatment period (4 weeks)

- *In toto* tests: Grip test (strength)

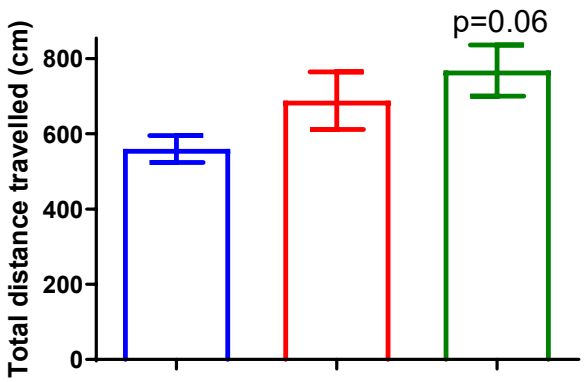
- *In toto* tests: Grip test (strength)
- Spontaneous activity: Actimeter
- Endurance test: treadmill

- *In situ* tests: EDL (contractility analysis)

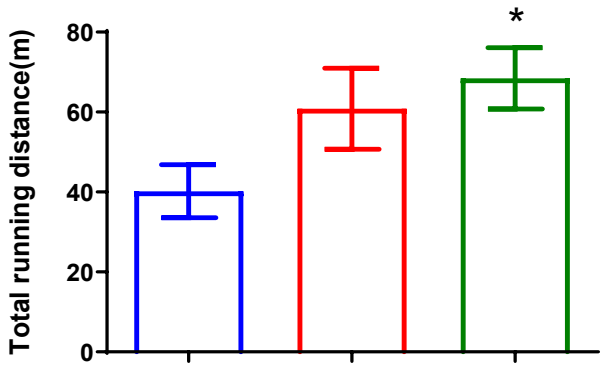
A Grip test (strength)



B Spontaneous activity



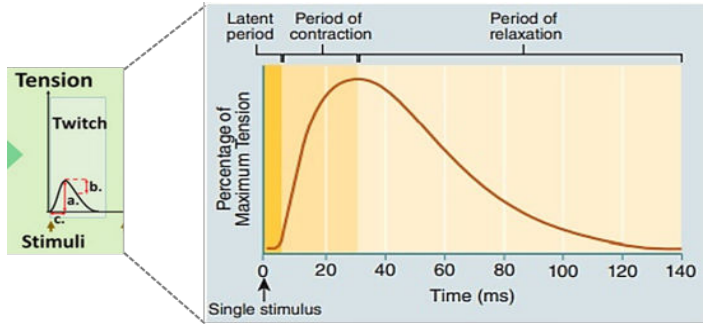
C Endurance test



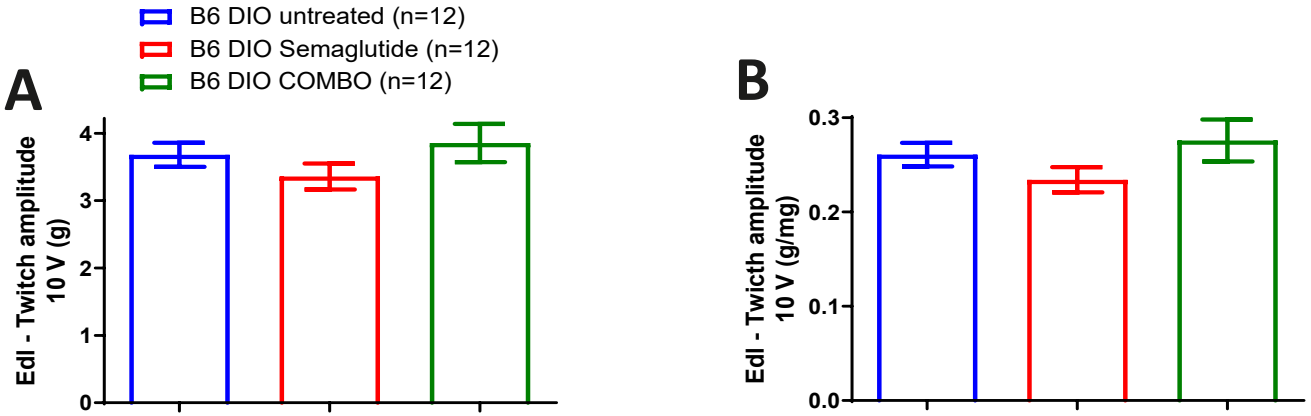
With *p<0.05 and **p<0.01 compared to B6 DIO untreated group

