Analyst report
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Aurgalys

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Quantum Genomics

Alternext: ALQGC [FR0011648971]

October 05th, 2016

Target price:	€17.51
Share price (€) (As of June 30th, 2016)	7.52
High/Low (€) (Since Jan. 1st, 2016)	8.35/4.52
Market Cap. (€M) (As of June 30th, 2016)	63.1
Estimated Net Cash (€M)	12.4
Estimated Market Cap. (€M)	146.9
Number of shares (M)	8.39
Target price (€)	17.51
Average volume/day (3 months)	70,000
Free float	63.1%

Stock performance YTD	
Quantum Genomics	*-11.6%*
*Alys France**	*-18.3%*
Next Biotech	*-16.9%*
CAC Healthcare	*-7.1%*
CAC 40	*-3.2%*
CAC Small	*+1.7%*

** Index of French smallcaps (less than €1B market capitalization at time of inclusion) in the healthcare and life sciences sector, listed on Euronext Paris.*

See http://www.aurgalys.com/aurgalys-indices

Quantum Genomics establishes first clinical proof of efficacy of QGC001 in hypertension

Quantum Genomics announced positive Phase 2a results with its lead drug candidate QGC001, in hypertension. Positive signals on several end points were observed, especially QGC001's ability to reduce systolic blood pressure in moderate hypertensive patients. The results were further confirmed by in-depth multivariate data analysis. These results constitute the first proof of efficacy of QGC001 on human patients. QGC001 is a Brain Amino Peptidase Inhibitor (BAPAI), a new class of brain active molecules developed by Quantum Genomics with promising potential in treating cardiovascular disease. The company will continue the clinical evaluation of QGC001 and is intending to launch a phase 2b trial in the US in 2017, and is currently preparing trials in Europe and Asia. We adjusted our company valuation model to account for the success of the Phase 2a trial, and additional information communicated by the company on further clinical development of QGC001. Consequently, we increased our price target on the company to € 17.51/ share.

Proof of efficacy on hypertensive patients

QGC001 is a Brain Amino Peptidase Inhibitor (BAPAI), a first-in-class drug candidate addressing severe cardiovascular diseases. The drug has an unique mechanism of action compared to existing antihypertensive drugs, since it targets the brain Renin Angiotensin Aldosterone System (RAAS). The RAAS is an enzymatic chain involving several enzymes, which are responsible for controlling blood pressure. Even though over 80 mono-therapies and 35 combination therapies are currently available on the market, high blood pressure remains a major medical issue. Indeed, monotherapy is still ineffective in more than 50% of patients, and 10-15% patients are considered resistant: they still have uncontrolled blood pressure despite adherence to at least 3 optimally-dosed antihypertensive medications of different classes, one of which is a diuretic. Quantum Genomics believes the unique mechanism of action of QGC001 could represent an interesting

therapeutic alternative for patients on whom existing therapies have no or limited effects. The drug already showed promising results on animal models and demonstrated safety and tolerability on humans, in phase 1 clinical trials.

Early in 2015, Quantum Genomic the company initiated a phase 2a trial evaluating the drug efficacy in reducing blood pressure. The study was a crossover, double blind, randomized and placebo-controlled study, and 34 patients with moderated blood pressure (Grade 1 and 2) were enrolled. The primary end point was the drug efficacy in reducing arterial blood pressure. Additional clinical data were also collected, including the drug pharmacodynamics profile, and hormonal biomarkers.

Quantum Genomics just announced that the phase 2a trial was successful, since the study revealed a convergence of positive signals on several endpoints. Especially on the primary end point, QGC001 demonstrated a decrease in daytime systolic blood pressure (ambulatory conditions), compared to placebo. Furthermore, these positive signals were also confirmed by in-depth multivariate analysis on the data.

These results represent a major achievement for the company since they established the first proof of efficacy of QGC001 on human patients. On the medical perspective, it is also the first time it is shown that blood pressure could be regulated using brain-acting drugs. QGC001 opens new avenues in the management of cardiovascular diseases, although their potential still needs to be fully characterized. These results are particularly encouraging and justify the need to further develop this new class of innovative molecules to treat cardiovascular disease. Quantum Genomics did not communicate the full data from the study, since the company intends to present them at the European Society of Hypertension conference which will take place in June 2017 in Milan, Italy. In-depth analysis of the complete results would help to better evaluate these results and QGC001's potential.

