Quantum Genomics

Outperform ➔ | Target price : 12.0 €
Price (24/05/2021) : 3.73 €| Upside : 222%

Revision	2021e	2022e
EPS	ns	ns

Clinically rich Q3/Q4!

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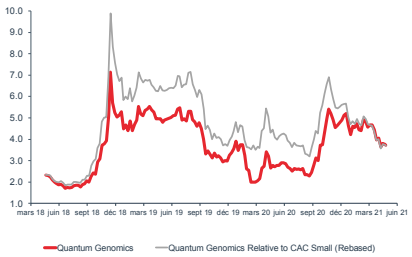

Sources : ODDO BHF Securities, SIX

Capital			
ALGGC FP | ALQGC.PA			
Market Cap (€m)			100
Enterprise value (€m)			45
Extrema 12 months (€)		2.20	5.54
Free Float (%)			ns

Performance (%)	1m	3m	12m
Absolute	-5.9	-15.9	34.2
Perf. rel. Country Index	-7.2	-22.0	2.6
Perf. rel. CAC Small	-6.9	-21.1	-16.9

P&L	12/21e	12/22e	12/23e
Sales (€m)	0.0	1.9	4.6
EBITDA (€m)	-16.7	-14.8	-8.7
Current EBIT (€m)	-16.7	-14.8	-8.7
Attr. net profit (€m)	-17	-4	-4
Adjusted EPS (€)	-0.61	-0.13	-0.14
Dividend (€)	0.00	0.00	0.00
P/E (x)	ns	ns	ns
P/B (x)	1.8	1.8	1.8
Dividend Yield (%)	0.0	0.0	0.0
FCF yield (%)	ns	ns	ns
EV/Sales (x)	ns	23.09	8.70
EV/EBITDA (x)	ns	ns	ns
EV/Current EBIT (x)	ns	ns	ns
Gearing (%)	-16	8	17
Net Debt/EBITDA (x)	0.5	ns	ns

We are initiating coverage of Quantum Genomics (QG) with an Outperform recommendation and a target price of € 12, which represents upside of € 220%. The company is developing a first-in-class drug candidate called firibastat. The molecule is currently in phase 3 in high blood pressure (HBP) and phase II in heart failure (HF). Based on the Phase 2b results, we believe firibastat offers an attractive risk/reward profile and could become a last-line treatment against refractory hypertension.

Phase 2b results paving the way for ambitions in HBP

Based on positive Phase 2b results, QG is currently conducting two Phase 3 trials. In brief, Phase 2b showed a statistically significant reduction in systolic blood pressure of around 9.5mmHg from a baseline of 153.9mmHg to 144.3mmHg. Diastolic blood pressure also decreased significantly by 4.3mmHg from a baseline of 91.5mmHg to 87.2mmHg. This efficacy was similar for the entire treated population with no difference between ethnic groups or types of comorbidity. Two phase 3 trials are currently under way: FRESH with results expected at end-2021 and REFRESH in mid-2023. With an excellent safety profile, we believe the risk/reward of phase 3 in this indication is clearly positive, making it possible to expect firibastat to hit the market in 2024, with peak sales estimated at € 1bn in 2032.

Results in heart failure expected to be out in Q3 2021

Results from the Phase 2b QUORUM trial are scheduled to be presented at the European Society of Cardiology (ESC) congress from 27 to 30 August. The stakes are not high for QG, but if these results turn out to be positive, they would completely change the status of the company and the spectre of M&A would be most credible. The close link between long-term high hypertension and heart failure justifies the development in this indication. The new mechanism of action, named brain amino-peptidase A inhibitor (BAPAI), makes it possible to foresee synergies with the existing standards of care without accentuating the hypotension effect: firibastat has only an antihypertensive action. We are applying a 35% PoS on this development with potential peak sales estimated at € 1.2bn, despite Entresto's market share gains. As a phase 3 would be too expensive for the group, we believe if the results are positive a partnership will be necessary to carry out phase 3 trials.

The first regional partnerships signed

The company was active at end-2020 under its partnerships. To date, it has signed five regional partnerships, mostly in resistant and difficult-to-treat arterial hypertension. This momentum was naturally put on hold pending the results of the phase 2 QUORUM trial in heart failure. If these results turn out to be positive, we see a comprehensive agreement covering both indications with an industry player in the European and US market.

A target price of € 12, representing upside of 220%, Outperform rating

The clinical catalyst is known and should come about in the coming weeks. At end-2020, the company had € 27m in cash, providing financial visibility out to mid 2022. This does not include the costs of development in heart failure, which must necessarily be done under a partnership. We are initiating coverage of the stock with an Outperform rating and a target price of € 12.

Martial Descoutures (Analyst)
+33 (0)1 55 35 42 48
martial.descoutures@oddo-bhf.com

Shirihane Kouadri (Analyst)
+33 (0)1 44 51 83 53
shirihane.kouadri@oddo-bhf.com

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FIRIBASTAT AS A FIRST-IN-CLASS DRUG

Quantum Genomics is currently developing a drug called firibastat in phase 3 in high blood pressure and phase 2b in heart failure. The mechanism of action of this drug is called BAPAI, which stands for Brain Amino-Peptidase A Inhibitor, and represents a first-in-class molecule.

A new therapeutic target

What is the BAPAI mechanism?

The technology called BAPAI is a new pharmacological pathway targeting an enzyme in the brain: aminopeptidase A. Its inhibition helps control the renin/angiotensin regulatory system of cardiovascular functions in the brain.

Angiotensin has an initial tonic stimulatory effect on blood pressure control in the brain via three mechanisms:

- When converted to angiotensin 3, Angiotensin 2 increases the level of vasopressin in the blood, which has an antidiuretic effect.
- Angiotensin 3 stimulates the activity of sympathetic neurons, inducing vasoconstriction of the vessels.
- It induces an inhibition of the baroreflex. When BP increases, the baroreceptors, then stimulated, send a nerve impulse inducing vasodilation, reducing BP.

Angiotensin metabolism

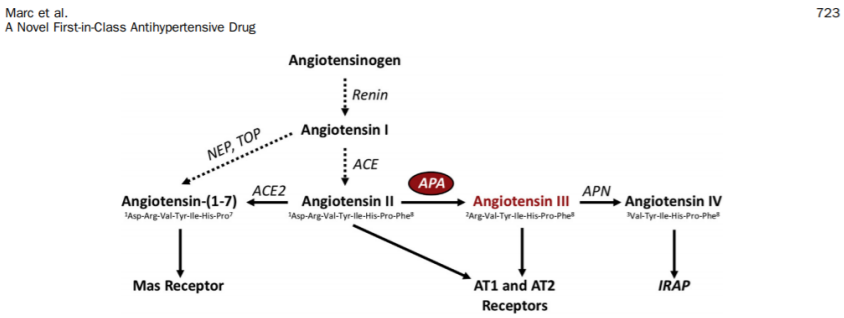

Figure 1. Schematic diagram of the brain renin-angiotensin system. ACE, angiotensin I–converting enzyme; ACE2, angiotensin-converting enzyme type 2; APA, aminopeptidase A; APN, aminopeptidase N; AT1 Receptor, angiotensin type 1 receptor; AT2 Receptor, angiotensin type 2 receptor; IRAP, insulin-regulated aminopeptidase; NEP, neutral endopeptidase; TOP, thimet oligopeptidase.

Chart 1 - Source: Quantum Genomics

The objective is to regulate this system, which is either at the peripheral level (a large majority of antihypertensive drugs target this pathway), or at the central level, i.e. in the brain (Quantum Genomics approach). Angiotensin 2 is the main peptide regulating blood pressure at the peripheral level (in the kidneys) while angiotensin 3 is responsible for blood pressure in the brain.

Concretely, acting as an aminopeptidase A inhibitor, firibastat prevents conversion of angiotensin 2 into angiotensin 3 in the brain. This induces a decrease in the activity of the sympathetic system and the release of vasopressin, reducing blood pressure.

A highly innovative mechanism

This approach comes from the work carried out at INSERM and the Collège de France by Dr Catherine Llorens Cortes (Galien France 2014 award) and her team, who demonstrated, in an animal model, the role of the renin-angiotensin system in the control of arterial pressure in the brain.

Several scientific publications detailed the role of angiotensin 3. Angiotensin 2 and angiotensin 3 have similar affinities for the two angiotensin receptors, AT1Rs and AT2Rs. Stimulation of AT1 receptors leads to vasoconstriction while AT2, which is less present, is thought to play a role in vasodilation.

The complexity lies in the ability of the drug candidate to cross the blood-brain barrier without being degraded. Quantum Genomics succeeded in overcoming this obstacle by means of a prodrug composed of two EC33 molecules. Used alone, this molecule does not cross the blood-brain barrier. Thanks to a disulphide bridge between two EC33 molecules, firibastat crosses the blood-brain barrier and is then cleaved by a brain enzyme. Inactive with the disulphide bridge, the drug then becomes active in the brain, blocking aminopeptidase A (see diagram below).

