

BUY

TARGET PRICE : 1€  +42%

CLINICAL RESULTS

ENCOURAGING RESULTS IN SARCOPENIA

Last week, BIOPHYTIS published topline results for its Ph II SARA-INT trial designed to evaluate the therapeutic potential of its flagship drug candidate, BIO101, for treating sarcopenia. It demonstrated that at the highest dose (350mg), the drug produced clinically meaningful improvement in the walk test, the primary endpoint of the study. This means that BIO101 could help improve mobility in sarcopenia patients, a parameter that is correlated to reduced mortality. Full results will be presented at a research conference late in September.

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Clinically meaningful results after six months at the highest dose

Last week, BIOPHYTIS published the results at six months of its Ph II SARA-INT trial evaluating the potential of drug candidate Sarconeos (BIO101) to treat sarcopenia. It showed that, at the highest dose of 350mg, BIO101 produced clinically meaningful results vs. placebo on the primary endpoint of the study – gait speed in the 400 meter walk test (400MWT) after six months of treatment – with speeds of 0.09 m/s (meters per second) in the FAS (Full Analysis Dataset population) and 0.10 m/s in the PP (Per Protocol population, subset of participants that complied to the clinical protocol) with significant treatment effect (p-value <0.01). The effect of Sarconeos (BIO101) at 350mg bid (2x/day) is thus clinically meaningful since close to the Minimal Clinically Important Difference (MCID) in sarcopenia (0.1 m/s). This result is all the more encouraging considering that MCID is associated with an increase in mobility as well as a reduction in mortality among elderly patients.

Data is encouraging for now but only at a basic level

It should be recalled that the SARA trial involves evaluating two doses of BIO101, 350mg and 175mg. While the higher 350mg dose has produced encouraging results at this stage in terms of gait speed, the lower 175mg dose did not show any clinically meaningful difference vs. placebo on the primary endpoint of the study, neither in the FAS (0.04 m/s) nor in the PP population.

Moreover, while the primary endpoint was met at the highest dose, the same cannot be said of all the secondary endpoints. Indeed, no treatment effect was detected on handgrip strength or the PF10 sub-score of the SF-36 questionnaire on mobile disability.

Lastly, it should be noted that the MCID reflects the slightest difference that patients consider important as part of a clinical measurement. It allows clinicians to draw a crucial distinction between a statistically significant result and a clinically meaningful result. It is a particularly useful tool when it comes to concepts that cannot be measured with instruments.

Invest Securities and the issuer have signed an analyst coverage agreement.

€/share	2021e	2022e	2023e
Adjusted EPS	-0.01	-0.07	0.13
EPS	n.s.	n.s.	n.s.
EBITDA/€M	n.s.	n.s.	n.s.

2021e	2022e	2023e	
PC	< 1x	< 1x	5.4x
EV/Sales	8.2x	< 1x	2.5x
EV/adjusted EBITDA	51.3x	< 1x	4.0x
EV/adjusted EBITA	51.3x	< 1x	4.0x
FCF yield*	< 1x	< 1x	2.6%
Div. yield (%)	< 1x	< 1x	< 1x

* Attributed to ECF before WCF

Key points			
Closing share price	17/08/2021	0.7	
Number of Shares (M)		120.0	
Market cap. (€M)		85	
Free float (€M)		82	
Alt.		TRIG 2015/25	
Token		ALDPS-TR	
IS Sector		Health Technology	

	1m	3m	Ytd
Absolute perf.	+5.3%	+15.0%	+23.7%
Relative perf.	+9.0%	+17.7%	+35.1%

Source : Forsee, Invest Securities estimator

Based on this concept, the highest dose of BIO101 yielded both statistically significant and clinically meaningful results on the primary endpoint, gait speed. Yet the result barely reached the MCID threshold set for sarcopenia and was even slightly below it for the FAS population in particular. The objective with the final results will be to at least match or exceed the results recorded to date to confirm the clinical potential of BIO101 to improve gait speed in this patient profile.

