EDISON

Quantum Genomics

Earnings report

Accelerating clinical studies

Pharma & biotech

Quantum Genomics reported its yearly results, which highlighted the significant progress the company has made towards the commercialisation of its product, QGC001, for treatment of hypertension (HT) and heart failure (HF). In 2016, the company both completed a 34-person Phase II HT trial (results expected June 2017) and initiated a 75-person European Phase II trial examining the drug for HF (results early 2018). The company is also set up to initiate a US Phase II for HT in H217.

Year end	Revenue (€m)	PBT* (€m)	EPS* (€)	DPS (€)	P/E (x)	Yield (%)
12/15	0.1	(4.5)	(0.55)	0.0	N/A	N/A
12/16	0.0	(6.2)	(0.60)	0.0	N/A	N/A
12/17e	0.0	(7.4)	(0.71)	0.0	N/A	N/A
12/18e	0.0	(12.8)	(1.17)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

HF at full sail

The company announced that all 10 centres in its Phase II HF trial are now enrolling patients. The trial will examine changes in the HF biomarker N-terminal pro b-type natriuretic peptide over the course of 28 days in diagnosed worsening HF patients. The trial is expected to be completed by the end of 2017 and we expect a data readout shortly afterwards in H118.

US HT trial ready to start

The company has been in the planning stages of a US-based HT trial and is currently completing the final toxicology studies necessary to file an IND with the FDA mid-year. It has also met with the FDA and received the agency's approval for a 'targeted' trial design, which we assume will allow the company to specifically evaluate patients with low-renin HT. Low-renin patients are a particularly underserved population, making up 25% of the 70 million HT patients in the US and 52% of African American HT patients, but can potentially be treated with QGC001.

YE16 results: Cash and spending on track

Quantum Genomics had operational spending of €6.2m in 2016, up from €4.3m in 2015. This increase was predominantly due to the initiation of the Phase II HF trial, and we expect spending to continue to increase with the initiation of the US HT trial in H217. We currently forecast €7.1m in opex in 2017. The company ended the year with €11.2m, although we expect the company to require an additional €20m to bring both programmes to Phase III ready status and potential licensing.

Valuation: Increased to €180m or €20.60 per share

We have increased our valuation of Quantum Genomics to €180m or €20.60 per share from €172m or €20.51 per share. This is due to advancing our NPVs, offset by lower net cash and moving up some R&D spending. We expect to update our valuation following the release of results in June 2017 from the previously completed Phase IIa HT trial.

4 April 2017

Price	**€5.22**
Market cap	**€46m**
	$1.07/€1
Net cash (€m) at December 2016	11.2
Shares in issue	8.75m
Free float	62%
Code	ALQGC
Primary exchange	Alternext Paris
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	(1.9)	(28.2)	(17.6)
Rel (local)	(3.9)	(31.2)	(30.0)
52-week high/low		€7.90	€4.52

Business description

Quantum Genomics is a biopharmaceutical company developing QGC001, a brain aminopeptidase A inhibitor for the treatment of hypertension and heart failure. Its mechanism is implicated in the 25% of patients resistant to treatment. In-human efficacy data are expected in June 2017.

Next events

Hypertension Phase IIa data	June 2017
Hypertension Phase IIb start	H217
Heart failure Phase IIa data	H118

Analysts

Maxim Jacobs +1 646 653 7027

Nathaniel Calloway +1 646 653 7036

healthcare@edisongroup.com

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Quantum Genomics is a research client of Edison Investment Research Limited

Investment summary

Quantum Genomics made significant progress in 2016 towards the clinical development and ultimate commercialisation of QGC001 for HT and HF. QGC001 is an inhibitor of brain angiotensin III, a component of the renin-angiotensin system important for the maintenance of blood pressure. Angiotensin receptor blockers (ARBs) and angiotensin converting enzyme (ACE) inhibitors are two widely studied and successful classes of drug that target angiotensin II to manage blood pressure. However, despite the role of the brain renin-angiotensin system in some forms of HT, this axis of the disease has not been previously targeted. In particular, patients with so-called low-renin HT respond very poorly to ARBs and ACE inhibitors. This variant is present in 25% of the 70 million HT patients in the US, but is endemic among hypertensive African Americans (52%).