Mechanism of action of Firibastat

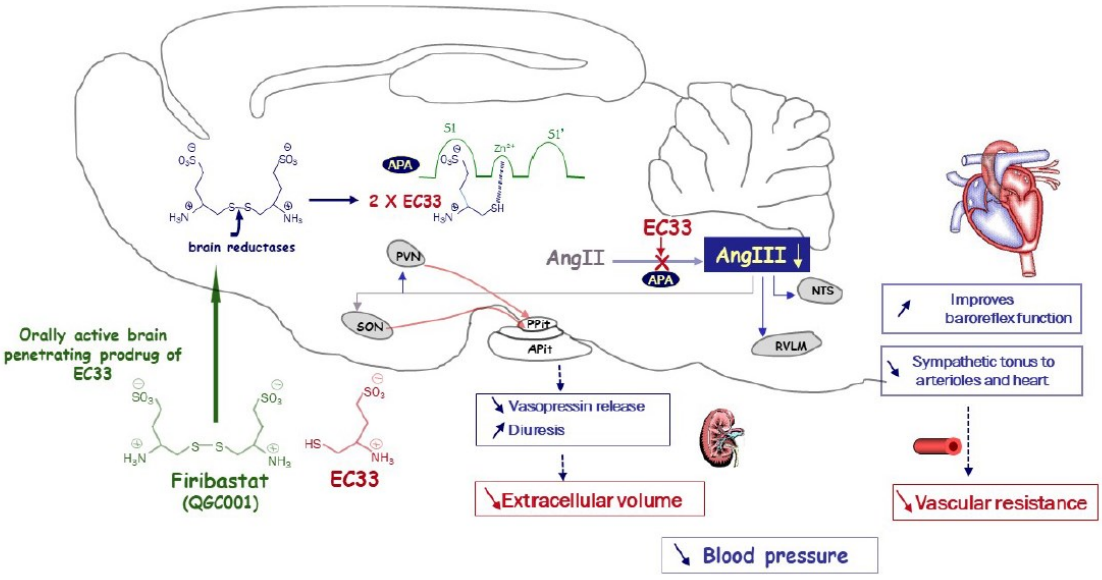

Chart 2 - Source: Quantum Genomics

High blood pressure and heart failure are mature markets, but this real therapeutic innovation suggests a drug can be developed to supplement the peripheral route. Patients who are resistant to conventional treatments can be targeted.

Firibastat is currently protected by several families of patents partly licensed by Quantum from Inserm, CNRS and René Descartes University in Paris. Quantum Genomics is also the sole owner of several patent families. The firibastat production process is protected until 2031 with the possibility of extending certain patents for up to five years.

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Preclinical evidence confirmed development in cardiovascular disease

Before entering human development, the company successfully demonstrated the ability of its drug candidate to have a direct role in controlling blood pressure and heart function in rodents.
Firstly, we would note that oral administration of the prodrug showed a decrease in mean blood pressure in hypertensive rats (DOCA-salt rats) without significantly affecting heart rate (HR). Furthermore, and equally important, the same administration had no effect on normotensive rats (WKY and Sham). These first two aspects demonstrate i/ the crossing of the blood-brain barrier, ii/ a central control of blood pressure and iii/ certainly a high safety of use.

Preclinical results in hypertensive and normotensive rats

	MBP, mm Hg			HR, bpm		
Animals	Basal	After Infusion	Variation	Basal	After Infusion	Variation
WKY RB150 PO	105.2±4.1	100.7±4.2†	−4.5±1.1	371.0±15.5	371.2±18.5†	0.2±12.3
Sham RB150 PO	106.9±2.0	100.1±2.6†	−6.8±2.6	330.5±10.0	345.0±18.5†	14.5±22.8
DOCA-salt RB150 PO	158.6±10.3*	129.6±8.2‡	−29.0±4.3	360.3±18.7	331.6±14.1†	−28.7±13.4
DOCA-salt Saline PO	149.3±3.3*	143.9±3.4†	−5.4±4.0	323.2±12.9	334.1±11.2†	10.9±9.7
DOCA-salt EC33 IV	137.0±11.4	131.0±8.3†	−6.0±5.6	346.0±16.1	341.0±13.8†	−4.0±0.4

*P<0.05 vs WKY and sham rats.
†P<0.05 ns vs basal values.
‡P<0.05 vs basal values.

RB150 = QGC001

Table 3 - Sources: Bodineau et al, Hypertension, 2008

In preclinical studies, combination trials were also carried out with enalapril and valsartan. In both cases, a reduction in blood pressure was observed with superior effect vs the drugs alone.

Firibastat is indeed well tolerated, with rapid absorption (Tmax of 1.5 hours).

Greater action vs enalapril

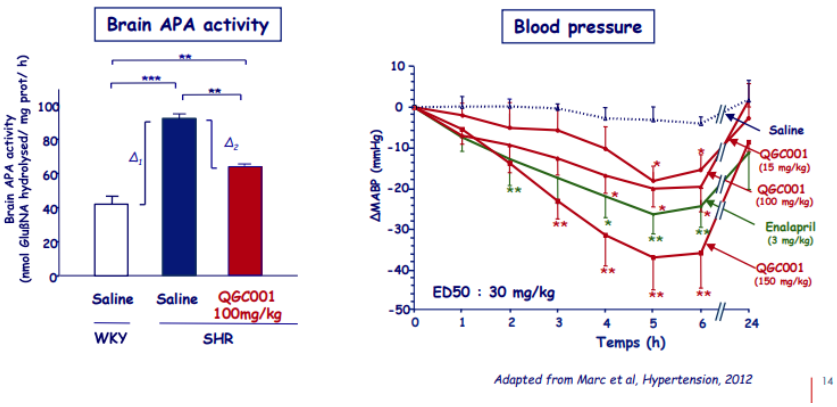

Chart 4 - Sources: Marc et al, Hypertension 2012

RESISTANT HIGH BLOOD PRESSURE AS FIRST TARGET

Following the preclinical results, the first indication developed by the group is naturally high blood pressure. This mature market is currently generic and, as would be expected, few innovations have emerged in recent years. Quantum is targeting forms that are resistant or poorly controlled by current treatments, i.e. around 30% of the hypertensive population.

Niche segment in a mass market: unmet need

Hypertension is the leading cause of cardiovascular disease risk. Despite a wide range of pharmaceutical treatments, some patients remain in therapeutic failure.

According to the World Health Organisation (WHO), hypertension is responsible for 18% of deaths in developed countries and is the cause of almost 50% of cardiovascular pathologies according to the French health authority (HAS).

Uncontrolled high blood pressure can lead to stroke, heart attack, heart failure and kidney failure.

Easily diagnosed, the cause remains multifactorial. Current management is based mainly on anti-hypertensive drugs coupled with hygienic and dietary measures.

HBP and refractory HBP

High blood pressure is defined as blood pressure of 140mmHg (systolic) and 90mmHg (diastolic) persisting over time. According to the CDC, 75m American adults have this disease and 10.5m are in stage 1 (BP: 130/80mmHg). The increase in prescriptions is mainly due to demographic changes and the emphasis placed by health authorities on heart disease prevention (volume), innovation and price (value).

The guidelines advocate a step-by-step treatment and fully integrate the associated risks. In the majority of cases, two classes of drugs are co-prescribed for initial control.

There are five major therapeutic classes:

- Diuretics (thiazides);
- Beta-blockers (AstraZeneca's Toprol, GSK's Coreg...);
- Calcium channel blockers (Norvasc by Pfizer, etc.);
- Conversion enzyme inhibitors (Capoten and Monopril from BMS, Vasotec from Merck, etc.);
- And angiotensin 2 antagonists (AZN's Atacand, Sanofi's Aprovel Novartis' Diovan, Merck's Cozaar, etc.).

Therapeutic management of hypertension

Treating hypertension with selected comorbidities drug class.

Comorbidity	Favor	Avoid	Comment
Atrial fibrillation (AF)	ARB		ARBs may reduce AF recurrence
Aortic disease	Beta blockers		Patients with thoracic aorta disease
Chronic kidney disease (CKD)	ACEI or ARB		ARB if ACEI not tolerated
Diabetes	ACEI or ARB if albuminuria present		Consider usual first line drugs if no albuminuria
Heart failure (preserved EF)	Diuretics for volume overload		Add ACEI or ARB and beta blocker for incremental BP control; also consider angiotensin receptor – neprilysin inhibitor and mineralocorticoid receptor antagonists
Heart failure (reduced EF)	GDMT beta blockers	Non-DHP calcium antagonists	
Peripheral arterial disease			Consider usual first line drugs
Post-kidney transplant	Calcium antagonist	Use ACEI with caution	Calcium antagonist can improve kidney graft survival and GFR; 1st month post-transplant BP target (<160/90) to avoid hypotension – induced graft thrombosis
Secondary stroke prevention	Thiazide, ACEI, ARB or thiazide + ACEI combination		If previously treated, restart drugs a few days post-event; if not previously treated, start drug treatment a few days post-event if BP ≥140/90.
Stable ischemic heart disease	GDMT beta blockers ACEI or ARB		
• Angina	GDMT beta blockers		Add DHP calcium antagonists for additional BP control
• Post-MI or ACS	GDMT beta blockers		
Valvular heart disease			
• Aortic stenosis (asymptomatic)			Initiate treatment with low medication doses and up-titrate slowly
• Aortic insufficiency	Avoid beta blockers, non-DHP calcium antagonists		Avoid drugs that slow heart rate

Abbreviations: AF, atrial fibrillation; ACS, acute coronary syndrome; ACEI, angiotensin converting enzyme inhibitors; BP, blood pressure; DHP, dihydropyridine; EF, ejection fraction; GDMT, beta blockers guideline directed medical therapy (carvedilol, metoprolol succinate, bisoprolol); MI, myocardial infarction.

