

BUY

TARGET PRICE : 7,3€ (vs 8,4€)  +105%

UPDATE

## MORE DATA ON VAFIDEMSTAT, IMPACT OF COVID-19 EPIDEMIC

At the beginning of April, the group presented positive results for REIMAGINE-AD regarding aggressive behavior. Moreover, Oryzon presented positive results for ETHERAL-EU on the safety side while we are waiting for the 12-month results to have an idea of the effectiveness on AD patients. Regarding the Covid-19 situation, the group launched a phase II study to assess vafidemstat in severe COVID-19 patients and expects minor impact of Covid-19 epidemic on its pipeline. After updating our model, we have adjusted our target price to €7.3 because of the increase in the market risk premium to 7.2% (vs. the previous 6.2%). BUY reiterated.

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We are providing an update this morning following recent announcements by the group. In connection with the AAT-AD/PD 2020 virtual conference at the beginning of April, the group presented results for two studies: REIMAGINE-AD and the ETHERAL-EU study (6-month data). On April 17, the group discussed the potential impact of the Covid-19 pandemic on its clinical calendar. Finally, on April 24, Oryzon Genomics announced the launch of a phase II clinical study of vafidemstat in the treatment of Covid-19.

### REIMAGINE AD – Confirmed effects on aggressive behavior in AD

At the beginning of April, the group presented the results of the phase IIa study (REIMAGINE-AD) evaluating the effects of vafidemstat on agitation and aggression of patients suffering from moderate to severe Alzheimer's disease (AD). The study included 12 patients over a period of 24 weeks with as primary endpoint the reduction of the aggressive behavior as measured by different parameters (CGI-I, CMAI and NPI-4-items). The protocol initially called for monitoring over 13 weeks. However, this period was extended in order to better characterize the effects of vafidemstat in terms of important secondary effectiveness criteria in Alzheimer's disease such as memory loss as measured by the MMSE score.

Along the lines of the other cohorts in the REIMAGINE program (ASD, ADHD and BPD), the results regarding agitation and aggressiveness in Alzheimer's disease are convincing and validate the drug's potential in the reduction of aggressive behavior, which is particularly disabling and problematic in neurodegenerative and neuropsychological diseases. We would first note the drug's solid tolerance profile, a highly important point in the treatment of chronic diseases. The results show that after six months, vafidemstat significantly reduced ( $p < 0.05$ ) all the parameters measuring aggressive behavior evaluated in the study. Additionally, we would note that the reduction in agitation and aggressiveness requires more time in this older population suffering from Alzheimer's than in the younger patients evaluated in the other cohorts (ASD, ADHD, BPD). As concerns memory loss, which was not the primary endpoint in terms of effectiveness but represents a fundamental symptom of Alzheimer's disease, out of the 11 patients whose MMSE score was evaluated after two months of treatment (four in a moderate stage, seven in a severe stage), seven showed improvement, three showed stable scores and one had a lower score. (...) 1/6

in € / share	2020e	2021e	2021e
Adjusted EPS	-0,09	-0,21	0,58
chg.	n.s.	n.s.	n.s.
estimates chg.	n.s.	n.s.	n.s.

au 31/12	2020e	2021e	2021e
PE	n.s.	n.s.	n.s.
EV/Sales	n.s.	n.s.	n.s.
EV/EBITDA	n.s.	n.s.	n.s.
EV/EBITA	n.s.	n.s.	n.s.
FCF yield*	n.s.	n.s.	n.s.
Div. yield (%)	n.s.	n.s.	n.s.

\* After tax op. FCF before WCR

key points	
Share price (€)	3,6
Number of Shares (m)	45,8
Market cap. (€m)	169
Free float (€m)	128
ISIN	ES0167733015
Ticker	ORY-ES
DJ Sector	Health Technology

	1m	3m	Ytd
Absolute perf.	+59,2%	+15,7%	+32,6%
Relative perf.	+48,1%	+46,8%	+69,3%

Source : Factset, Invest Securities estimates

However, this improvement was not maintained at four and six months. Nevertheless, the scores of two out of the four moderate patients showed steady improvement, leading the company to extend their period of treatment to 12 months.