Clinical progress

Quantum Genomics completed a 34-person Phase II clinical trial in April 2016. The company reported limited top-line results of the study in September 2016, but did not provide a detailed breakdown of the results. It has announced that the full data from the trial will be released at the European Meeting of Hypertension and Cardiovascular Protection organised by the European Society of Hypertension in June 2017. This trial did not segregate individuals on the basis of their renin status, and as such we anticipate that the drug benefit will be varied between different patient subtypes, and that this information can be used to structure future trials.

To this end, the company is designing a US-based Phase II trial of QGC001 named NEW HOPE. In 2016, the company secured the necessary patents to begin and met with the FDA with regard to the trial's design. With the FDA's blessing, the trial will target specific HT populations, which we assume will include the low-renin group. The previous Phase II clinical study could not be structured to target this group because of French legislation regarding clinical trial enrolment criteria. The company is in the final stage of preclinical toxicology studies necessary to file an IND by mid-2017. It intends to initiate NEW HOPE in H217 and we expect more details of the design to be forthcoming.

Quantum Genomics is also investigating QGC001 for the treatment of HF (under the designation QGC101). HT has an exceptionally high comorbidity with HF and virtually every drug approved for the former is also approved for the latter. However, the HF development pathway has significant advantages over HT. First, HF drugs command significantly higher prices at approximately $4000-5000 per year compared to approximately $1000 for the highly genericised HT market. Additionally, clinical trials for HF require significantly fewer patients. The ongoing Phase III clinical trial for Vericiguat (Merck/Bayer) has a targeted enrolment of 4,872, compared to the tens of thousands needed for HT trials like the 19,394-person trial of Zestril (AstraZeneca).

The company initiated its HF programme in 2016 with a 75-person Phase II clinical trial in Europe, termed QUID HF (Quantum Genomics Incremental Dosing in Heart Failure). The trial will enrol patients with diagnosed worsening HF and the end point for the study is a decrease in N-terminal pro b-type natriuretic peptide, a key marker of heart dysfunction. All 10 participating hospitals are currently enrolling patients and we expect the trial to provide preliminary data in early 2018.

Quantum Genomics recently received its first patent on combination therapies including QGC001, which is important for understanding the future direction of the company beyond the current clinical programmes. The patent filed with the European Patent Office (2,793,878) describes the co-formulation of the molecule with ARBs and ACE inhibitors. These combinations will likely be able to address a broader spectrum of HT patients by targeting multiple pathways, and there is potential for synergies, although this is currently unknown. Moreover, future development partners may see a

QGC001 combination as a viable pipeline management solution. The timeline for any combination clinical programmes is unknown as this time, but the company has stated that it is performing clinically enabling studies of QGC001 in combination with an ACE inhibitor.

Valuation

We have increased our valuation of Quantum Genomics to €180m or €20.60 per share from €172m or €20.51 per share. This increase is due to advancing our NPVs to YE16, partially offset by lower net cash (€11.2m vs €13.22) and moving up certain R&D costs to reflect the clinical timeline and historical spending. We expect that we will adjust our valuation following the June 2017 release of data from the Phase II HT clinical trial.

Exhibit 1: Quantum Genomics valuation

Product	Main Indication	Local	Status	Prob. of success	Launch year	Peak sales ($m)	Patent protection	rNPV (€m)
QGC001	HT	US	Phase IIa complete	15%	2023	1,110	2031	105.13
QGC001	HT	Europe	Phase IIa complete	15%	2023	959	2031	89.18
QGC001	Development costs							-110.90
QGC101	HF	US	Phase IIa	15%	2023	574	2031	66.91
QGC101	HF	Europe	Phase IIa	15%	2023	687	2031	79.39
QGC101	Development costs							-60.64
Total								169.07
Cash and cash equivalents (YE16) (€m)								11.20
Total firm value (€m)								180.26
Total shares (m)								8.75
Value per basic share (€)								20.61

Source: Edison Investment Research, Quantum Genomics reports

Financials

Quantum genomics reported an operational loss of €6.2m in 2016 compared to €4.3m in 2015, with the increase primarily driven by the advancement of the clinical programme and the initiation of the European Phase II HF trial. We expect this spending on R&D to continue to increase in 2017 and currently predict operating losses of €7.2m for the year. This is an increase from our previous estimates of €5.3m for 2017, as the HT trial is progressing at a faster pace than we previously modelled, as well as adjustments to baseline burn rates. However, this does not impact our financing timeline because these changes are largely temporal adjustments. The company ended the year with €11.2m in cash and investments, which we expect will be sufficient to finance the HF Phase II trial, but we suggest that the company will need €20m in additional financing to progress the current clinical programmes to be Phase III ready, and we currently model this financing in 2018 (as illustrative debt). We expect further development to be financed via a partnership.