Chart 5 - Sources: J.M. Flack and B. Adekola / Trends in Cardiovascular Medicine 30 (2020) 160–164

In the early 2000s, the ALLHAT study failed to demonstrate a strong difference between the different classes in reducing cardiovascular risk.

Resistant hypertension is defined as hypertension greater than 140/90mmHg in a patient treated with at least three antihypertensive drugs including a diuretic drug, at optimal (or maximally tolerated) doses. The prevalence of resistant hypertension differs significantly from study to study as shown in the table below.

This niche indication in a mass market represents a considerable proportion of untreated patients. There is therefore a real unmet medical need and a need for alternative treatments for these patients.

Prevalence of resistant hypertension

Population Based	Time Period	n	Uncontrolled With ≥3 BP Medications, %	Controlled With ≥4 BP Medications, %	aTRH, %
NHANES[13]	1988–1994	2755	8.3	1.1	9.4
NHANES[13]	1999–2004	3031	8.8	2.9	11.7
NHANES[14]	2003–2008	3710	...	...	12.8
NHANES[13]	2005–2008	2586	9.7	4.8	14.5
REGARDS[15]	2003–2007	14 731	9.1	5.0	14.1
REGARDS[16] (CKD)*	2003–2007	3134	...	...	28.1
Clinic based					
EURIKA[17] (diabetes mellitus)	2009–2010	5220	13.0†	3.1	16.1
Spanish ABPM[18]	2004–2009	68 045	12.2	2.6	14.8
CRIC (CKD)[19]‡	2003–2008	3939	21.2	19.2	40.4
South Carolina[20]§	2007–2010	468 877	9.5	8.4	17.9
Clinical trials					
ALLHAT[21]	1994–2002‖	14 684	11.5	1.2	12.7
ASCOT[22]	1998–2005	19 527	48.5	...	...
ACCOMPLISH[25]	2003–2006¶	10 704	39	...	...
INVEST[26]	1997–2003#	17 190	25.1	12.6	37.8

Chart 6 - Source: R.M. Carey, D.A. Calhoun, G.L. Bakris, R.D. Brook, S.L. Daugherty, C.R. Dennison-Himmelfarb, et al. Resistant Hypertension: detection, evaluation, and management: a scientific statement from the American Heart Association

Developed by Quantum Genomics, Firibastat is set to be a last-line treatment for patients with a three-drug resistant form. The central route is complementary to the peripheral routes.

The market that the company can address is currently not very competitive with a lack of innovation and therapeutic solutions.

Who are the market leaders?

As noted above, the market is dominated by generic versions and innovation has driven little growth. Sales from the top 10 drugs totalled $ 14bn in 2020 but are set to be down by around 4% over the next six years. Some 73 companies have brought 126 molecules to market. Global market growth today is fuelled primarily by demographic changes and prevention campaigns, which led to an increase in volumes, mainly benefiting the generic market.

Hypertension market trends

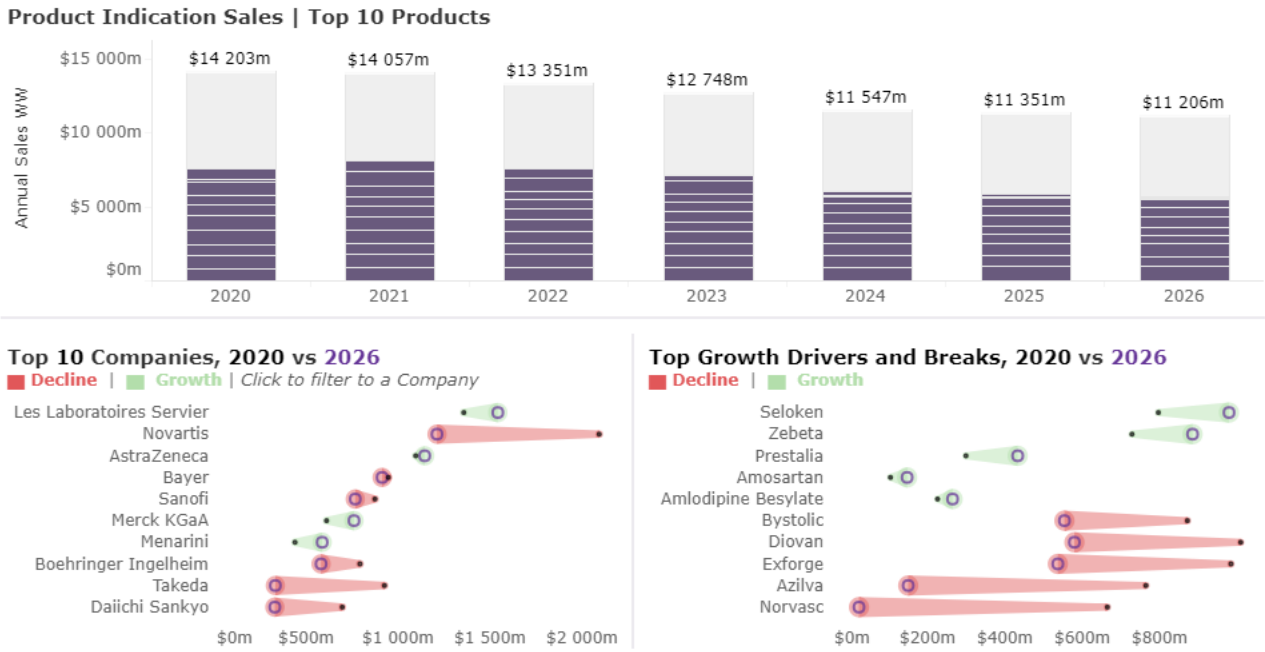

Chart 7 - Source: Evaluate Pharma

Few innovations are in development. However, aprocitentan, an endothelin A and B receptor antagonist, developed by Idorsia and JnJ, showed significant blood pressure reduction in phase 2 monotherapy. Phase 3 also targets resistant blood pressure (see below).

Positive phase 2 results for firabastat

A phase 2a trial showed a reduction in blood pressure vs placebo and a good safety profile. The trial size was small (n=34) and included a heterogeneous population, i.e. ranging from onset of 135/85mmHg to 170/105mmHg. Half of the patients received firabastat for four weeks followed by placebo while the other arm did the reverse. After four weeks, systolic blood pressure decreased by 4.7mmHg on firabastat while it increased on placebo +0.1mmHg. Despite this evidence of efficacy, the trial size did not open the door for a statistically significant difference.

Looking at this first trial, we would note a proof of efficacy for the severe forms of the pathology (reduction reaching 9.4mmHg for severe hypertension). Firabastat has the particularity of having little action on mild forms and normotensive patients, which gives it the advantage of not being a hypotensor.

Following these promising results, the phase 2b trial, dubbed NEW-HOPE, was launched in the US on 250 hypertensive patients. The patients enrolled were at high cardiovascular risk with the presence of comorbidities (overweight, diabetes, etc.). In addition, 50% of the patients enrolled for this trial belonged to the Hispanic and African-American ethnic minorities who may be at increased risk of resistance.

Design of the NEW-HOPE phase 2b trial

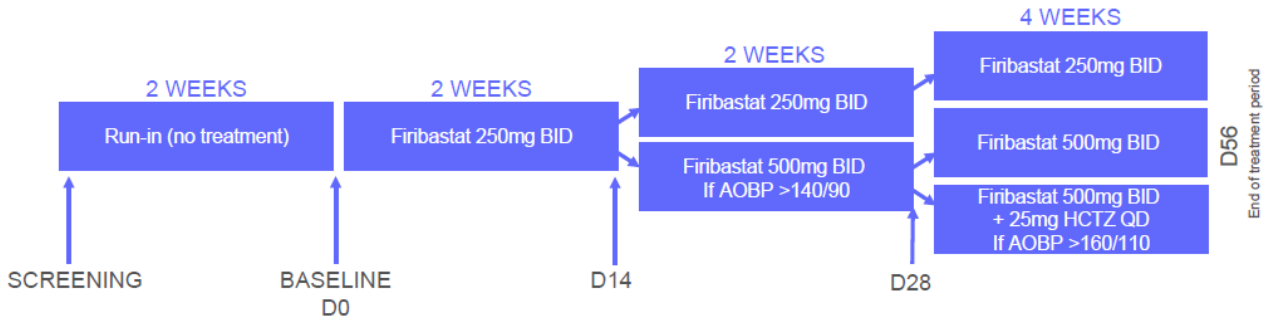

Chart 8 - Source: QUANTUM GENOMICS

At eight weeks after the start of treatment, there was a statistically significant decrease of 9.5mmHg from a baseline systolic blood pressure of 153.9mmHg to 144.3mmHg (this decrease was more pronounced in the Afro-American population). Diastolic blood pressure also decreased significantly by 4.3mmHg from a baseline of 91.5mmHg to 87.2mmHg. This efficacy was similar for the entire treated population with no difference between ethnic groups or types of comorbidity.