**In conclusion, these results are positive overall regarding aggressive behavior and add further weight to the already convincing results from other cohorts. Bolstered by these results, the group plans to launch a phase IIb study (PORTICO) in the treatment of aggressive behavior in patients suffering from BPD (borderline personality disorder). This study is slated to include 100 patients over 16 weeks. Similarly, the company plans to design a phase IIb study (GATEWAY) involving patients suffering from Alzheimer's disease over the near future.**

#### ETHERAL-EU – treatment safe, effectiveness data still immature

At the AAT-AD/PD 2020 virtual conference, Oryzon Genomics announced the 6-month results from the ETHERAL-EU study. This study is evaluating the tolerance and effectiveness of two doses of vafidemstat (0.6mg/1.2mg) in patients suffering from mild to moderate Alzheimer's disease over 48 weeks. The protocol calls for the evaluation of vafidemstat vs. placebo over 24 weeks following by a 24-week extension during which the patients in the placebo arm are randomized in the vafidemstat arm. The primary endpoint is the tolerability of the treatment. The secondary endpoints include effectiveness measures (notably the Adas-cog-14 score) and the impact on specific Alzheimer's disease biomarkers.

Out of the 117 patients recruited, 96 completed the six months of treatment. Drop-outs were divided equally between the placebo and vafidemstat arms. As such, one cannot conclude any lack of effectiveness or tolerance problem. Additionally, seven patients suffered from severe side effects, including four in the placebo group, two with the low dose of vafidemstat (0.6mg) and one with the high dose of vafidemstat (1.2mg). Consequently, the side effects were not linked to vafidemstat. These results validate vafidemstat's solid tolerance profile. Concerning the effectiveness in terms of cognition as measured by the Adas-Cog14 score (benchmark score in Alzheimer's disease), the results vs. placebo were not statistically significant after six months of treatment. At the same time, the group presented interesting results concerning several biomarkers seen in the disease (YKL40, neurogranin and NFL), particularly in moderate patients, thereby allowing continued confidence regarding the effectiveness of vafidemstat over the longer term. Similarly, these results concerning the biomarkers will potentially enable the group to better define the target population in the next clinical studies to be conducted with a larger number of patients.

**In conclusion, the results of the ETHERAL-EU study are positive in terms of the safety of vafidemstat, the primary endpoint in terms of its effectiveness. We are waiting for the 12-month results to have an idea of the effectiveness of vafidemstat based on more mature data. The preliminary 12-month results are expected to be announced in Q2 21. As a reminder, the study has not been designed to evaluate the effectiveness of vafidemstat in terms of the reduction of the Adas-Cog14 score. A parallel study in the United States (ETHERAL-US) is underway and will provide new data that will be more mature than that presented at the AAT-AD/PD 2020 conference. At this point, we are not modifying our valuation of vafidemstat in Alzheimer's disease.**

#### COVID-19 – minor impact on the pipeline and launch of a COVID clinical study

Regarding the impact of the COVID-19 pandemic on operations, the group has indicated that no recruitment has been delayed or cancelled. Nevertheless, the monitoring of clinical studies underway has been adapted in light of recommendations from the regulatory authorities. (...)

Given the advanced age of patients included in the ALICE (acute myeloid leukemia or AML), REIMAGINE-AD and ETHERAL-EU and US (Alzheimer's) studies, the group has reduced the number of hospital visits and is remotely monitoring the study participants as much as possible. Consequently, certain data could be incomplete. Finally, as concerns the CLEPSIDRA study (small cell lung cancer or SCLC), recruitment has been completed. Concerning the clinical calendar, the group has postponed the launch of the PORTICO phase IIb study for several months. However, it will announce the definitive calendar for this study soon. Additionally, the group has sufficient amounts of clinical batches to successfully complete all its clinical studies underway. **While waiting for better visibility, we are not modifying our forecast for the commercial launches of vafidemstat in Alzheimer's disease (2025) and AML (2024) as well as iademstat in SCLC (2024).**