Exhibit 2: Financial summary

€000s	2014	2015	2016	2017e	2018e
Year end 31 December	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue	324	144	0	0	0
Cost of Sales	0	(0)	0	0	0
Gross Profit	324	144	0	0	0
EBITDA	(2,418)	(4,310)	(6,216)	(7,172)	(10,948)
Operating Profit (before GW and except.)	(2,418)	(4,310)	(6,216)	(7,172)	(10,948)
Intangible Amortisation	0	0	0	0	0
Other	0	0	1	0	0
Exceptionals	0	0	0	0	0
Operating Profit	(2,418)	(4,310)	(6,216)	(7,172)	(10,948)
Net Interest	(20)	(222)	0	(217)	(1,816)
Other	(105)	54	18	0	0
Profit Before Tax (norm)	(2,537)	(4,503)	(6,216)	(7,390)	(12,764)
Profit Before Tax (FRS 3)	(2,542)	(4,479)	(6,198)	(7,390)	(12,764)
Tax	335	714	958	961	1,659
Deferred tax	0	0	0	0	0
Profit After Tax (norm)	(2,202)	(3,789)	(5,258)	(6,429)	(11,105)
Profit After Tax (FRS 3)	(2,207)	(3,765)	(5,240)	(6,429)	(11,105)
Average Number of Shares Outstanding (m)	4.8	6.9	8.7	9.1	9.5
EPS - normalised (€)	(0.46)	(0.55)	(0.60)	(0.71)	(1.17)
EPS - FRS 3 (€)	(0.46)	(0.54)	(0.60)	(0.71)	(1.17)
Dividend per share (€)	0.0	0.0	0.0	0.0	0.0
BALANCE SHEET					
Fixed Assets	623	520	701	711	719
Intangible Assets	66	108	142	142	142
Tangible Assets	32	54	60	70	78
Other	525	358	500	500	500
Current Assets	4,129	10,020	13,809	7,370	16,257
Stocks	0	14	1,011	1,011	1,011
Debtors	811	1,354	1,599	1,599	1,599
Cash	3,318	8,652	11,198	4,758	13,646
Other	0	0	1	1	1
Current Liabilities	(4,035)	(728)	(1,269)	(1,269)	(1,269)
Creditors	(728)	(728)	(1,268)	(1,268)	(1,268)
Short term borrowings	(3,308)	(1)	(1)	(1)	(1)
Long Term Liabilities	(847)	(1,790)	(2,718)	(2,718)	(22,718)
Long term borrowings	(847)	(1,790)	(2,715)	(2,715)	(22,715)
Other long term liabilities	0	0	(4)	(4)	(4)
Net Assets	(130)	8,022	10,524	4,095	(7,010)
CASH FLOW					
Operating Cash Flow	(2,791)	(3,142)	(5,531)	(6,415)	(11,088)
Net Interest	0	0	0	0	0
Tax	0	0	0	0	0
Capex	(304)	(72)	(66)	(25)	(25)
Acquisitions/disposals	0	0	0	0	0
Financing	3,699	12,150	7,744	0	0
Dividends	0	0	0	0	0
Other	116	(296)	399	0	0
Net Cash Flow	719	8,640	2,546	(6,439)	(11,113)
Opening net debt/(cash)	118	837	(6,861)	(8,482)	(2,043)
HP finance leases initiated	0	0	0	0	0
Exchange rate movements	0	0	0	0	0
Other	-1438	-942	-925	0	0
Closing net debt/(cash)	837	(6,861)	(8,482)	(2,043)	9,070

Source: Edison Investment Research, Quantum Genomics reports

Frankfurt +49 (0)69 78 8076 960
Schumannstrasse 34b
60325 Frankfurt
Germany

London +44 (0)20 3077 5700
280 High Holborn
London, WC1V 7EE
United Kingdom

New York +1 646 653 7026
245 Park Avenue, 39th Floor
10167, New York
US

Sydney +61 (0)2 8249 8342
Level 12, Office 1205
95 Pitt Street, Sydney
NSW 2000, Australia