In terms of safety, there was no evidence of developmental blocking effects. The most frequent adverse events were headache (4%) and skin reactions (3%).

No angioedema was reported. No changes in levels of potassium, sodium and creatinine in blood were observed.

Results of NEW-HOPE

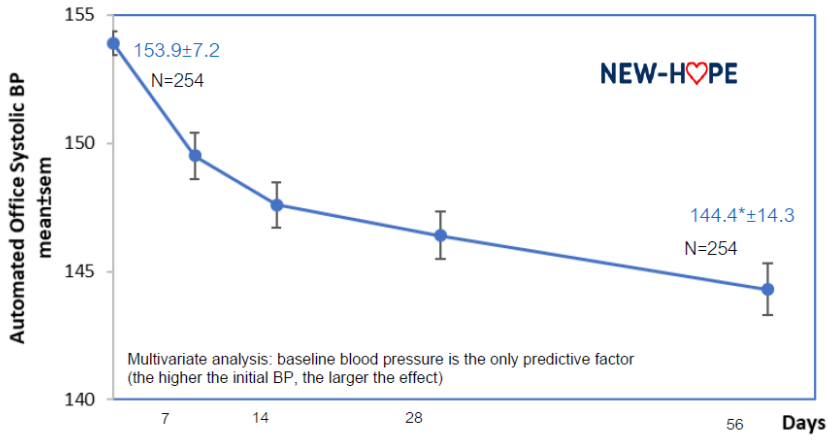

Chart 9 - Source: Quantum Genomics

Detailed results of NEW-HOPE

Hemodynamic Parameter	N	Baseline	Day-56	Change From Baseline	*P* Value
Systolic AOBP, mm Hg	251	154.0±7.3	144.4±14.1	−9.5±14.3	<0.0001
Diastolic AOBP, mm Hg	251	91.5±8.5	87.4±10.1	−4.2±9.4	<0.0001
Office HR, bpm	251	75.6±12.5	76.6±11.4	0.9±12.3	0.22
Systolic daytime ABP, mm Hg	181	151.3±13.2	148.2±14.2	−3.1±13.0	0.0005
Diastolic daytime ABP, mm Hg	181	88.7±9.4	87.1±9.7	−1.6±7.8	0.003
Systolic nighttime ABP, mm Hg	181	137.8±16.3	135.9±17.2	−1.9±14.9	0.11
Diastolic nighttime ABP, mm Hg	181	78.3±10.8	77.5±10.5	−0.9±9.0	0.28
Systolic 24h-ABP, mm Hg	181	146.8±13.4	144.1±14.4	−2.7±12.4	0.002
Diastolic 24h-ABP, mm Hg	181	85.2±9.3	83.8±9.3	−1.4±7.2	0.01

Data are expressed as mean±SD. ABP indicates ambulatory blood pressure; AOBP, automated office blood pressure, and HR, heart rate.

Chart 10 - Source: Circulation. 2019;140:138–146. DOI: 10.1161/CIRCULATIONAHA.119.040070

It is always difficult to compare trials, but it is worth having a look at the results from the trials evaluating Idorsia's aprocitentan. These showed in hypertensive patients (baseline 149.7mmHg/97.6mmHg) a placebo adjusted reduction of 9.90mmHg/6.99mmHg at 25mg (one of the phase 3 doses).

These marginally superior efficacy results came with more notable adverse events such as a decrease in haemoglobin, haematocrit, albumin and uric acid. Idorsia subsequently launched a phase 3 trial in resistant hypertensive patients as an add-on to the standard of care.

These phase 3 results are expected to be out in mid-2022 (post FRESH trial for QG).

Launch of phase 3 clinical trials

The phase 3 trial called FRESH was launched last year. This trial includes 500 hypertensive patients whose blood pressure is not controlled despite taking two to three hypertensive drugs including a diuretic drug. Firibastat is therefore added to the standard of care and will be compared to a placebo arm (see diagram below).

Design of the phase 3 FRESH trial

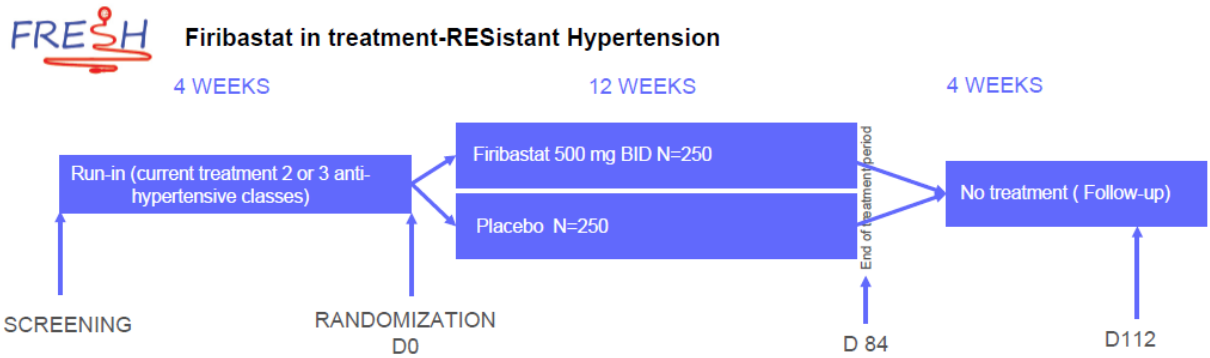

Chart 11 - Source: Quantum Genomics

The baseline will therefore be at least 140mmHg despite treatment with two or three classes of antihypertensive drugs. This first four-week stage serves to ensure patients are following their treatment correctly, thereby checking compliance with their treatment and confirming they do indeed have resistant hypertension. Patients then receive either firibastat or placebo for 12 weeks in addition to their initial treatment.

A second phase 3 trial called REFRESH was launched. As a primary endpoint, long-term efficacy and safety data will be collected with a change in dosage form compared to the FRESH trial: once/day in tablet form vs. twice/day in capsule form.

Design of the REFRESH trial

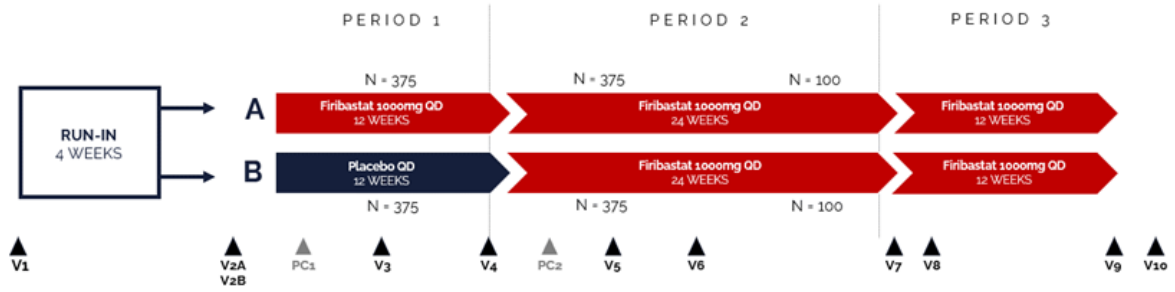

Chart 12 - Source: Quantum Genomics

In the phase 3 REFRESH trial, the patients enrolled have the same profile as the patients in the FRESH trial.

The first patient is slated to be included in June 2021. The results of the trial will be available in mid-2023.

Dosage adjustment for patients with severe renal failure?

In this respect, let us have a brief look at another trial. It included 28 subjects and aimed to determine the need for dose adjustment in patients with end-stage renal disease. These severe patients by definition have difficulty eliminating drugs and often have severe hypertension.

In 2020, Quantum announced interim results, which should be complemented by final results in the coming months. These showed a naturally slower elimination of firibastat leading to a higher concentration of firibastat and its metabolites without reaching maximum concentration. There was nothing new to report on the safety front. It should be noted that at this stage the company has not noted any deterioration in renal function, which can be seen as an additional sign of safety. The final results will be conclusive but we might even now safely assume dosage adaptation will be necessary in this patient group. Conversely, as maximum concentration was not reached, we can assume no adaptation will be necessary for mild renal failure patients.

