Analyst Report

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Quantum Genomics

Alternext Paris: ALQGC [FR0011648971]

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Estimated price:	€11.51
Share price (€)*	5.15
Market Cap. (€M)*	45.1
Estimated Market Cap. (€M)	100.8
Number of shares (M)	8.8
YTD High/Low (€)	8.05/4.35
3-month average daily vol.	52.000
Free Float	63.1%
Estimated Net Cash (€M)	9.9

** as of 20/06/2017*

A decisive phase 2 in the US to validate QGC001's efficacy

Quantum Genomics presented additional data on the phase 2a study with its lead drug candidate QGC001, in hypertension. The trial demonstrated that the drug candidate could reduce high blood pressure compared to placebo, although its efficacy was not validated by statistical analysis. Nevertheless the study provided several encouraging signals which justify to further investigate the clinical potential of QGC001 for treating cardiovascular diseases. The US phase 2 trial will need to confirm the drug's proof of efficacy in hypertensive patients, which will be decisive for QGC001's future in this indication. We therefore lowered our target price on Quantum Genomics to €11.51/share.

Signals of QGC001's efficacy

QGC001 is a Brain Amino Peptidase Inhibitor (BAPAI), a first-in-class drug candidate addressing severe cardiovascular diseases. The drug has unprecedented mechanisms of action compared to existing antihypertensive drugs, since it targets the Brain Renin Angiotensin Aldosterone System (RAAS), which was implicated in blood pressure regulation. Quantum Genomics believes the unique properties of QGC001 could be a serious alternative for treating patients for whom existing therapies have no or limited effects. This hypothesis was also strengthened by encouraging preclinical studies on different animal models.

The company performed a phase 2a study in order to evaluate QGC001's efficacy in human patients. The study was a crossover, double blind, randomized and placebo-controlled study, on 34 patients with moderate blood pressure (Grade 1 and 2). The primary end point was the drug efficacy in reducing daytime systolic blood pressure (ambulatory conditions), compared to placebo. Additional parameters

were also evaluated, including drug safety, pharmacodynamics profile, and impact on hormonal biomarkers of cardiovascular activity.

In September 2016, Quantum Genomics announced that the phase 2a trial was successful, since it revealed a convergence of positive signals on several endpoints suggesting QC001's efficacy in controlling blood pressure. The company recently presented additional data on the study, in the annual meeting of the European Society of Hypertension, which took place on June 18, 2017, in Milan.

According to Quantum Genomics, QGC001 induced a decrease in the ambulatory systolic blood pressure (by 2.7 mmHg) and the systolic blood pressure in medical consultation (by 4.7 mmHg), while no decrease was observed for patients receiving the placebo. These results are particularly interesting, since it is the first time that the drug has shown antihypertensive signals on human patients. Moreover, no severe side effects were reported, confirming the good safety profile of the drug, as already observed in the Phase 1 trial. Interestingly, the study also showed that, the plasma concentration of several major hormones involved in blood pressure regulation was not modified by the drug, strengthening the company's assumptions that QGC001 does not act on the systemic RAS. In addition, the drug seems to have a greater effect on people with higher blood pressure, although it still has to be confirmed, since the study was performed on patients with moderate high blood pressure.

However, these positive signals were not confirmed by statistical data analysis. For instance, decrease in ambulatory and medical consultation blood pressure were not found to be statistically significant, with p value of 0.16 and 0.15, respectively. Therefore, we estimate that, despite several encouraging signals, the study did not provide a formal evidence of QGC001's efficacy in reducing the arterial pressure of hypertensive patients.

US Phase 2 study to start next fall

The lack of statistical significance could be due to the small sample of patients enrolled for the study (34 patients), unable to achieve a sufficient statistical power despite the crossover design, but also because of the short treatment duration (28 days of treatment). Note that the phase 2a study was a pilot trial, and also a first attempt to investigate QGC001 clinical activity on human patients. Therefore these first results support further clinical evaluation of this new class of molecules for the treatment of cardiovascular diseases.