Preclinical 20E efficacy in Diet Induced Obese (DIO) mice (II)

Twitch test (end of study) – Extensor Digitorum Longus muscle (EDL)

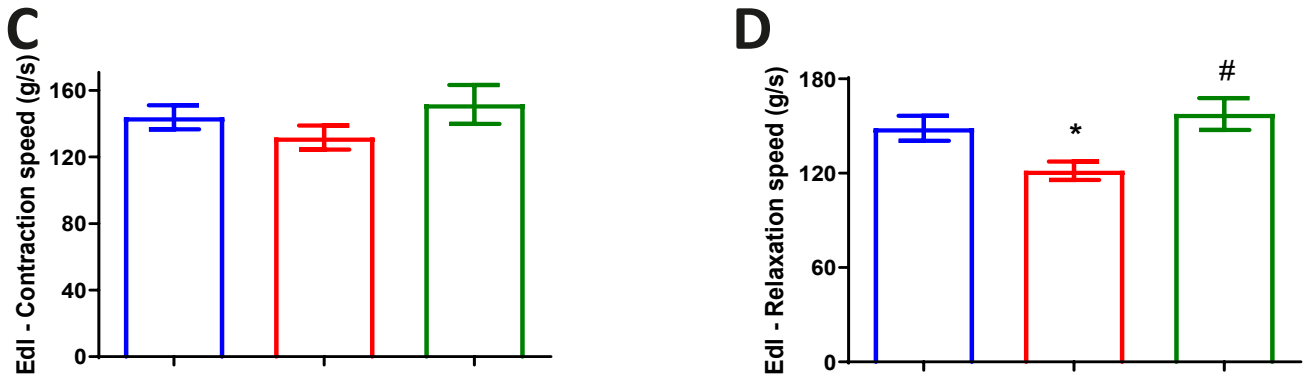


Twitch amplitude



- *Combination treatment (BIO101+ Semaglutide) tends to revert contraction amplitude alterations due to Semaglutide alone.*

Twitch kinetic

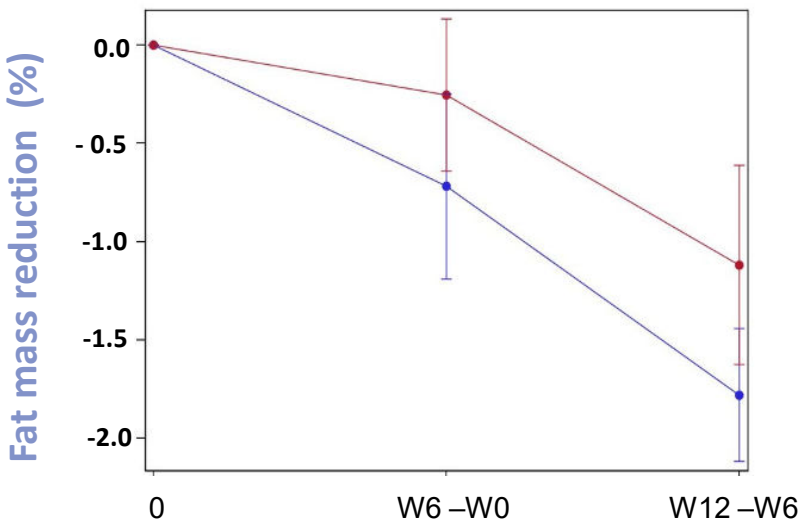


- *Combination treatment (BIO101+ Semaglutide) reverts contraction kinetic alterations due to Semaglutide alone.*

With *p<0.05 compared to B6 DIO untreated group
With #p<0.05 compared to B6 DIO Semaglutide group