HEART FAILURE FOR A CHANGE IN STATUS

Phase 2b results in heart failure are expected in mid-2021 (publication at the ESC congress from 27 to 30/08?). The size of the heart failure market and the opportunities it offers could change Quantum's status in the scientific and financial community. The difficulty of success in this disease confers a risk/reward profile we believe is attractive to play. These results are naturally the short-term catalyst for the group.

Why would successful results in heart failure change Quantum Genomics' status?

Congestive heart failure is a terminal manifestation of heart disease. The stage and associated comorbidities make it a difficult condition to treat. Heart failure is a systolic or diastolic ventricular dysfunction that results mainly from hypertension and/or associated heart disease. At the functional level, this means the heart does not get enough blood. The heart is no longer able to pump to distribute blood throughout the body.

Most often, heart failure starts in the left ventricle. The right side may also be involved, or even both sides of the heart (congestive heart failure). A distinction is thus made between systolic heart failure (known as SHF with better understood therapies) and heart failure with preserved ejection fraction (known as HFpEF, which, until now, has had few therapeutic alternatives).

As one of the risk factors, arterial hypertension must naturally be well controlled. Various treatments have been developed in recent years (e.g. Entresto from Novartis) but only a heart transplant is the solution when the disease reaches an advanced stage.

To date, patient management is based on lifestyle changes (diet and exercise). Treatment of hypertension has a major impact on reducing the risk of heart failure and hospitalisation for heart attack. BP should be lowered if it is ≥140/90mmHg and treated to achieve a target of 120/70mmHg. Different classes of anti-hypertensive drugs are prescribed because the higher the hypertension and the longer it is maintained, the greater the risk of heart failure.

There are four specific classes of the disease that define its course:

- Class 1: Asymptomatic / no change in lifestyle;
- Class 2: Mild / physical activity starting to dwindle;
- Class 3: Moderate / shortness of breath - physical activity significantly reduced;
- Class 4: Severe.

Although the acute form of the disease exists, it is mainly the result of an underlying chronic form.

After preclinical results, phase 2b QUORUM to be the real proof of concept

The anti-hypertensive activity of firibastat could help protect the heart.

Hyperactivity of the cerebral renin-angiotensin system induces sympathetic hyperactivity after a myocardial infarction. Pre-clinical trials in rodents showed a significant improvement in cardiac function. The left ventricular ejection fraction was higher than in rats without firibastat.

Preclinical results

		MI		
	Sham	Vehicle	Losartan	QGC001
MI size (%)	-	25 ± 1	24 ± 2	24 ± 1
Renal sympathetic nerve activity (%)	17 ± 2	34 ± 2 *	23 ± 2 †	20 ± 2 †
Left ventricular function:				
EF (%)	92 ± 2	66 ± 3 *	63 ± 3 *	76 ± 2*†
LVPSP (mmHg)	126 ± 2	120 ± 1 *	118 ± 3*	124 ± 2
LVEDP (mmHg)	3 ± 1	16 ± 2 *	9 ± 1*†	9 ± 1*†
dP/dt_{max} (mmHg/s)	8076 ± 145	6116 ± 141 *	6740 ± 63*†	7259 ± 293*†

Chart 13 - Sources: Adapted from Huong et al, Cardiovasc Res 2013

In addition, after a myocardial infarction, the company observed an increase in the brain concentration of aminopeptidase A in rats, which was normalised after treatment with firibastat.

An aminopeptidase A inhibitor is therefore believed to decrease HF in animals by blocking overactivation of the renin-angiotensin system in the brain.

Note that firibastat does not have hypotensive action. It aims to be as good as or better than ACE inhibitors without the side effect on blood pressure.

A phase 2 trial called QUID HF was launched in 2016 in a small group of patients with as a primary endpoint the assessment of the safety profile of firibastat. This has never been published but, following the recommendations of the scientific committee, Quantum Genomics received approval from the European health authorities to launch a phase 2b QUORUM trial.

The QUORUM trial is therefore the real proof of concept for the efficacy of firibastat in heart failure. This phase 2b trial is under way and results are expected to be out in mid-2021. Should they be conclusive, we assume results to be published at the ESC congress at end-August.

This trial is confined to Europe and includes 295 patients within 24 hours from infarction treated by primary angioplasty. This type of myocardial infarction is localised in the anterior wall of the heart, and represents complete occlusion of the main coronary artery of the heart. This trial will evaluate the efficacy of firibastat compared to ramipril.

It is randomised into three separate low dose (100mg 2x/day) high dose (500mg 2x/day) arms vs. ramipril 5mg 2x day. Quantum benefits from the involvement of Prof. Gilles Montalescot as lead investigator.

The primary endpoint is variation in the ejection fraction of the left ventricle but the secondary endpoint will be just as important, especially the way cardiac markers will evolve, making it possible to anticipate a potential decrease in mortality (primary endpoint to be imposed in phase 3).

For example, the phase 2 PARAMOUNT trial evaluating Entresto from Novartis (ACE + ARA II) showed a 23% decrease in NT-proBNP (cardiac marker of infarction) vs valsartan as well as a reduction in size of the left auricle. The bar is indeed known.

PARAMOUNT trial

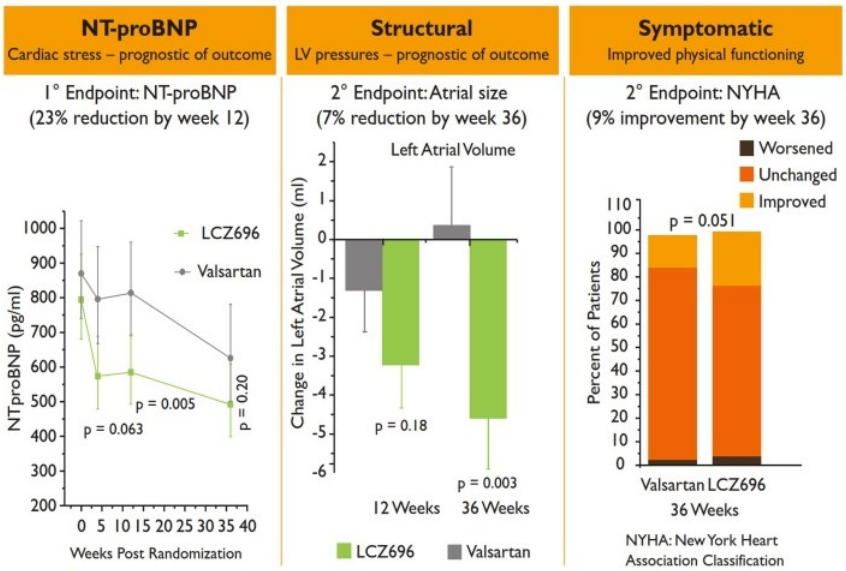

Chart 14 - Source: Novartis

Fast-growing market where the need is unmet

If the results are conclusive, a very large-scale phase 3 will be imposed for Quantum Genomics (phase 3 PARADIGM trial to evaluate Entresto, enrolled 8000 patients). In value, the market is very clearly driven by Entresto's growth.

Heart failure is believed to affect more than 26m people worldwide. In 2012, the disease is reported to have had an impact of around $ 31bn on health spending, representing more than 10% of total health spending for cardiovascular disease in the US at the time. This cost should continue to increase sharply.

Data on the number of annual hospitalisations for HF are only available for the US and Europe and exceed one million in both regions. Of these hospitalisations, over 90% were due to symptoms and signs of acute heart failure. In addition, one in four patients (24%) is readmitted within 30 days, 30% within the first three months in the US and other countries, and one in two (50%) within six months.

Prevalence of heart failure across the world

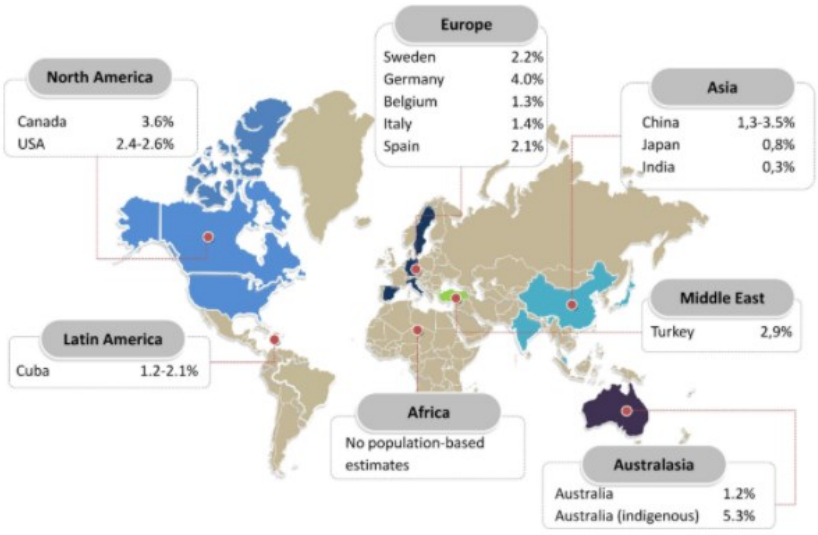

Chart 15 – Sources: Epidemiology of heart failure; Amy Groenewegen. June 2020

The market has continued to see strong growth to date, up 16% between 2020 and 2026 (Evaluate Pharmla) and it is expected to be worth nearly $ 8bn in 2026. It is mainly driven by Entresto from Novartis, knowing four of the company's combos will go off patent in 2023 and 2024 (two ANDAs under way in the US).