The company is already preparing another phase 2 study in the US, which is expected to provide further evidence of the drug efficacy. The study is scheduled at the end of 2017 and should enroll about 250 patients with various grade of hypertension. Since QGC001's is being developed for resistant hypertension, the study would include patients of different ethnicities such as African-Americans, Hispanics and Asians, whom are more predisposed to resistant hypertension, compared to Caucasian patients. Such positioning is consistent with Quantum Genomics' strategy, which believes the unique properties of QGC001 may provide solutions to the resistance issues.

Quantum Genomics announced it will communicate the US Phase 2 study design on June 27th, 2017. The company has yet to communicate the designs and the schedules for the European and Asian's phase 2 studies.

Quantum Genomic's strategy is to license QGC001 to a major pharmaceutical player, by the end of the phase 2 study. Given the positioning of the drug on the strong medical need of resistant hypertension, we believe that the drug has a blockbuster potential which could interest a number major players. Our peak sales for QGC001 in hypertension is $1.7bn.

Valuation

We adjusted our valuation model on Quantum Genomics, in order to take into account addition data from the ESH conference. Since the study did not demonstrate statistical significance of QGC001's ability to reduce arterial pressure, we decreased our success probabilities to a cumulative market approval probability of 30% (compared to 37%). Moreover, our previous model considered that phase 2b studies would take place simultaneously in Europe and the US, starting in 2017. Since the company has not yet communicated a clinical timeline on the European study, we now anticipate the study to be delayed by approximately one year, to 2018. We adjusted our target price on Quantum Genomics to €11.51/share.

Upcoming news flow

- **H2-2017:** Initiation of the Phase 2b study in the US with QGC001 (Hypertension)
- **H1-2018:** Preliminary results from the Phase 2a study with QGC101 (Congestive heart failure)

Financials

INCOME STATEMENT (€M)	2014	2015	2016e	2017e	2018e	2019e
Revenue	0.34	0.17	0.00	0.00	8.71	0.29
EBIT	-2.42	-4.31	-5.61	-6.46	1.54	-3.95
Net Income	**-2.21**	**-3.76**	**-4.77**	**-5.49**	**2.56**	**-3.77**

EARNING PER SHARE (€)	2014	2015	2016e	2017e	2018e	2019e
EPS	-0.46	-0.54	-0.54	-0.66	0.31	-0.45
EPS (Diluted)	0.00	-0.50	-0.47	-0.54	0.25	-0.37

CASH FLOW STATEMENT (€M)	2014	2015	2016e	2017e	2018e	2019e
Net Income	**-2.21**	**-3.76**	**-4.77**	**-5.49**	**2.56**	**-3.77**
Cash flow from operating activities	-2.21	-3.14	-4.51	-5.03	2.77	-5.06
Cash flow from investment activities	0.00	-0.37	-0.15	-0.15	-0.15	-0.15
Cash Flow from financing activities	0.00	8.84	8.12	-0.02	-0.22	-0.34
Change in cash	**-2.21**	**5.33**	**3.47**	**-5.19**	**2.40**	**-5.54**

BALANCE SHEET (€M)	2014	2015	2016e	2017e	2018e	2019e
ASSETS						
Non current assets	0.62	0.52	0.59	0.67	0.74	0.82
Current assets	4.13	10.02	13.24	8.11	10.57	5.09
Including cash and cash equivalent	3.32	8.65	12.12	6.93	9.33	3.79
Total Assets	**4.75**	**10.54**	**13.84**	**8.78**	**11.32**	**5.91**
LIABILITIES & SHAREHOLDERS EQUITY						
Total Equity	-0.13	8.02	11.32	5.83	8.39	4.62
Total Liabilities	4.88	2.52	2.52	2.96	2.93	1.29
Total Liabilities and shareholders equity	**4.75**	**10.54**	**13.84**	**8.78**	**11.32**	**5.91**

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