In parallel, the group announced on April 24 that it had received approval from the Spanish regulatory authority (Agencia Espanola de Medicamentos y Productos Sanitarios) for the start of a phase II clinical study evaluating vafidemstat in patients suffering from severe cases of Covid-19. This study (ESCAPE) is an open, randomized study that will evaluate the effectiveness and tolerance of vafidemstat in combination with the standard treatment vs. the standard treatment alone in the prevention of the progression of acute respiratory distress syndrome (ARDS) in seriously ill patients. The study should include 40 patients (20 patients in each arm). The scientific rationale underlying the study is based on preclinical results that have shown that vafidemstat rapidly and substantially reduced the IL-6 and IL-1B cytokines as well as other inflammatory cytokines such as TNF-a and IFN-g. As a reminder, ARDS is the consequence of the immune system storm triggered by the IL-6 and IL-1B cytokines that leads to multiple organ failure. SANOFI and ROCHE are currently evaluating their respective IL-6 inhibitors (KEVZARA and ACTEMRA, already approved in rheumatoid arthritis) in the treatment of ARDS in patients suffering from Covid-19. SANOFI recently disclosed a lack of effectiveness in severe cases but potential effectiveness at high doses in critical cases, for whom the study has been continued. Additionally, the ETHERAL study in Alzheimer's disease demonstrated the safety of vafidemstat in the treatment of long-term illnesses in elderly patients. **At this point, we are not integrating any potential sales in the treatment of Covid-19.**

#### Target price updated to €7.3 (vs. €8.4), BUY recommendation maintained

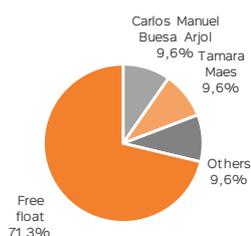
We are updating our financial estimates this morning to reflect the 2019 figures and adjustments in our 2020 estimates following the announcement of the impact of Covid-19 on operations. We estimate that the €35m cash position at yearend 2019 offers financial visibility through yearend 2021. After the update of our model, we have adjusted our target price to €7.3 (vs. €8.4). The downward revision in our target price is linked to the increase in the risk premium to 7.2% (vs. the previous 6.2%), leading us to raise our WACC to 15.1% (vs 13.6%). With upside potential of +105% and an increasingly mature comprehensive pipeline, we are maintaining our BUY recommendation.

## INVESTMENT CASE

ORYZON is a Spanish biotech specializing in the treatment of neurodegenerative diseases and cancer. In all its development programs, the company identifies biomarkers through its genetic and proteomic platforms in order to develop small molecule drugs. Looking ahead of multiple clinical updates, we believe that Oryzon's lead programs could significantly advance in 2020/2021.

## FINANCIAL DATA

### Shareholders



Share information	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
Published EPS (€)	-0,15	-0,03	-0,09	-0,09	-0,21	0,58	0,49	0,81
<b>Adjusted EPS (€)</b>	<b>-0,15</b>	<b>-0,03</b>	<b>-0,09</b>	<b>-0,09</b>	<b>-0,21</b>	<b>0,58</b>	<b>0,49</b>	<b>0,81</b>
Diff. I.S. vs Consensus	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Dividend	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Valuation ratios	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
P/E	n.s.	n.s.	n.s.	n.s.	n.s.	6,1x	7,2x	4,4x
EV/Sales	n.s.	n.s.	n.s.	n.s.	n.s.	2,98x	5,16x	1,14x
VE/EBITDA	n.s.	n.s.	n.s.	n.s.	n.s.	4,2x	6,0x	2,6x
VE/EBITA	n.s.	n.s.	n.s.	n.s.	n.s.	4,2x	6,0x	2,6x
Op. FCF bef. WCR yield	n.s.	n.s.	n.s.	n.s.	n.s.	10,9%	9,1%	24,3%
Op. FCF yield	n.s.	n.s.	n.s.	n.s.	n.s.	10,9%	9,1%	24,3%
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