Chronic heart failure market trends

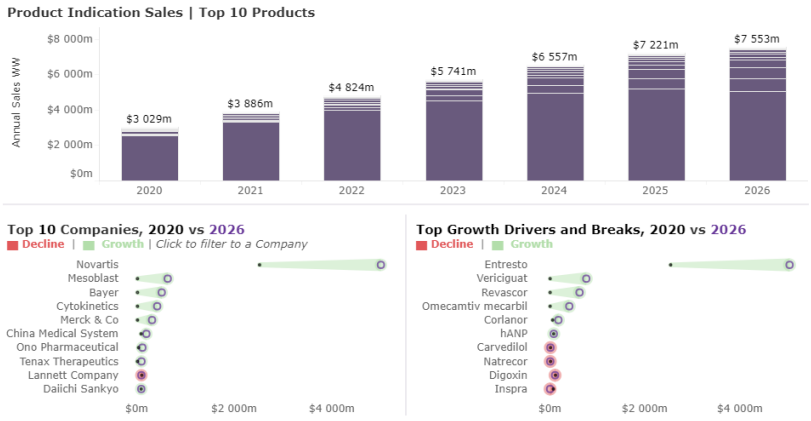

Chart 16 - Source: Evaluate Pharma

The annual Entresto price (list price), at $ 4,650, is naturally much higher than the prices of antihypertensive drugs. In the US, two combination patents and two complex patents are contested in Abbreviated New Drug Application (ANDA) proceedings against generic drugs. Generic versions could hit the market in 2024 and break the market momentum in value and, at the same time, potentially accentuate the momentum in volume.

INITIATING COVERAGE WITH AN OUTPERFORM RATING AND A TARGET PRICE OF € 12

Quantum Genomics stock gained 45% over 2020, benefiting in particular from clinical advances with the launch of the FRESH trial and results in renal failure and also from activity provided through partnerships: five license agreements were signed in H2 2020. Results from QUORUM, due to be out over the next few weeks, put this activity on hold because if they turn out to be positive a new storyline will begin, especially in the western regions.

We value Quantum Genomics by sum of the parts including the development of firabastat in both refractory hypertension and heart failure. Our target price, at € 12, offers upside of 220%, prompting us to adopt an Outperform recommendation on the stock.

Five partnerships already signed in HBP

To date, the company has signed five partnerships either for marketing or exclusive licensing agreements at the regional level. All of the partnerships are exclusively focused on the arterial hypertension indication.

The very first was concluded with Biolab Sanus Pharmaceutical for an exclusive licensing and collaboration agreement in Latin America.

Two were subsequently signed in Asia with Qilu for China and DongWha Pharm for South Korea. However, following a row over progress in the development of firabastat in China, Quantum Genomics and Qilu Pharmaceutical ended their collaboration. This restitution put a lot of pressure on the stock in mid-April. Another collaboration agreement was signed for South East Asia and Oceania with Orient Euro Pharma.

Today, only two agreements have been signed in the West: one in Canada and the other in Greece.

This business development momentum should undoubtedly continue to gather pace in the coming quarters although conditions could potentially change significantly depending on the results from QUORUM in heart failure. We believe that if these prove to be positive, the company will sign a commercial agreement covering all of the drug's potential indications for the US and/or Europe. Total upfront payments and potential milestone payments are estimated at € 82m with the company’s royalties set to work out at around 15%.

Summary of deals signed by Quantum Genomics

Indication	Date	Partner	Region	Upfront & milestone payments (€m)
HBP	09/12/2019	Biolab	Latin America	21.2
HBP	22/09/2020	Orient EuroPharma	APAC	19
HBP	19/10/2020	QILU*	Greater China	50
HBP	28/10/2021	XEDITON Pharmaceuticals	Canada	11.3
HBP	02/12/2020	DongWha Pharm	South Korea	18.5
HBP	15/12/2019	Faran	Greece	12.1
				Total: 132.1

Table 17 - Source: ODDO BHF Securities

** Collaboration ended in April 2021*

Location of firibastat business partnerships in HBP

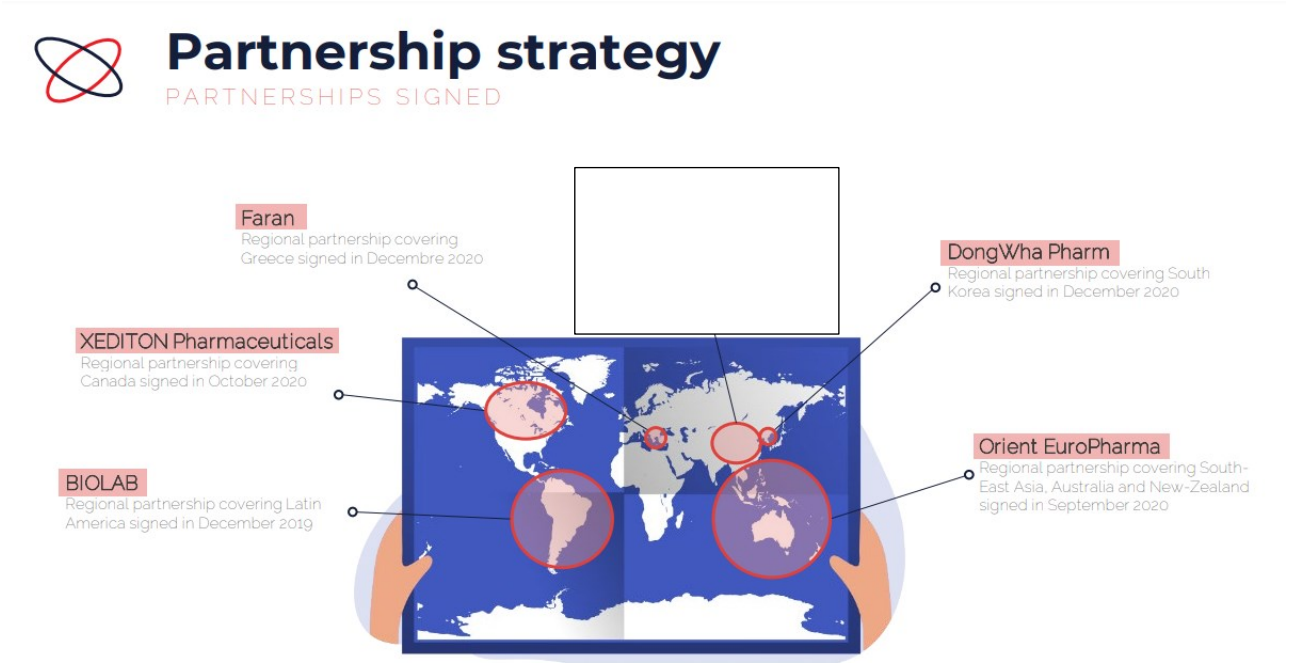

Chart 18 - Source: Quantum Genomics

Financial visibility out to 2022

In 2020, the launch of FRESH and the finalisation of QUORUM led to an increase of € 4m in R&D costs. We expect these costs to accelerate this year. Indeed, 2021 represents the busiest year with the finalisation of the phase 2b QUORUM trial and a ramp-up of FRESH and REFRESH. We estimate overall costs at € 19m, which can be seen as aggressive. Conversely in 2022, the QUORUM trial will be completed and we do not believe Quantum Genomics will venture to launch a pivotal phase 3 trial in heart failure on its own. R&D costs will therefore be drastically slashed compared to 2021.

At end-2020, the company had € 27m in gross cash. With cash burn estimated at just under € 20m this year, we see financial visibility out to Q2 2022.

Factoring in primarily the development of firibastat in HBP, we estimate the company's refinancing needs at up to € 30m. We are therefore now assuming that license deals covering the remaining and major regions in market terms, namely Europe and the US, could cover these cash needs.

Following the latest fundraising operation organised in December 2020, the shareholding structure changed a little within Quantum Genomics with to date 67% of shares held by retail investors, 21% by institutional investors, 5% by management and 3.7% held by Tethys ahead of Otium, which holds a 3.3% stake.

Ownership structure

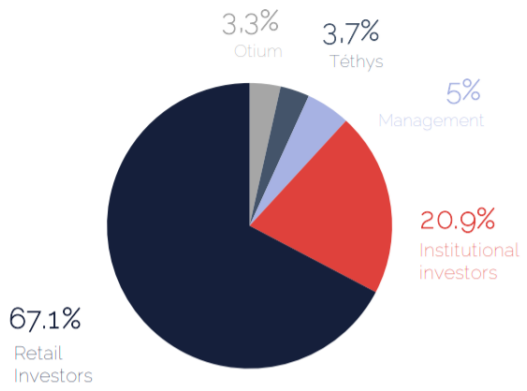

Chart 19 - Source: Quantum Genomics

Two indications with a target price of € 12 per share

We value Quantum Genomics by sum of the parts including the development of firabastat in both refractory hypertension and heart failure. Our target price, at € 12, offers upside of 220%, prompting us to adopt an Outperform recommendation on the stock.