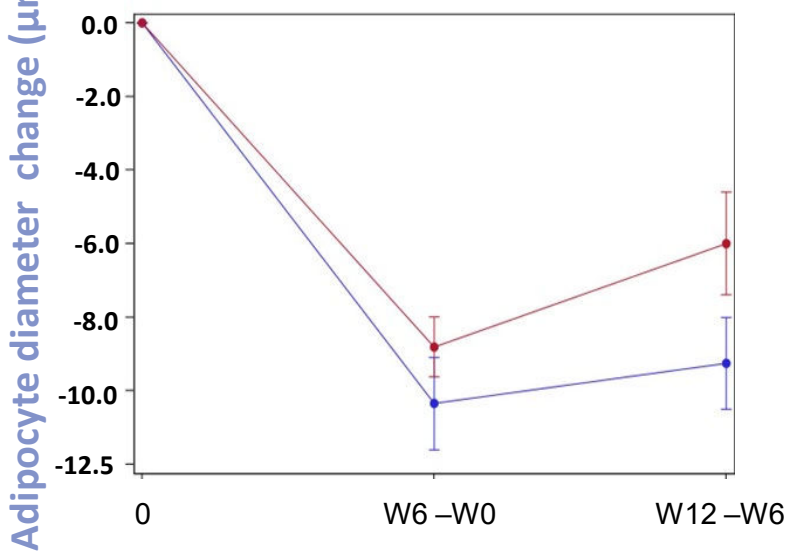
Randomized placebo-controlled study with 37.5 mg 20E in 58 subjects with obesity and overweight

Android Fat mass



Statistically significant decrease of android fat mass (p=0.039)

Adipocyte diameter

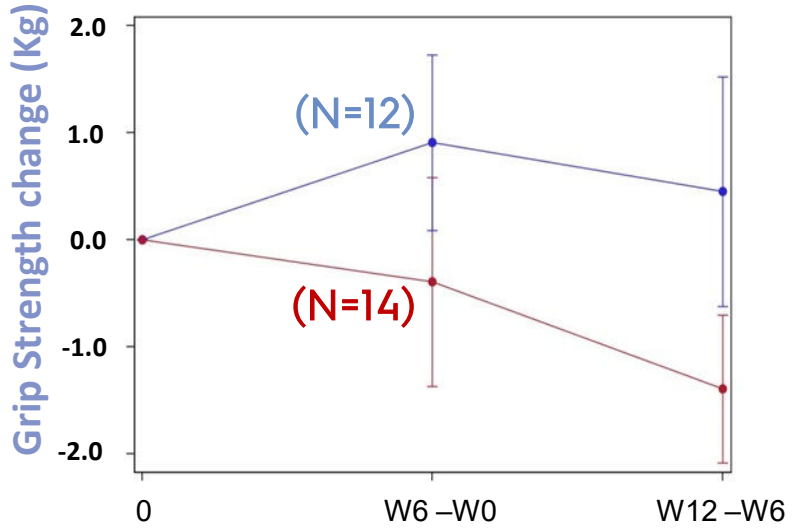


37.5 mg 20E

Placebo

Statistically significant decrease in adipocyte diameter (p=0.032)