Enterprise Value (€m)	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
Share price in €	4,6	3,6	3,2	3,6	3,6	3,6	3,6	3,6
Market cap.	156	122	148	161	161	161	161	161
Net Debt	-17	-23	-27	-13	5	-12	-24	-51
Minorities	0	0	0	0	0	0	0	0
Provisions/ near-debt	0	0	0	0	0	0	0	0
+/- Adjustments	0	0	0	0	0	0	0	0
<b>Enterprise Value (EV)</b>	<b>139</b>	<b>99</b>	<b>122</b>	<b>147</b>	<b>165</b>	<b>149</b>	<b>137</b>	<b>110</b>

Income statement (€m)	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
Sales	0,0	0,0	0,0	0,0	0,0	50,0	26,5	96,3
chg.	n.s.	n.s.						
EBITDA	-4	-3	-4	-4	-9	35	23	42
<b>EBITA</b>	<b>-4</b>	<b>-3</b>	<b>-4</b>	<b>-4</b>	<b>-9</b>	<b>35</b>	<b>23</b>	<b>42</b>
chg.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	<b>-35,5%</b>	<b>+84,6%</b>
EBIT	-4,7	-3,3	-3,8	-4,0	-9,0	34,9	22,3	41,5
Financial result	-1	-1	-1	-1	-1	-1	-1	-1
Corp. tax	0	3	1	1	1	-9	0	-5
Minorities+affiliates	0	0	0	0	0	0	0	0
Net attributable profit	-5,2	-1,2	-3,8	-3,9	-9,0	25,4	21,5	35,6
<b>Adjusted net att. profit</b>	<b>-5,2</b>	<b>-1,2</b>	<b>-3,8</b>	<b>-3,9</b>	<b>-9,0</b>	<b>25,4</b>	<b>21,5</b>	<b>35,6</b>
chg.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	<b>-15,4%</b>	<b>+65,8%</b>

Cash flow statement (€m)	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
EBITDA	-3,9	-3,1	-3,7	-3,7	-8,7	35,3	22,7	42,0
Theoretical Tax / EBITA	0,1	2,5	0,9	0,9	0,9	-8,7	0,0	-5,1
Capex	0,6	-7,0	-9,6	-10,3	-10,3	-10,3	-10,3	-10,3
<b>Operating FCF bef. WCR</b>	<b>-3,2</b>	<b>-7,6</b>	<b>-12,4</b>	<b>-13,1</b>	<b>-18,1</b>	<b>16,3</b>	<b>12,5</b>	<b>26,7</b>
Change in WCR	-0,2	0,3	0,3	0,0	0,0	0,0	0,0	0,0
<b>Operating FCF</b>	<b>-3,4</b>	<b>-7,3</b>	<b>-12,1</b>	<b>-13,1</b>	<b>-18,1</b>	<b>16,3</b>	<b>12,5</b>	<b>26,7</b>
Acquisitions/disposals	5,1	0,1	0,5	0,0	0,0	0,0	0,0	0,0
Capital increase/decrease	16,9	11,9	18,4	0,0	0,0	0,0	0,0	0,0
Dividends paid	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other adjustments	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
<b>Published FreeCash Flow</b>	<b>18,5</b>	<b>4,7</b>	<b>6,7</b>	<b>-13,1</b>	<b>-18,1</b>	<b>16,3</b>	<b>12,5</b>	<b>26,7</b>

Balance Sheet (€m)	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
Assets	25	32	42	52	62	72	82	91
Intangible assets/GW	22	29	40	50	60	70	79	89
WCR	-8	-9	-8	-8	-8	-8	-8	-8
Group equity capital	34	45	61	57	48	74	95	131
Minority shareholders	0	0	0	0	0	0	0	0
Provisions	0	0	0	0	0	0	0	0
<b>Net financial debt</b>	<b>-17,2</b>	<b>-22,6</b>	<b>-26,7</b>	<b>-13,4</b>	<b>4,7</b>	<b>-11,6</b>	<b>-24,1</b>	<b>-50,7</b>