Firibastat in high blood pressure

The first clinical results from FRESH are expected to be out at end-2021 while results from the second phase 3 REFRESH pivotal trial are expected to be out in mid-2023. We therefore expect the drug candidate to be cleared in the US at end-2023, with the first sales expected in early 2024. Despite the first regional partnerships, we believe Europe and the US will be the main market and see these two regions as a driver to fuel the group's global sales. The partnerships signed in these two parts of the world will determine ambitions for firibastat, prompting us to adjust our market share gain estimates. A partnership with a large cap player with an established foothold in the cardiology sector will obviously have more weight and impact than a deal with a regional player in these regions.

The prevalence of hypertension is high in western countries, i.e. up to 36% of the population in the US and 30% in Europe and is expected to increase with an ageing population. The population poorly controlled by three antihypertensives is by definition much smaller. As described previously, the studies differ significantly from each other; we put the proportion of refractory patients at 18%, a proportion on the rise due to comorbidities and could hit 22% in 2035.

We estimate peak sales at € 1,047m in 2032.

Commercial estimates for Firibastat in resistant arterial hypertension

US HBP	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e
US population	325	328.3	331.5	334.8	338.2	341.6	345.0	348.4	351.9	355.4	359.0	362.6
Population growth		*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
HBP prevalence	117.0	118.2	119.4	120.5	121.8	123.0	124.2	125.4	126.7	128.0	129.2	130.5
% in pop	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*	*36%*
Resistant HBP prevalence	21.1	21.7	22.4	23.0	23.7	24.4	25.2	25.9	26.7	27.5	28.4	29.2
(2% growth)	*18%*	*18%*	*19%*	*19%*	*19%*	*20%*	*20%*	*21%*	*21%*	*22%*	*22%*	*22%*
Number of patients (m)					4.6219	4.8567	5.1034	5.3627	5.6351	5.9214	6.2223	6.5384
annual cost ($)					600	600	600	600	600	600	600	600
market share	*(2%)*				*3%*	*7,0%*	*10,0%*	*12,0%*	*14,0%*	*16,0%*	*18,0%*	*20,0%*
Sales ($ m)					83.2	204.0	306.2	386.1	473.4	568.5	672.0	784.6
Sales (€ m)					69	170	255	322	394	474	560	654

EU HBP	2021	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e
Europe population	500	502.5	505.0	507.5	510.1	512.6	515.2	517.8	520.4	523.0	525.6	528.2
population growth		*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*	*0,50%*
HBP prevalence	150	151	152	152	153	154	155	155	156	157	158	158
% in pop	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
Refractory HBP prevalence	27.0	27.1	27.3	27.4	27.5	27.7	27.8	28.0	28.1	28.2	28.4	28.5
(4% growth)	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*
Number of patients (m)			4.91	4.93	4.96	4.98	5.01	5.03	5.06	5.08	5.11	5.13
annual cost (€)			450	450	450	450	450	450	450	450	450	450
market share	*(2%)*				*2,00%*	*6,00%*	*10,00%*	*12,00%*	*14,00%*	*15,00%*	*16,00%*	*17,00%*
Sales (€ m)			0	0	44.6	134.5	225.3	271.8	318.6	343.1	367.8	392.8

Total sales (€ m)					**114**	**305**	**481**	**594**	**713**	**817**	**928**	**1047**

Table 20 - Source: ODDO BHF Securities

We are today factoring in an agreement covering only firibastat in HBP, to be reached when the phase 3 results are out. Factoring in € 1,047m in peak sales, we are applying an upfront of € 100m, representing 10% of potential peak sales in these two uncovered regions. We are also factoring in three milestone payments of € 34m (one third of the upfront), which would be paid based on commercial milestones. We are also applying around 15% in royalties for Quantum Genomics.

Firibastat in heart failure

We should have a little more visibility on the potential of the drug candidate in this indication at the ESC (end-August 2021). The results of phase 2 QUORUM trial will enable us to position ourselves, in particular in comparison with rivals on the market and in development.

However, we believe the risk/reward profile remains positive for this development and the non-hypotensive profile of the drug could be a real alternative to patients who cannot be treated with Entresto.

The prevalence of heart failure is logically much lower than hypertension. More than 6m patients are thought to be still affected in the US. The risk of generic versions of Entresto in 2024 could lead to a drop in the price of the drug.

We are therefore immediately choosing to apply a significantly lower price vs Entresto: $ 3,000 vs $ 4,650 per year for Entresto today. The same applies to the European market with a treatment price we put at 1,500 € per year.

The results of QUORUM and the partnership deal struck for development of phase 3 and the commercialisation of the drug will by definition be decisive for the success of the drug.

We are currently including in our model € 1.2bn in peak sales in 2032 in this indication.

Commercial estimates for Firibastat in heart failure

US HF	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e
US population	325	328.3	331.5	334.8	338.2	314.6	345.0	348.4	351.9	355.4	359.9	362.6
Population growth	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
HF prevalence	6.500	6.565	6.631	6.697	6.7646.832		6.900	6.969	7.039	7.109	7.180	7.252
(growth)	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Not well controlled (hypotension concommitants with ACEi , aliskiren…)					*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*
Number of patients (m)						1.502	1.518	1.533	1.548	1.564	1.579	1.5954
annual cost ($)						*3000*	*3000*	*3000*	*3000*	*3000*	*3000*	*3000*
market share						*5,0%*	*10,0%*	*15,0%*	*16,0%*	*17,0%*	*18,0%*	*19,0%*
Sales ($ m)						225.4	455.4	689.9	743.3	797.6	853.0	909.4
Sales (€ m)						188	379	575	619	665	711	758

EU HF	2021	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e
EUR population	500	502.5	505.0	507.5	510.1	512.6	515.2	517.8	520.4	523.0	525.6	528.2
Population growth		*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
HF prevalence (m)	10.00	10.05	10.10	10.15	10.20	10.25	10.30	10.36	10.41	10.46	10.52	10.56
Growth		*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Not well controlled (hypotension concommitants with ACEi , aliskiren…)	22%	22%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Number of patients (m)			2.525	2.538	2.550	2.563	2.576	2.589	2.602	2.615	2.628	2.641
annual cost (€)			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
market share						1,00%	4,00%	8,00%	9,00%	10,00 %	11,00 %	12,00 %
Sales (€ m)						38.4	154.6	310.7	351.2	392.2	433.6	475.4
Total sales (€ m)						**226.3**	**534.1**	**885.6**	**970.6**	**1057**	**1144**	**1233**

Table 21 - Source: ODDO BHF Securities

We adopted the same approach for firabastat in heart failure, knowing that a partnership with a global player in the cardiovascular field could be the preferred option. We are factoring in an upfront of 5% of peak sales to be possibly paid in 2022 when phase(s) 3 is/are launched. These costs will be far too high for Quantum Genomics to bear alone. We are therefore assuming results will be out at end-2024 with approval in H2 2025 and similar royalties vs HBP, as QG will not bear the costs of phase 3 (15%).

Outperform recommendation, target price of €12

Our valuation points to € 12 per share, breaking down into 53% for the HBP project and 45% for the HF project. As a reminder, cash at end-December stood at € 21m, which provides financial visibility out Q2 2022. The loss carried forward at end-2020 came in at € 75m, which we are including directly in the valuation of the two indications.

Our model is indeed based on sum of the parts with a WACC of 14.8%.