Future developments for QGC001

Although these primary results on moderated hypertensive patients are particularly promising and encouraging, further studies need to be performed to validate the efficacy QGC001 on human patients, and evaluate its positioning compared to existing drugs. Quantum Genomics will launch Phase 2b confirmatory studies on larger population. The company plans to carry out parallel Phase 2b studies in Europe, in the USA, and probably in Asia, in order to meet the specific requirements from the regulatory authorities in each territory.

- **In the USA:**

The company will initiate a Phase 2b study as soon as H2-2017 on a specific population of approximately 250 hypertensive patients. Following discussions with FDA's experts and based on clinical and preclinical data on QGC001, the study may include patients of different ethnicities such

as African-Americans, Hispanics and Asians. Indeed, these populations 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. Positive clinical trials demonstrating QGC001's efficacy would bring a new therapy for both patients and healthcare professionals. Moreover on a business perspective, it is very likely that such a drug could have a blockbuster potential, and should greatly interest major pharmaceutical players wanting to boost their revenue on this huge cardiovascular market. Note that the United States represent more than 46% of our peak sales estimate of €1.7 billion for QGC001.

- **In Europe:**

Indeed in Europe, ethical standards do not allow the enrollment of patients based on ethnic criteria. Therefore, the company will perform further analysis of data from the phase 2a trial to identify biomarkers that would be predictive of QGC001's efficacy, based on patients who reacted the most to the drug. These data will help the company optimize the design of the European Phase 2b study, whose beginning still has to be communicated. Our peak sales for QGC001 in Europe is € 560 M.

- **In Asia:**

Quantum Genomics reiterated that the Asian market remains a key territory, especially since there are strong medical needs in the Asian population for cardiovascular diseases. The company is currently evaluating the development strategy for this territory. Our peak sales for QGC001 in Asia is € 370 M.

Valuation of Quantum Genomics

Our valuation of Quantum Genomics takes into account the two clinical programs of the company in hypertension (QGC001) and Congestive heart failure (QGC101). Following positive Phase 2a results with QGC001 in hypertension, we adjusted our valuation model (increased success rate from 26% to 37%, change of phase 2b and phase 3 development timeline, and associated costs). Our target price on Quantum Genomics is € 17.51/share, which represents a 133% upside compared to the company stock price as of October 05th 2016.

Upcoming news flow

- **H1-2017:** IND application for the Phase 2b study in the US with QGC001 (Hypertension)
- **H2-2017:** Initiation of the Phase 2b study in the US with QGC001 (Hypertension)
- **Q1-2018:** Preliminary results from the Phase 2a study with QGC101 (Congestive heart failure)