SARA-INT protocol and impact of Covid-19

The SARA-INT trial is intended to evaluate the safety and efficacy of BIO101 for treating age-related sarcopenia leading to muscular atrophy and mobility disability. A total of 233 participants were enrolled in 22 clinical centers in the US and Belgium. They were randomized and divided into three treatment arms –175mg bid, 350mg bid and the placebo arm – with follow-up for six months initially but extended to nine months due to Covid. BIOPHYTIS management says the pandemic had a significant impact on the conduct of the trial, particularly in terms of data quality and the power of the study, since participants were prevented from performing on-site visits starting in March 2020 and until more favorable health conditions were observed locally. In all, 99 participants (i.e. 43% of the cohort) were not able to perform any physical assessment on-site while on treatment, even with the extension of the treatment period from six to nine months, knowing that 138 participants (59%) were still active in the study when Covid restrictions were put into place.

Participants were recruited for the study primarily based on:

- Age (over 65),
- Low Appendicular Lean Mass (ALM) adjusted by Body Mass Index (BMI) combined with reduced mobility assessed by the SPPB (Short Physical Performance Battery) index (SPPB \leq 8).

Efficacy was assessed based on gait speed in the 400MWT as the primary endpoint, in the FAS population (i.e. all randomized participants, 233 patients) and the PP population (subset of participants who complied with the clinical protocol, i.e. 152 participants). Handgrip strength and patient-reported outcome (PRO) of mobility capacity as measured with the SF-36 questionnaire were the key secondary endpoints.

News flow could create value in the near term

The full results of the Ph II SARA-INT study, including an analysis of other secondary endpoints and biomarkers and analysis in subpopulations, will be presented during a dedicated seminar at the end of Q3 21. The company's second flagship program, in Covid-19, is also expected to deliver results in the near term.

- Late September 2021: Presentation of final results of SARA-INT to the ICFSR
- Q3 21: Interim results for part 2 of the Ph II/III COVA study on Covid-19 (vs. Q2 21)
- Q4 21: Full results of COVA study + marketing authorization request submitted to FDA and EMA
- Early in 2022: Commercial launch of BIO101 to treat Covid-19

On July 1 of this year, when BIOPHYTIS announced that it was adjusting its clinical trial timeline, the 155th patient had just completed treatment in part 2 of the COVA study. The results of the second interim analysis (IA2) of toxicity and efficacy data are now expected in Q3 2021. BIOPHYTIS continues to enroll patients in Europe and the US: 176 patients had been recruited at that date, out of the

310 required to publish the full results. The company expects to be able to report topline results for the study as a whole in Q4 2021.

Advanced preparations for a potential marketing authorization for Covid-19 late in 2021

In anticipation of a favorable scenario in which the results in Covid-19 prove conclusive and at least one of the regulatory agencies asked to authorize the marketing of BIO101 (EMA and FDA) gives a green light, BIOPHYTIS moved to secure a production deal in H1 2021. It signed several contracts with a top-tier CDMO (Custom Development and Manufacturing Organization) to produce registration batches of BIO101. These contracts were signed with an eye to a possible application for an EUA (Emergency Use Authorization) from the FDA and/or a CMA (Conditional Market Approval) from the EMA within about six months of July 1 2021, i.e. around January 2022 according to company forecasts.

A very comfortable financial situation as of today

BIOPHYTIS ended 2020 with cash of €18.8m, and its debut on the Nasdaq in February of 2021 allowed it to raise \$20.1m gross (for net proceeds of \$16.35m, or €13.5m). In June 2021, it announced up to €32m of possible new financing with Atlas in the form of ORNANE bonds (bonds redeemable in cash and/or new and existing shares). This financing instrument allows for the issuance of 1,280 ORNANE bonds subject to the drawing of the 8th and final tranche of the previous contract entered into with Atlas in 2020 (eight tranches totaling €24m to be drawn over a period of three years). At the time, BIOPHYTIS had activated five €3m tranches from the first contract with Atlas, leaving €9m that could still be drawn, in addition to the €32m potentially available under the second contract signed in June. Under the new agreement, BIOPHYTIS will have the possibility (but not the obligation) to draw up to €32m in eight successive tranches of €4m each over the next three years. BIOPHYTIS also indicated in June of 2021 that it had drawn two tranches on the first Atlas bond for a total of €6m. The significant new cash raised will be used primarily to:

- (i) Source starting materials for the registration batches and commercial batches of BIO101 – subject to positive results for the COVA study,
- (ii) Scale up industrialization activities,
- (iii) Launch the Expanded Access COVA program.