Hand grip strength

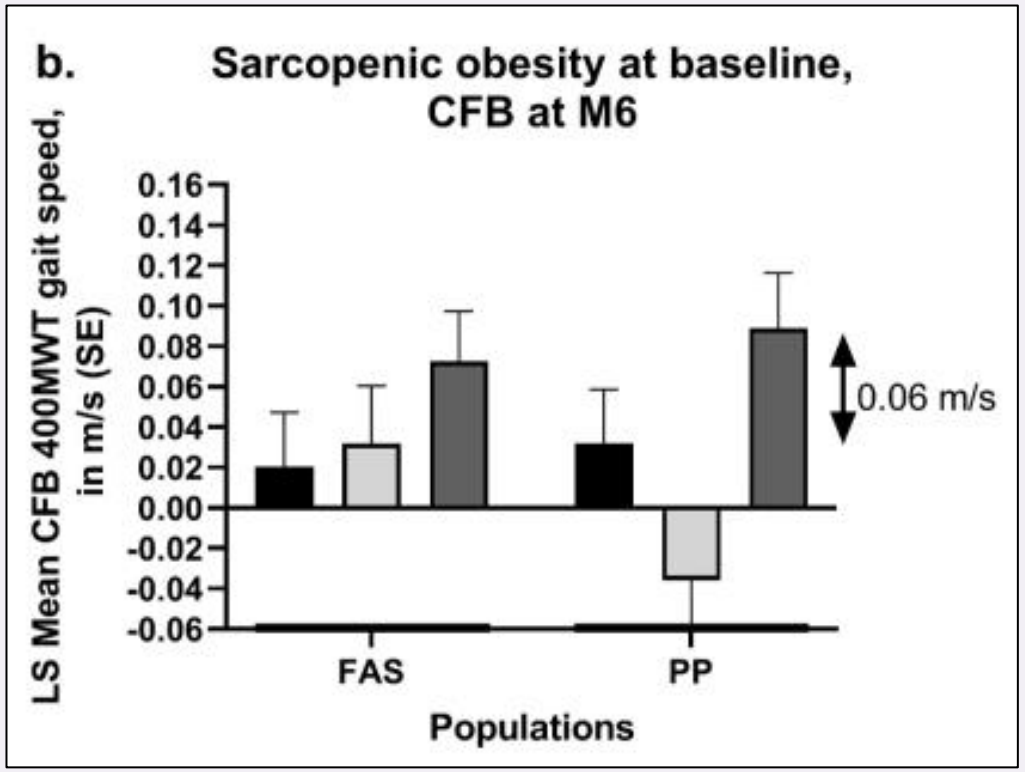


Trends for handgrip strength maintenance in subjects who lost > 5% of their initial weight during the weight loss phase (p=0.097)

Data on file, Biophytis

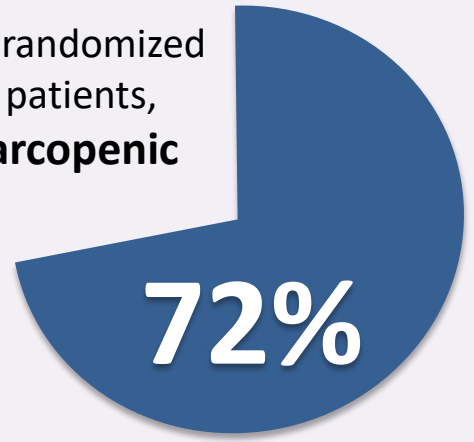
Phase 2 SARA-INT : gait speed from 400MWT in sub-population with sarcopenic obesity

Gait speed in patients with sarcopenic obesity: FNIH criteria and (% of body fat mass of >25% in men and >35% in women)



Placebo
175 mg BID
350 mg BID

Of the 233 randomized sarcopenia patients, 72% had **sarcopenic obesity**



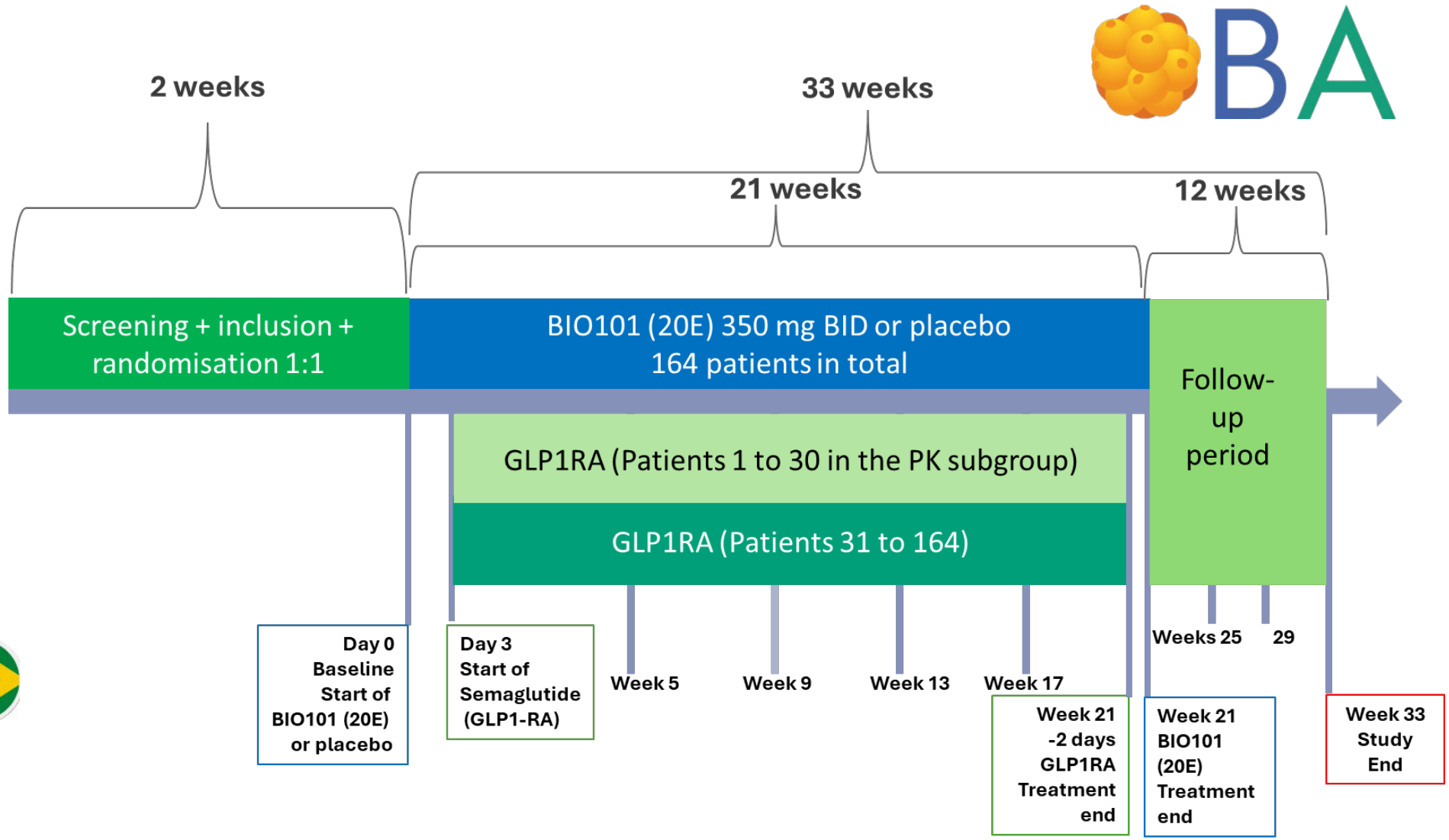
⇒ **Nominally significant treatment effect versus placebo p=0.0037 for the PP population at Month 6**