Quantum Genomics' stock performance

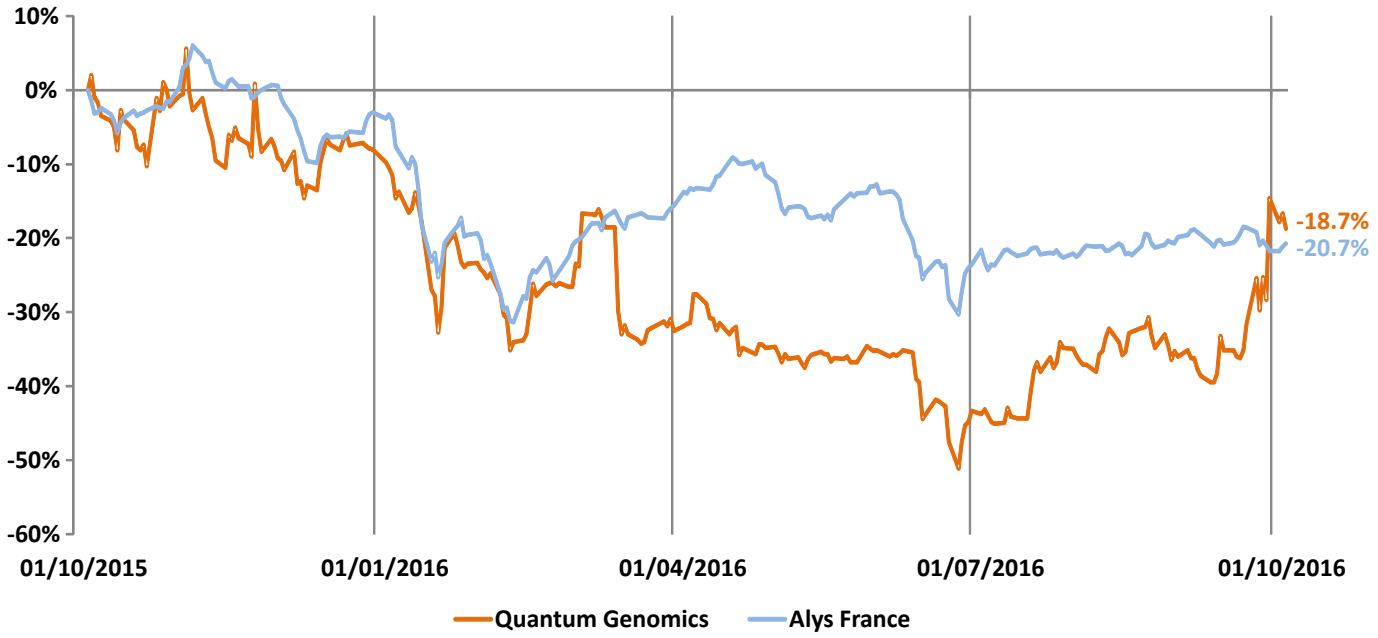

Figure 1. Quantum Genomics' one-year stock performance as of October 05th, 2016, compared to other French smallcaps of the healthcare and life sciences sector (Alys France Index)

As of October 5th 2016, Quantum Genomics's shares [Alternext: ALQGC.PA] where traded at €7.52. This corresponds to an 11.6% decline, since the beginning of the year. This performance is correlated with that of French and European Biotech indices (see figure 1). Over the same period, the Next Biotech and Alys France indices lost 16.0% and 18.3%, respectively. In September 2016, Quantum Genomics also benefited from the strong interest from investors who anticipated the release of top line Phase 2a trial results with QGC001 in hypertension. The company's stock gained 33% in September 2016, including a 20% increase following the communication of positive results on the study. The 3-month daily average volume for Quantum Genomics is 70,000 shares.

Financials

EARNING PER SHARE (€)	2013	2014	2015	2016e	2017e	2018e
EPS	-0,38	-0,46	-0,54	-0,57	-0,66	0,31
EPS (Diluted)			-0,50	-0,49	-0,56	0,26

INCOME STATEMENT (€M)	2013	2014	2015	2016e	2017e	2018e
Revenue	0,0	0,3	0,2	0,0	0,0	8,7
EBIT	-1,9	-2,4	-4,3	-5,6	-6,5	1,5
Net Income	**-1,5**	**-2,2**	**-3,8**	**-4,8**	**-5,5**	**2,6**

CASH FLOW STATEMENT (€M)	2013	2014	2015	2016e	2017e	2018e
Net Income	**-1,5**	**-2,2**	**-3,8**	**-4,8**	**-5,5**	**2,6**
Cash flow from operating activities	0,0	-2,2	-3,1	-4,5	-5,0	2,8
Cash flow from investment activities	0,0	0,0	-0,4	-0,1	-0,1	-0,1
Cash Flow from financing activities	0,0	0,0	8,8	8,1	0,0	-0,2
Change in cash	**0,0**	**-2,2**	**5,3**	**3,5**	**-5,2**	**2,4**

BALANCE SHEET (€M)	2013	2014	2015	2016e	2017e	2018e
ASSETS						
Non current assets	0,5	0,6	0,5	0,6	0,7	0,7
Current assets	1,1	4,1	10,0	13,2	8,1	10,6
Including cash and cash equivalent	0,3	3,3	8,7	12,1	6,9	9,3
Total Assets	**1,7**	**4,8**	**10,5**	**13,8**	**8,8**	**11,3**
LIABILITIES & SHAREHOLDERS EQUITY						
Total Equity	-1,6	-0,1	8,0	11,3	5,8	8,4
Total Liabilities	3,3	4,9	2,5	2,5	3,0	2,9
Total Liabilities and shareholders equity	**1,7**	**4,8**	**10,5**	**13,8**	**8,8**	**11,3**

Notes

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