

# Quantum Genomics

Financial update

## NEW-HOPE trial launched

Quantum Genomics recently announced H117 financial results and gave a business update for the first three quarters of the year. It highlighted the results of its Phase IIa trial for QGC001 in hypertension and the launch of the NEW-HOPE study in 250 hypertensive overweight patients across 25 major hospitals in the United States. The company is expecting to complete its 75-patient Phase II study of QGC001 in heart failure by the end of the year, with data expected in H118.

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	(8.6)	(0.76)	0.0	N/A	N/A
12/18e	0.0	(11.9)	(0.91)	0.0	N/A	N/A

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

## Hypertension trial progress

Quantum Genomics has recently launched the NEW-HOPE trial in hypertensive overweight patients across 25 major US hospitals with a primary endpoint of change from baseline in office systolic blood pressure (SBP) at week eight. The first patient is expected to be recruited by the end of the year, with final data expected in Q119.

## Potential to focus on patients with the highest need

One of the core premises of QGC001 is that it targets the brain renin-angiotensin system, which is specifically implicated in certain forms of resistant primary hypertension. One such class is the so-called low renin subtype, which is present in 25% of American hypertensive patients and 52% of hypertensive African Americans. The Phase IIb trial will be enriched for these patients who are expected to respond and have the highest unmet medical need.

## QGC001 has potential in heart failure

Hypertension is significantly comorbid with heart failure, and virtually every drug used to treat the former is also approved for the latter. Quantum Genomics has an ongoing study in 75-patients, which is expected to be completed by YE17 with data in H118. Despite a smaller market (six million US patients), it has a significantly higher price point and more research interest than hypertension, which may provide the leverage to secure a partnership.

## Valuation: €195m or €17.79 per share

We have adjusted our valuation of Quantum Genomics from €180m or €20.61 per share to €195m or €17.79 per share. The valuation increase is due to advancing our NPVs and a higher cash balance, while the per share valuation decreased due to a higher share count following the €8.2m private placement in July. We expect to update our valuation with the release of data from the Phase IIa heart failure trial in H118.

## Pharma & biotech

5 October 2017

**Price** €2.93

**Market cap** €32m

Net cash (€m) at 30 June 2017 7.3

Shares in issue 10.95m

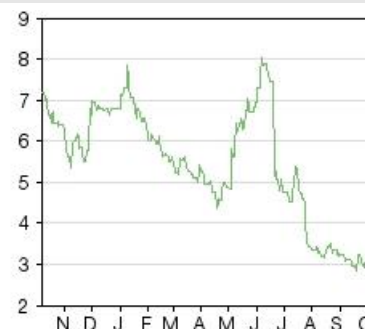
Free float 71.7%

Code ALQGC

Primary exchange Alternext Paris

Secondary exchange N/A

## Share price performance



% 1m 3m 12m

Abs (9.8) (38.3) (62.0)

Rel (local) (14.2) (40.7) (68.3)

52-week high/low €8.1 €2.9

## 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.

## Next events

Heart failure Phase IIa data H118

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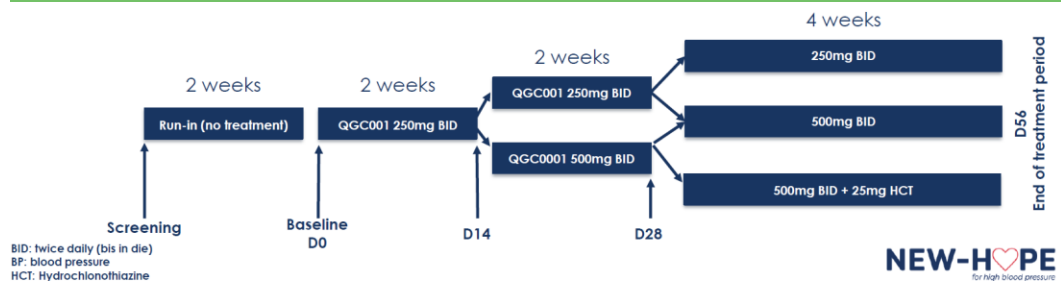
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## QGC001 progress

Quantum Genomics has announced that it has launched the NEW-HOPE trial in 250 hypertensive overweight (BMI 25-45kg/m<sup>2</sup>) patients, with a primary endpoint of change from baseline in office systolic blood pressure (SBP) at week eight. SBP at screening will have to be 145-170mmHg if previously untreated or 130-150mmHg if treated. Following a two-week run in period in which there would be no treatment, SBP would need to be 145-170mmHg. Patients will start off on 250mg twice a day (BID) for two weeks and then either continue at that dose or increase to 500mg BID for another two weeks. Following that, patients would either be on 250mg BID, 500mg BID or 500mg BID with 25mg of hydrochlorothiazide (HCT), an often used diuretic, added in.