Fielding et al. J Cachexia Sarcopenia Muscle. 2025 Apr;16(2).

A Phase 2, double-blind, randomized, placebo-controlled multicenter study in 164 patients to evaluate the efficacy and safety of 20-Hydroxyecdysone (20E) in reducing the muscle strength loss from GLP1 agonists in combination with dieting in adult patients with obesity

Target population:

Patients with obesity BMI ≥30 or overweight (BMI ≥27) with one or more weight-related sequalae (e.g. hypertension) who will start treatment with semaglutide a GLP-1 agonist.



Sites Location :

A Phase 2, double-blind, randomized, placebo-controlled multicenter study in 164 patients to evaluate the efficacy and safety of 20-Hydroxyecdysone (20E) in reducing the muscle strength loss from GLP1 agonists in combination with dieting in adult patients with obesity

Primary Objective

To assess the efficacy of 20E on muscle strength

Primary Endpoint :

knee extension strength evaluated by isokinetic dynamometry

Secondary and exploratory Objectives	Endpoints
To explore the efficacy of 20E on another measure of muscle strength	• Knee extension strength at intermediate timepoints • Knee flexion strength evaluated by Isokinetic Dynamometry. • Hand Grip Strength (HGS)
To explore the efficacy of 20E on performance and mobility	• 6MWD • 5XSST • Stair climb
To explore 20E effect on body composition	DXA: appendicular and total lean body mass and fat mass (central reading)
To explore 20E effect on health related QoL	• SF-36 • WQoL- Lite CT Physical Function score and total score
To explore 20E effect on body weight and anthropometry	• BMI, Body weight, waist circumference
To explore 20E effect on Insulin sensitivity, glucose control, blood pressure	• HOMA, (fasted insulin + glucose) + Hba1c, LDL, HDL, triglycerides • Blood pressure: SBP+DBP

OBA

OBA Study – Current Regulatory Status

- **USA**
  - FDA: Study May Proceed
  - IRB: Ongoing
- **EUROPE**
  - EMA: Positive opinion Part I
  - EMA submission Part II: planned for Q1 2026
- **BRAZIL**
  - ANVISA submission: ongoing
  - Ethics Committees submission: planned for Q1 2026

A Phase 2, double-blind, randomized, placebo-controlled multicenter study in 164 patients to evaluate the efficacy and safety of 20-Hydroxyecdysone (20E) in reducing the muscle strength loss from GLP1 agonists in combination with dieting in adult patients with obesity

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Thank you for your attention!