Financial ratios	2017	2018	2019	2020e	2021e	2022e	2023e	2024e
EBITDA margin	n.s.	n.s.	n.s.	n.s.	n.s.	70,6%	85,9%	43,6%
EBITA margin	n.s.	n.s.	n.s.	n.s.	n.s.	70,6%	85,9%	43,6%
Adjusted Net Profit/Sales	n.s.	n.s.	n.s.	n.s.	n.s.	50,7%	81,1%	37,0%
ROCE	n.s.	n.s.	n.s.	n.s.	n.s.	55,1%	30,8%	50,3%
ROE adjusted	n.s.	n.s.	n.s.	n.s.	n.s.	34,5%	22,6%	27,2%
Gearing	n.s.	n.s.	n.s.	n.s.	9,7%	n.s.	n.s.	n.s.
ND/EBITDA (in x)	n.s.	n.s.	n.s.	n.s.	n.s.	-0,3x	-1,1x	-1,2x

Source : company, Invest Securities Estimates

## SWOT ANALYSIS

### STRENGTHS

- Epigenetic platform
- Numerous clinical development programs
- Solid cash position

### WEAKNESS

- No partnership
- Numerous failures in lead indication (AD)
- Tight competition in oncology indications

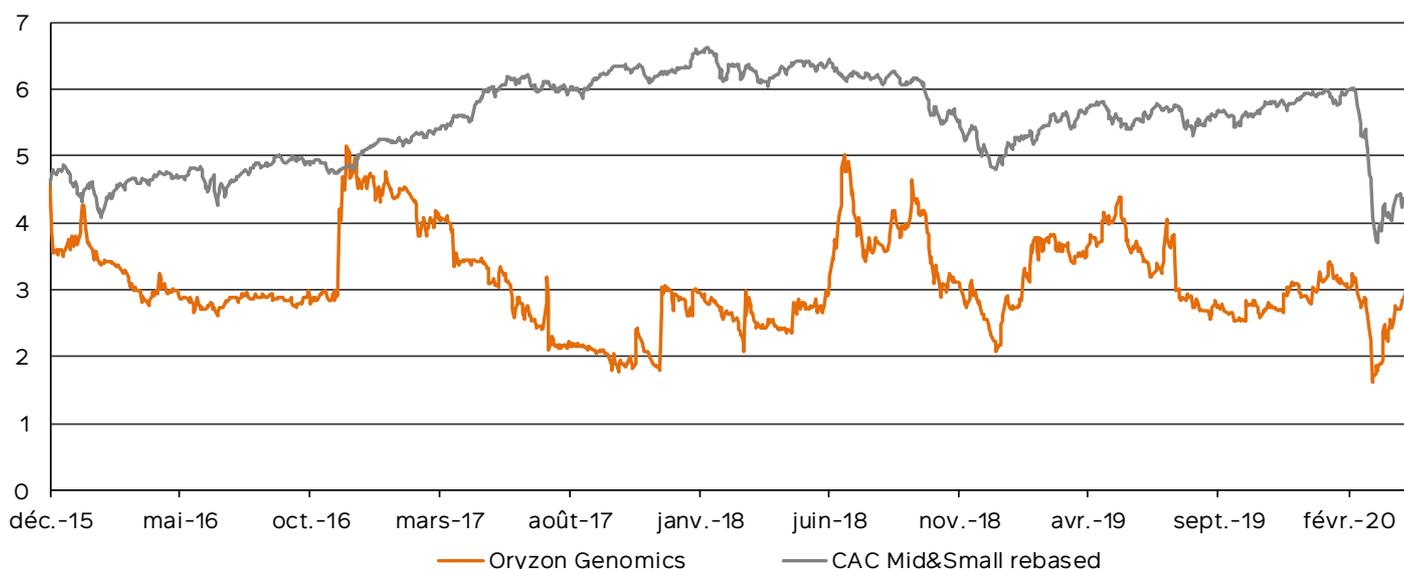
### OPPORTUNITIES

- Potential partnership agreement
- Expansion indications for clinical programs

### THREATS

- Clinical and regulatory risks
- Commercial risks
- Legal risks

## SHARE PRICE CHANGE FOR 5 YEARS



## DETECTION OF CONFLICTS OF INTEREST

	Corporate Finance	Treasury stocks holding	Prior communication to company	Analyst's personal interest	Liquidity contract	Listing Sponsor	Research Contract
<b>Oryzon Genomics</b>	No	No	No	No	No	No	Yes

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