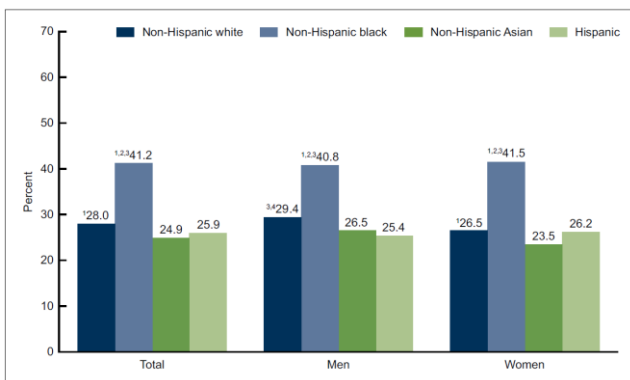
### Exhibit 1: NEW-HOPE study design



Source: Quantum Genomics

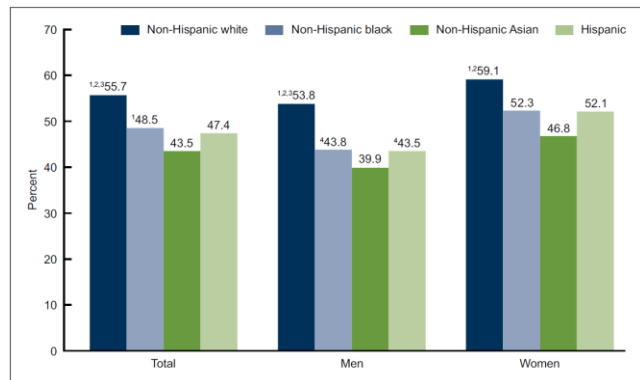
The company expects that at least 50% of patients will be self-identified as African American or Hispanic. African Americans have a higher prevalence of hypertension compared to other groups, but also, along with Hispanics, are less likely to have their hypertension under control compared to their white counterparts (see Exhibit 2 and Exhibit 3).

### Exhibit 2: Prevalence of hypertension among adults, by sex and race



Source: Yoon S et al., NCHS Data Brief. 2015 Nov;(220):1-8

### Exhibit 3: Percentage of adults with hypertension who have it controlled, by race and sex



Source: Yoon S et al., NCHS Data Brief. 2015 Nov;(220):1-8

These patients are also more likely to have low renin primary hypertension (52% in African Americans compared to 25% in the broader population), which is characterised by resistance to ACE inhibitors, ARBs and beta-blockers, commonly used classes of hypertension medications.<sup>1</sup> The targeting of the renin-angiotensin by QGC001 could be especially helpful in these patients.

<sup>1</sup> Bühler FR, et al. (1984) Renin profiling to select antihypertensive baseline drugs. Renin inhibitors for high-renin and calcium entry blockers for low-renin patients. *Am. J. Med.* 77, 36.

## QGC001 in heart failure

Quantum Genomics is also investigating QGC001 for the treatment of heart failure. Hypertension has an exceptionally high comorbidity with heart failure and virtually every drug approved for the former is also approved for the latter. However, the heart failure (HF) development pathway has significant advantages over hypertension. First, HF drugs command significantly higher prices at approximately \$4,000-5,000 per year compared to approximately \$1,000 for the highly genericised hypertension market. Additionally, clinical trials for HF require significantly fewer patients.

The company initiated its heart failure programme in 2016 with a 75-person Phase II clinical trial in Europe. The trial is enrolling patients with diagnosed worsening heart failure and the primary endpoints for the study are a decrease in N-terminal pro b-type natriuretic peptide, a key marker of heart dysfunction, as well as lower blood pressure. Enrolment in the trial should be completed by the end of the year with data in H118.

## Valuation

We have adjusted our valuation of Quantum Genomics from €180m or €20.61 per share to €195m or €17.79 per share. The valuation increase is due to advancing our NPVs and a higher cash balance, while the per share valuation decreased due to a higher share count following the financing. We expect to update our valuation with the release of data from the Phase IIa heart failure trial in H118.