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Forward Looking Statements

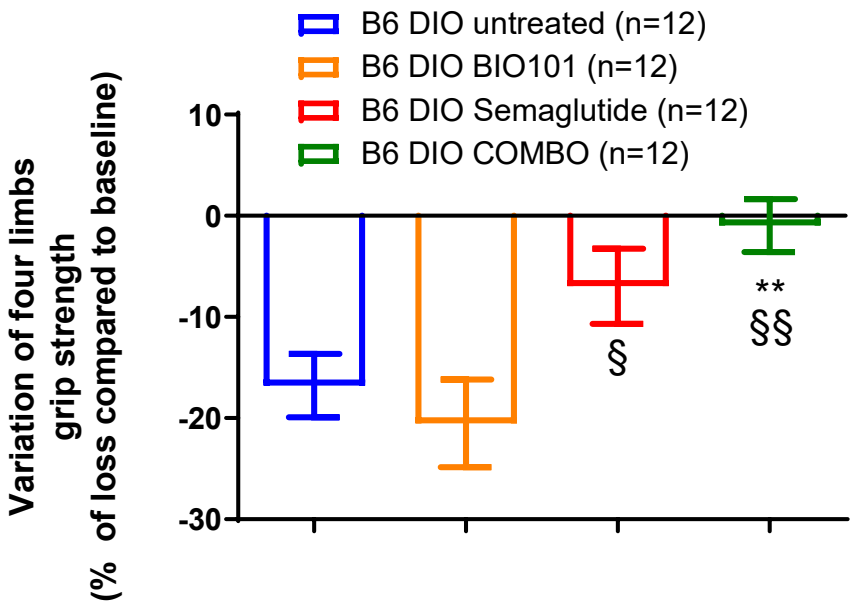
This presentation contains forward-looking statements. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify these forward-looking statements by the use of words such as **«outlook », «believes», «expects», «potential», «continues», «may», «will», «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 BIO101 (20-hydroxyecdysone) 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.

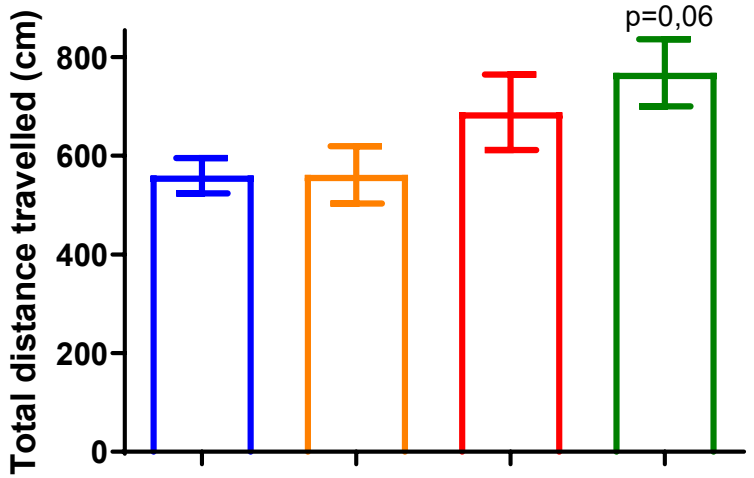
Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. Please refer to the «Risk Factors» section of the Company's 2023 Full Year Financial Report available on BIOPHYTIS website *(www.biophytis.com)* 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.

Preclinical 20E efficacy in Diet Induced Obese (DIO) mice (I)