Lastly, regarding the company's litigation with Negma, in March of 2021, BIOPHYTIS was ordered by the Commercial Court of Paris to pay €1.01m to Negma and to deliver 7m shares to it (6.2% of the BIOPHYTIS share capital as of the judgment date), or face nonperformance fines of €50k per day of delay starting on the tenth day from service of the judgment and for a period of 30 days. For information purposes, BIOPHYTIS had capital of close to €154m represented by 113,134,307 shares as of March 19. On August 6 of this year, there were 120,759,241 BIOPHYTIS shares in issue (source: FactSet). The company still plans to file a petition with the Paris Commercial Court on the grounds that the judgment handed down in March failed to rule on certain claims, and to appeal that judgment.

Rating and TP reiterated

No change to our estimates for now, as we wait for the final results of the trial to be published at the International Conference on Frailty and Sarcopenia Research (ICFSR), which will be held from September 29 to October 2 2021. By that time we are also likely to have more visibility on data obtained for BIO101 in Covid-19. In the meantime, we remain BUYERS of the stock with a TP of €1.

FINANCIAL DATA

Share information	2016	2017	2018	2019	2020	2021e	2022e	2023e
Published EPS (€)	-1.28	-2.05	-1.04	-1.05	-2.28	-0.01	-0.07	0.13
Adjusted EPS (€)	-1.28	-0.95	-1.04	-1.05	-0.28	-0.01	-0.07	0.13
Diff. I.S. vs Consensus	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Dividend	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Valuation ratios	2016	2017	2018	2019	2020	2021e	2022e	2023e
P/E	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	5.4x
EV/Sales	n.s.	n.s.	n.s.	n.s.	n.s.	8.5x	n.s.	2.51x
EV/Adjusted EBITDA	n.s.	n.s.	n.s.	n.s.	n.s.	5.3x	n.s.	4.0x
EV/Adjusted EBITA	n.s.	n.s.	n.s.	n.s.	n.s.	5.3x	n.s.	4.0x
Op. TCF bef. WCR yield	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	2.69%
Op. TCF yield	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	3.19%
Div. yield (%)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
NB : valuation based on annual average price for past exercise								
Entreprise Value (€m)	2016	2017	2018	2019	2020	2021e	2022e	2023e
Share price in €	4.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Market cap.	30	10	10	12	42	65	65	65
Net Debt	-2	-19	-6	9	3	-5	16	12
Minorities	0	0	0	0	0	0	0	0
Provisions/Minorities	0	0	0	0	0	0	0	0
± Adjustments	0	0	0	0	0	0	0	0
Entreprise Value (EV)	28	-9	3	21	45	60	101	97
Income statement (€m)	2016	2017	2018	2019	2020	2021e	2022e	2023e
Sales	0	0	0	0	0	10	0	36
chg.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-100.0%	n.s.
Adjusted EBITDA	-9	-10	-14	-16	-14	1	-9	25
adjusted EBITA	-9	-10	-14	-16	-14	1	-9	25
chg.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
COF	-9	-10	-14	-16	-14	1	-9	25
Financial result	0	-2	0	-2	-1	0	0	0
Corp. tax	0	0	0	0	0	-2	0	-9
Minorities/affiliates	0	0	0	0	0	0	0	0
Net attributable profit	-9	-11	-14	-16	-17	-1	-9	16
Adjusted net att. profit	-9.0	-11.4	-14.0	-17.9	-17.1	-0.9	-9.1	15.7
chg.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Cash flow statement (€m)	2016	2017	2018	2019	2020	2021e	2022e	2023e
COFDA	-9	-10	-14	-16	-14	1	-9	25
Theoretical Tax / EBITA	0	0	0	0	0	-2	0	-9
Capex	0	0	0	0	-13	-13	-13	-13
Operating TCF bef. WCR	-9	-10	-14	-16	-27	-14	-21	3
Change in WCR	0	0	1	0	3	9	0	0
Operating TCF	-9	-10	-13	-16	-24	-5	-21	3
Acquisitions/disposals	0	0	0	0	0	0	0	0
Capital increase/decrease	0	22	0	0	23	12	0	0
Dividends paid	0	0	0	0	0	0	0	0
Other adjustments	0	-2	0	-2	-1	0	0	0
Published Cash-Flow	-9	10	-13	-16	-3	8	-21	3
Balance Sheet (€m)	2016	2017	2018	2019	2020	2021e	2022e	2023e
Assets	2.5	2.5	2.5	3.0	3.2	15.6	20.1	40.5
Intangible assets/GW	2.2	2.0	1.9	2.4	2.7	15.1	27.5	40.0
WCR	0.1	-0.1	-1.5	-1.4	7.1	-2.2	-2.2	-2.7
Group equity Capital	4.5	21.2	7.0	-7.5	5.0	10.1	10.0	25.7
Minority shareholders	0	0	0	0	0	0	0	0
Provisions	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Net financial debt	-2.0	-10.6	-6.2	9.9	3.2	-4.9	15.6	11.9
Financial ratios	2016	2017	2018	2019	2020	2021e	2022e	2023e
COFDA margin	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%	n.s.	53.5%
COF margin	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%	n.s.	53.5%
Adjusted Net Profit/Sales	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	40.7%
ROCE	n.s.	n.s.	n.s.	n.s.	n.s.	9.7%	n.s.	54.0%
ROCE adjusted	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	57.1%
Gearing	n.s.	n.s.	n.s.	n.s.	47.5%	n.s.	155.0%	46.4%
EV/COFDA (x)	n.s.	n.s.	n.s.	n.s.	n.s.	-0.1x	n.s.	0.5x