Exhibit 4: Quantum Genomics valuation table								
Product	Main indication	Local	Status	Prob. of success	Launch year	Peak sales (\$m)	Patent protection	rNPV (€m)
QGC001	Hypertension	US	Phase II	15%	2023	\$1,110	2031	€111.51
QGC001	Hypertension	Europe	Phase II	15%	2023	\$959	2031	€94.59
QGC001	Development costs							(€117.62)
QGC101	Heart failure	US	Phase IIa	15%	2023	\$574	2031	€70.96
QGC101	Heart failure	Europe	Phase IIa	15%	2023	\$687	2031	€84.20
QGC101	Development costs							(€64.40)
Total								€179.23
Cash and cash equivalents (H117 + raise) (€m)								€15.54
<b>Total firm value (€m)</b>								<b>€194.77</b>
Total shares (m)								10.95
<b>Value per basic share (€)</b>								<b>€17.79</b>

Source: Edison Investment Research

## Financials

Quantum Genomics reported an operational loss of €4.5m in H117 compared to €3.1m in H116, with the increase primarily driven by the advancement of the clinical programmes in both hypertension and heart failure. We have increased our operating loss estimate from €7.2m to €8.6m, but have left later years unchanged as we already model increasing burn rates. The company ended H117 with €7.3m in cash and investments though added an additional €8.2m through a private placement of 2.2m shares in July. The company has stated it believes it is now funded until mid-2019, though we model €12m in additional financing next year (down from €20m previously due to the private placement) which we model as illustrative debt. We expect further development to be financed via a partnership.

**Exhibit 5: Financial summary**

€000s	2015	2016	2017e	2018e
	IFRS	IFRS	IFRS	IFRS
Year end 31 December				
<b>PROFIT &amp; LOSS</b>				
Revenue	144	0	0	0
Cost of Sales	(0)	0	0	0
Gross Profit	144	0	0	0
EBITDA	(4,310)	(6,216)	(8,592)	(10,948)
Operating Profit (before amort. and except.)	(4,310)	(6,216)	(8,592)	(10,948)
Intangible Amortisation	0	0	0	0
Other	0	1	0	0
Exceptionals	0	0	0	0
Operating Profit	(4,310)	(6,216)	(8,592)	(10,948)
Net Interest	(222)	0	0	(961)
Other	54	18	20	0
Profit Before Tax (norm)	(4,503)	(6,216)	(8,592)	(11,909)
Profit Before Tax (FRS 3)	(4,479)	(6,198)	(8,572)	(11,909)
Tax	714	958	1,110	1,548
Deferred tax	0	0	0	0
Profit After Tax (norm)	(3,789)	(5,258)	(7,482)	(10,361)
Profit After Tax (FRS 3)	(3,765)	(5,240)	(7,462)	(10,361)
Average Number of Shares Outstanding (m)	6.9	8.7	9.9	11.4
EPS - normalised (c)	(54.70)	(59.79)	(75.96)	(91.00)
EPS - FRS 3 (€)	(0.54)	(0.60)	(0.76)	(0.91)
Dividend per share (c)	0.0	0.0	0.0	0.0
<b>BALANCE SHEET</b>				
Fixed Assets	520	701	705	775
Intangible Assets	108	142	136	136
Tangible Assets	54	60	159	229
Other	358	500	410	410
Current Assets	10,020	13,809	14,820	16,389
Stocks	14	1,011	449	449
Debtors	1,354	1,599	2,322	2,322
Cash	8,652	11,198	12,048	13,617
Other	0	1	1	1
Current Liabilities	(2,128)	(3,481)	(3,469)	(3,469)
Creditors	(2,128)	(3,480)	(3,468)	(3,468)
Short term borrowings	(1)	(1)	(1)	(1)
Long Term Liabilities	(390)	(506)	(543)	(12,543)
Long term borrowings	(78)	(18)	(24)	(12,024)*
Other long term liabilities	(312)	(488)	(518)	(518)
Net Assets	8,022	10,524	11,514	1,152
<b>CASH FLOW</b>				
Operating Cash Flow	(3,142)	(5,531)	(7,398)	(10,323)
Net Interest	0	0	0	0
Tax	0	0	0	0
Capex	(72)	(66)	(108)	(108)
Acquisitions/disposals	0	0	0	0
Financing	12,150	7,744	8,418	0
Dividends	0	0	0	0
Other	(296)	399	(62)	0
Net Cash Flow	8,640	2,546	850	(10,431)
Opening net debt/(cash)	(5)	(8,573)	(11,179)	(12,022)
HP finance leases initiated	0	0	0	0
Exchange rate movements	0	0	0	0
Other	(72)	60	(6)	0
Closing net debt/(cash)	(8,573)	(11,179)	(12,022)	(1,591)

Source: Quantum Genomics accounts, Edison Investment Research. Note: \*We assume €12m additional financing, shown as debt for the purpose of our model.

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