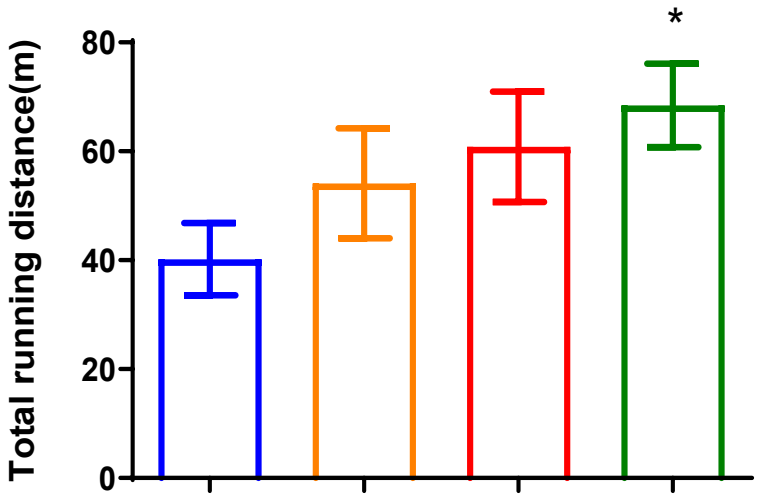
A **Grip test (strength)**



B **Spontaneous activity**



C **Endurance test**



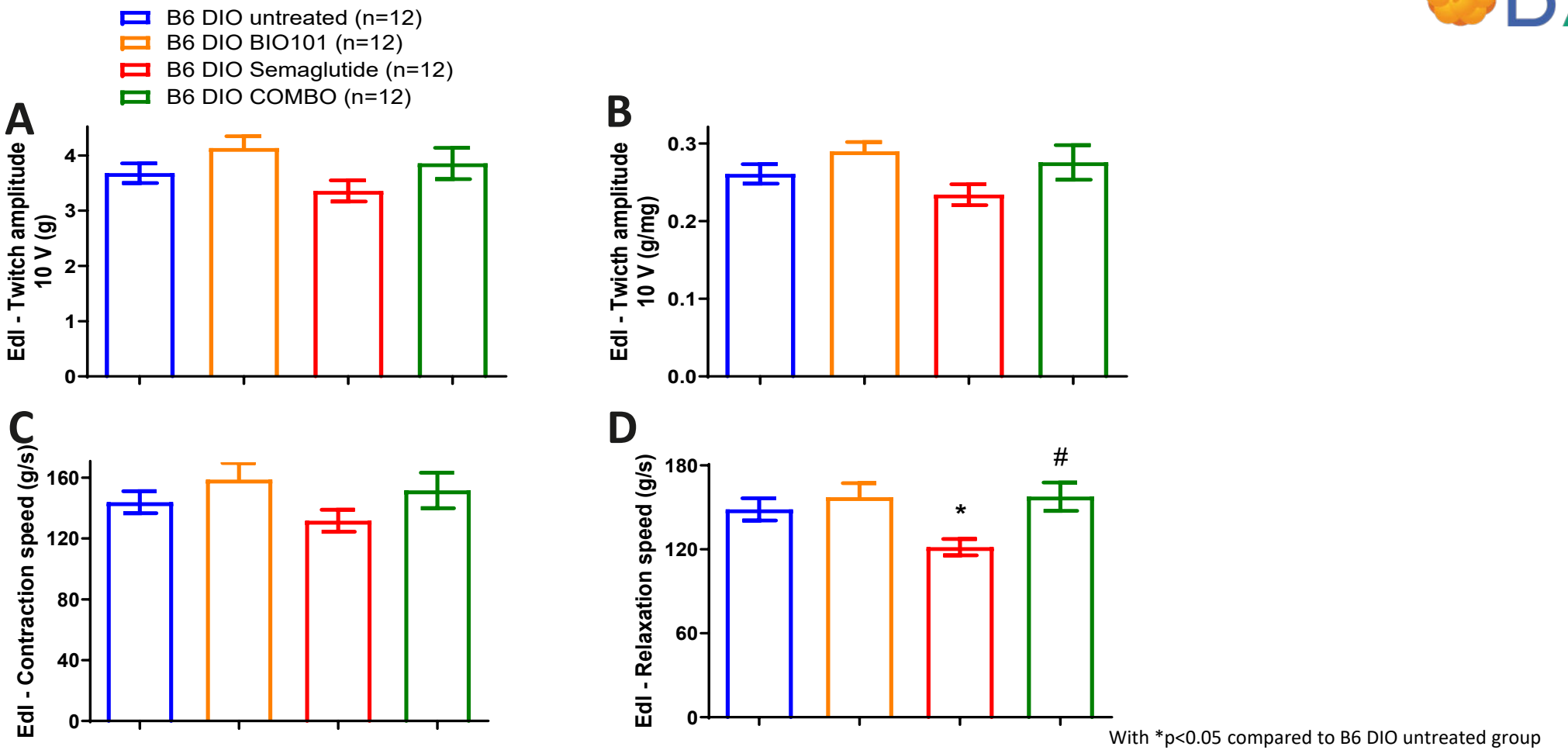
With *p<0,05 and **p<0,01 compared to B6 DIO untreated group
With §p<0,05 and §§p<0,01 compared to B6 DIO BIO101 group

Preclinical 20E efficacy in Diet Induced Obese (DIO) mice (II)

Twitch test (end of study) – Extensor Digitorum Longus muscle (EDL)

Twitch amplitude

Twitch kinetic



With *p<0.05 compared to B6 DIO untreated group
With #p<0.05 compared to B6 DIO Semaglutide group