Source : documents communiqués estimations Invest Securities

INVESTMENT CASE

The Biophytis platform is derived from natural molecules to which the body is already naturally exposed through food (phytonutrients), and which therefore in principle offer a favorable pharmacological profile. The company targets age-related diseases, notably those involving degeneration of the muscle or retina. Its leading drug candidate aims to improve mobility in elderly sarcopenia patients. Sarconeos (BIO101) launched a Ph IIb study in 2017 on 300 patients, paving the way for a possible transfer of the drug, depending on the strategy the company adopts. Biophytis has since launched other programs to evaluate BIO101 for a variety of indications including Covid-19 and Duchenne Muscular Dystrophy, to determine its "myotonic" potential.

SWOT ANALYSIS

STRENGTHS

- Drug candidate that targets Covid-19
- Natural molecules with a favorable pharmacological profile
- One of the most advanced sarcopenia drugs in development

OPPORTUNITIES

- Potential partnerships
- Long-term catalysts: aging population with conditions associated with considerable medical needs
- Growing disease awareness in the public and in the industry

WEAKNESSES

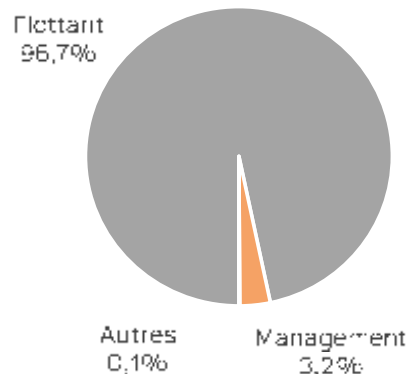
- Pipeline not very diversified
- Very dilutive financing mode
- Significant share price volatility

THREATS

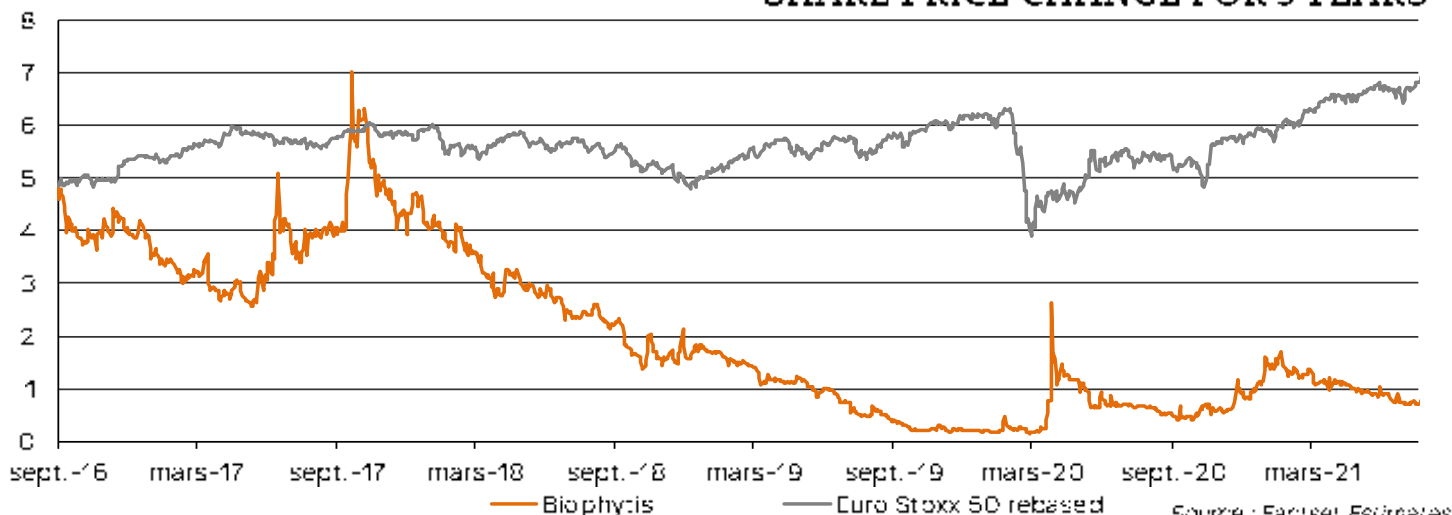
- Clinical failure of programs in development
- Quality issues at suppliers' production facilities
- Emergence of new competitors