Valuation summary

	Indication	Approval	Peak sales	PoS	Valuation/ share (incl.g report deficit)
Firibastat	HBP	2024	€ 1bn	55%	6.3
Firibastat	Heart failure	2025	€ 1.2bn	30%	5.4
Tresorery at the end of 2021					0.3
TP (€)					12.0

Table 22 - Source: ODDO BHF Securities

ALQGC.PA | ALGGC FP — **Outperform** — **Price 3.73 €**
Biotechnology | France — **Upside 221.54%** — **TP 12.0 €**

PER SHARE DATA (€)	12/16	12/17	12/18	12/19	12/20	12/21e	12/22e	12/23e
Adjusted EPS	-0.48	-0.86	-1.05	-0.55	-0.34	-0.61	-0.13	-0.14
Reported EPS	**-0.48**	**-0.84**	**-1.06**	**-0.55**	**-0.35**	**-0.62**	**-0.14**	**-0.15**
Growth in adjusted EPS	ns	ns	ns	ns	ns	ns	ns	ns
Net dividend per share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FCF to equity per share	-1.37	-1.76	-2.36	-1.40	-0.98	-1.27	-1.04	-0.51
Book value per share	1.41	0.93	1.18	0.65	1.04	2.10	2.10	2.10
Number of shares market cap (m)	8.39	10.95	10.95	16.62	26.89	26.89	26.89	26.89
Number of diluted shares (m)	8.39	10.95	10.95	16.62	26.89	26.89	26.89	26.89
VALUATION (€m)	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
12m highest price (€)	8.31	8.05	7.25	5.77	5.43	5.54		
12m lowest price (€)	4.52	2.86	1.70	2.94	1.88	3.47		
(*) Reference price (€)	6.31	4.64	2.62	4.59	3.16	3.73	3.73	3.73
Capitalization	52.9	50.8	28.6	76.3	84.9	100	100	100
Restated Net debt	-10.7	-10.6	-14.2	-10.6	-26.5	-8.9	4.4	9.5
Minorities (fair value)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial fixed assets (fair value)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Provisions	0.0	0.0	0.3	0.3	0.5	-44.9	-59.9	-68.8
Enterprise Value	**41.2**	**39.1**	**13.7**	**65.0**	**57.8**	**45.5**	**43.9**	**40.0**
P/E (x)	ns	ns	ns	ns	ns	ns	ns	ns
P/CF (x)	ns	ns	ns	ns	ns	ns	ns	ns
Net Yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield	ns	ns	ns	ns	ns	ns	ns	ns
P/B incl. GW (x)	4.49	5.01	2.22	7.02	3.05	1.78	1.78	1.78
P/B excl. GW (x)	4.49	5.01	2.22	7.02	3.05	1.78	1.78	1.78
EV/Sales (x)	ns	ns	192	180	25.55	ns	23.09	8.70
EV/EBITDA (x)	ns	ns	ns	ns	ns	ns	ns	ns
EV/Current EBIT (x)	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**
(*) historical average price								
PROFIT AND LOSS (€m)	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
Sales	0.0	0.0	0.1	0.4	2.3	0.0	1.9	4.6
EBITDA	-5.0	-10.3	-13.1	-10.8	-11.4	-16.7	-14.8	-8.7
Depreciations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current EBIT	**-5.0**	**-10.3**	**-13.1**	**-10.8**	**-11.5**	**-16.7**	**-14.8**	**-8.7**
Published EBIT	-5.0	-10.3	-13.1	-10.8	-11.5	-16.7	-14.8	-8.7
Net financial income	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
Corporate Tax	1.0	1.1	1.5	1.5	2.1	0.0	11.1	4.7
Net income of equity-accounted companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit/loss of discontinued activities (after tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Attributable net profit	-4.0	-9.2	-11.6	-9.2	-9.3	-16.7	-3.7	-4.0
Adjusted attributable net profit	**-4.0**	**-9.4**	**-11.5**	**-9.1**	**-9.1**	**-16.5**	**-3.5**	**-3.9**
BALANCE SHEET (€m)	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other intangible assets	0.1	0.1	0.0	0.4	0.8	0.7	0.7	0.7
Tangible fixed assets	0.1	0.1	0.0	0.0	0.0	0.4	0.8	0.9
WCR	0.4	-0.9	-1.7	-0.3	0.3	0.7	-1.2	-5.3
Financial assets	0.5	0.3	0.6	0.5	0.7	0.7	0.7	0.7
Ordinary shareholders equity	11.8	10.1	12.9	10.9	27.9	56.4	56.4	56.4
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shareholders equity	11.8	10.1	12.9	10.9	27.9	56.4	56.4	56.4
Non-current provisions	0.0	0.0	0.3	0.3	0.5	-44.9	-59.9	-68.8
Net debt	**-10.7**	**-10.6**	**-14.2**	**-10.6**	**-26.5**	**-8.9**	**4.4**	**9.5**
CASH FLOW STATEMENT (€m)	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
EBITDA	**-5.0**	**-10.3**	**-13.1**	**-10.8**	**-11.4**	**-16.7**	**-14.8**	**-8.7**
Change in WCR	-0.3	1.2	0.9	-1.4	-0.6	-0.4	1.9	4.0
Interests & taxes	-6.2	-10.3	-13.6	-10.7	-13.8	-16.7	-14.7	-8.5
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating Cash flow	-11.5	-19.3	-25.8	-22.9	-25.9	-33.7	-27.5	-13.2
CAPEX	-0.1	0.0	0.0	-0.4	-0.4	-0.4	-0.4	-0.4
Free cash-flow	**-11.5**	**-19.3**	**-25.8**	**-23.3**	**-26.3**	**-34.1**	**-27.9**	**-13.6**
Acquisitions / disposals	-0.1	0.1	-0.2	0.1	-0.2	-0.2	-0.2	-0.2
Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net capital increase	7.7	7.7	15.1	7.4	28.5	0.0	0.0	0.0
Others	0.5	0.0	-0.2	-0.3	0.0	0.0	0.0	0.0
Change in net cash	-3.4	-11.4	-11.2	-16.1	2.1	-34.3	-28.1	-13.8
GROWTH MARGINS PRODUCTIVITY	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
Sales growth	-89.8%	49.9%	ns	ns	ns	ns	-	ns
Lfl sales growth	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Current EBIT growth	ns	ns	ns	ns	ns	ns	ns	ns
Growth in adjusted EPS	ns	ns	ns	ns	ns	ns	ns	ns
Net margin	ns	ns	ns	ns	ns	ns	ns	-83.8%
EBITDA margin	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**
Current EBIT margin	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**
CAPEX / Sales	ns	ns	-22.5%	ns	-18.2%	high	-21.6%	-8.9%
WCR / Sales	ns	ns	ns	-86.4%	13.1%	high	-65.4%	ns
Tax Rate	19.3%	11.1%	11.2%	14.4%	18.7%	0.0%	75.2%	53.9%
Normative tax rate	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Asset Turnover	0.0	-0.3	-0.1	-0.5	3.9	0.0	1.9	-2.6
ROCE post-tax (normative tax rate)	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**	**ns**
ROCE post-tax hors GW (normative tax rate)	ns	ns	ns	ns	ns	ns	ns	ns
ROE	-39.1%	-85.8%	ns	-76.5%	-47.2%	-39.2%	-6.2%	-6.8%
DEBT RATIOS	**12/16**	**12/17**	**12/18**	**12/19**	**12/20**	**12/21e**	**12/22e**	**12/23e**
Gearing	-91%	ns	ns	-97%	-95%	-16%	8%	17%
Net Debt / Market Cap	-0.20	-0.21	-0.50	-0.14	-0.31	-0.09	0.04	0.09
Net debt / EBITDA	**2.15**	**1.03**	**1.08**	**0.98**	**2.32**	**0.54**	**ns**	**ns**
EBITDA / net financial charges	181.0	-162.5	126.2	985.4	-2 286.0	4 555.0	4 035.7	2 388.2

Sources: ODDO BHF Securities, SIX

- **Valuation method**

Our target prices are established on a 12-month timeframe and we use three valuation methods to determine them. First, the discounting of available cash flows using the discounting parameters set by the Group and indicated on ODDO BHF' website. Second, the sum-of-the-parts method based on the most pertinent financial aggregate depending on the sector of activity. Third, we also use the peer comparison method which facilitates an evaluation of the company relative to similar businesses, either because they operate in identical sectors (and are therefore in competition with one another) or because they benefit from comparable financial dynamics. A mixture of these valuation methods may be used in specific instances to more accurately reflect the specific characteristics of each company covered, thereby fine-tuning its evaluation.

- **Sensitivity of the result of the analysis/ risk classification:**

The opinions expressed in the financial analysis are opinions as per a particular date, i.e. the date indicated in the financial analysis. The recommendation (cf. explanation of the recommendation systematic) can change owing to unforeseeable events which may, for instance, have repercussions on both the company and on the whole industry.

- **Our stock market recommendations**

Our stock market recommendations reflect the RELATIVE performance expected for each stock on a 12-month timeframe.
Outperform: performance expected to exceed that of the benchmark index, sectoral (large caps) or other (small and mid caps).
Neutral: performance expected to be comparable to that of the benchmark index, sectoral (large caps) or other (small and mid caps).
Underperform: performance expected to fall short of that of the benchmark index, sectoral (large caps) or other (small and mid caps).

- **The prices of the financial instruments used and mentioned in this document are the closing prices.**
- **All publications by ODDO BHF concerning the companies covered and mentioned in this**

Recommendation and target price changes history over the last 12 months for the company analysed in this report

Date	Reco	Price Target (EUR)	Price (EUR)	Analyst
25/05/21	Outperform	12.00	3.73	Martial Descoutures

In accordance with Article 20 of European Regulation No. 596/2014 (Market Abuse Regulation), a list of all recommendations on any financial instrument or issuer that have been disseminated over the past twelve months i

Recommendation split				
		Outperform	Neutral	Underperform
Our whole coverage	(523)	55%	33%	12%
Liquidity providers coverage	(94)	59%	37%	4%
Research service coverage	(43)	63%	33%	5%
Investment banking services	(25)	76%	16%	8%

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