ADDITIONAL INFORMATION

Shareholders



SHARE PRICE CHANGE FOR 5 YEARS



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TARGET PRICE AND RECOMMENDATION

Our analyst ratings are dependent on the expected absolute performance of the stock on a 6- to 12-month horizon. They are based on the company's risk profile and the target price set by the analyst, which takes into account exogenous factors related to the market environment that may vary considerably. The Invest Securities analysis office sets target prices based on a multi-criteria fundamental analysis, including, but not limited to, discounted cash flows, comparisons based on peer companies or transaction multiples, sum-of-the-parts value, restated net asset value, discounted dividends.

Ratings assigned by the Invest Securities analysis office are defined as follows:

- **BUY:** Upside potential of more than 10% (the minimum upside required may be revised upward depending on the company's risk profile)
- **NEUTRAL:** Between -10% downside and +10% upside potential (the maximum required may be revised upward depending on the company's risk profile)
- **SELL:** Downside potential of more than 10%
- **TENDER or DO NOT TENDER:** Recommendations used when a public offer has been made for the issuer (takeover bid, public exchange offer, squeeze-out, etc.)
- **SUBSCRIBE or DO NOT SUBSCRIBE:** Recommendations used when a company is raising capital
- **UNDER REVIEW:** Temporary recommendation used when an exceptional event that has a substantial impact on the company's results or our target price makes it impossible to assign a BUY, NEUTRAL or SELL rating to a stock

12-MONTH HISTORY OF OPINION

The table below reflects the history of price recommendation and target changes made by the financial analysis office of Invest Securities over the past 12 months.

Company Name	Main Author	Release Date	Rating	Target Price	Potential
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DETECTION OF CONFLICTS OF INTEREST

	Biophytis
Invest Securities was lead manager or co-lead manager in a public offer concerning the financial instruments of this issuer during the last twelve months.	No
Invest Securities has signed a liquidity contract with the issuer.	No
Invest Securities and the issuer have signed a research service agreement.	No
Invest Securities and the issuer have signed a Listing Sponsor agreement.	No
Invest Securities has been remunerated by this issuer in exchange for the provision of other investment services during the last twelve months (RTO, Execution on behalf of third parties, advice, placement, underwriting).	No
This document was sent to the issuer prior to its publication. This rereading did not lead the analyst to modify the valuation.	No
This document was sent to the issuer for review prior to its publication. This rereading led the analyst to modify the valuation.	No
The financial analyst has an interest in the capital of the issuer.	No
The financial analyst acquired equity securities of the issuer prior to the public offering transaction.	No
The financial analyst receives remuneration directly linked to the transaction or to an investment service provided by Invest Securities.	No
An executive officer of Invest Securities is in a conflict of interest with the issuer and was given access to this document prior to its completion.	No
Invest Securities or the All Invest group owns or controls 5% or more of the share capital issued by the issuer.	No
Invest Securities or the All Invest group holds, on a temporary basis, a net long position of more than 0.5% of the issuer's capital.	No
Invest Securities or the All Invest group holds, on a temporary basis, a net short position of more than 0.5% of the issuer's capital.	No
The issuer owns or controls 5% or more of the capital of Invest Securities or the All Invest group.	No

Invest Securities's conflict of interest management policy is available on the Invest Securities website in the Regulation section. A list of all recommendations released over 12 months as well as the quarterly publication of "BUY, SELL, NEUTRAL, OTHERS" over 12 months, are available on the Invest Securities research platform.

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