

Quantum Genomics

Clinical update

The QUORUM trial

In April, Quantum Genomics announced it would be moving forward with the Phase IIb trial in heart failure and has recently announced the design of this study. The QUORUM study will assess the safety and efficacy of Quantum's drug firibastat (QGC001) compared to ramipril (brand name **Altace**), an angiotensin-converting-enzyme (ACE) inhibitor, in 300 subjects enrolled within 24 hours after suffering acute myocardial infarction (AMI). The study is expected to launch by the end of 2018 with results due in H220.

| Year end | Revenue (€m) | PBT* (€m) | EPS* (€) | DPS (€) | P/E (x) | Yield (%) |
|----------|--------------|-----------|----------|---------|---------|-----------|
| 12/16 | 0.0 | (6.2) | (0.60) | 0.0 | N/A | N/A |
| 12/17 | 0.0 | (10.3) | (0.93) | 0.0 | N/A | N/A |
| 12/18e | 0.0 | (11.4) | (0.73) | 0.0 | N/A | N/A |
| 12/19e | 0.0 | (16.2) | (1.00) | 0.0 | N/A | N/A |

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

Phase IIb heart failure trial design

The study will assess the safety and efficacy of firibastat compared to ramipril, an ACE inhibitor, in 300 subjects enrolled from 40 centres in the US and Europe within 24 hours of suffering AMI, also known as a heart attack. The primary endpoint will be the change from baseline in left ventricular ejection fraction (LVEF) after a three-month treatment. Secondary endpoints will include cardiac events, functional status and change in heart failure biomarkers.

Around 735,000 heart attacks in the US annually

According to the Centers for Disease Control, there are about 735,000 heart attacks in the year in the US, with 210,000 of those being repeat heart attacks. And according to the American College of Cardiology, 23% of women and 18% of men die within a year of their first recognised heart attack.

NEW-HOPE continues to enrol well

In April, Quantum Genomics announced that enrolment in its NEW-HOPE trial was outpacing internal projections and that patient dosing is expected to be completed by the end of 2018 with data in Q119. NEW-HOPE is a study of firibastat in 250 hypertensive overweight patients across 25 major US hospitals, with a primary endpoint of change from baseline in office systolic blood pressure at week eight.

Valuation: €207m or €18.45 per share

We are increasing our valuation to €207m or €18.45 per share from €201m or €18.31 per share as we have rolled forward our NPVs, although this was mitigated by a slightly higher share count. We may revisit our valuation following additional data from the ongoing clinical trials.

Pharma & biotech

28 June 2018

Price €1.91
Market cap €22m

| | |
|-----------------------------------|----------------|
| Net cash (€m) at 31 December 2017 | 11.1 |
| Shares in issue | 11.2m |
| Free float | 68.5% |
| Code | ALQGX |
| Primary exchange | Euronext Paris |
| Secondary exchange | OTCQX |

Share price performance



| | | | |
|------------------|--------|--------|--------|
| % | 1m | 3m | 12m |
| Abs | (16.8) | (17.5) | (61.8) |
| Rel (local) | (13.7) | (20.6) | (62.5) |
| 52-week high/low | | €5.4 | €1.9 |

Business description

Quantum Genomics is a biopharmaceutical company developing firibastat, 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. The Phase IIb in hypertension is enrolling rapidly and the Phase IIb in heart failure should start by the end of 2018.

Next events

| | |
|---|------|
| Initiation of Phase IIb heart failure study | Q418 |
| NEW-HOPE data | Q119 |

Analysts

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Quantum Genomics is a research client of Edison Investment Research Limited

Heart failure study design announced

In April, Quantum Genomics announced it would be moving forward with the Phase IIb trial in heart failure and, as promised, has announced the design of this study. The QUORUM study will assess the safety and efficacy of Quantum's drug firibastat compared to ramipril, an ACE inhibitor, in 300 subjects enrolled within 24 hours of suffering AMI, who were treated with primary percutaneous coronary intervention and have reduced LVEF. The primary endpoint will be the change from baseline in LVEF after a three-month treatment. Secondary endpoints will include cardiac events, functional status and change in heart failure biomarkers. The subjects will be recruited from 40 centres in the US and Europe and the trial is expected to launch by the end of 2018 with results expected in H220.

It makes sense for Quantum Genomics to develop firibastat for heart failure as the same classes of drugs used to treat hypertension are also used for heart failure, because a reduction in blood pressure reduces strain on the heart and prevents the associated hypertrophy and other disorders that can lead to reduced function. Moreover, ramipril, an ACE inhibitor used in hypertension, had been able to show a statistically significant mortality benefit versus placebo in patients where ramipril therapy was initiated between day three and day 10 post-heart attack. As seen in Exhibit 1, 17% of patients in the ramipril arm died versus 23% in the placebo arm (HR=0.73, p=0.002).

Exhibit 1: Ramipril versus placebo in post-AMI patients

| Endpoint | Ramipril (n=1004) | Placebo (n=982) |
|--------------------------------|-------------------|-----------------|
| Death (primary endpoint) | 170 (17%) | 222 (23%) |
| Severe/resistant heart failure | 143 (14%) | 178 (18%) |
| Reinfarction | 81 (8%) | 88 (9%) |
| Stroke | 25 (2%) | 17 (2%) |

Source: The AIRE Study group, Effect of ramipril on mortality and morbidity of survivors of acute myocardial infarction with clinical evidence of heart failure. Lancet 1993; 342: 821-28.

Valuation

We are increasing our valuation to €207m or €18.45 per share from €201m or €18.31 per share as we have rolled forward our NPVs, although this was mitigated by a slightly higher share count. We may revisit our valuation following additional data from the ongoing clinical trials.

Exhibit 2: Quantum Genomics valuation

| Product | Main indication | Local | Status | Prob. of success | Launch year | Peak sales (\$m) | Patent protection | rNPV (€m) |
|---|-------------------|--------|-----------|------------------|-------------|------------------|-------------------|---------------|
| Firibastat (QGC001) | Hypertension | US | Phase II | 15% | 2023 | 1,110 | 2031 | 121.80 |
| Firibastat (QGC001) | Hypertension | Europe | Phase II | 15% | 2023 | 959 | 2031 | 103.32 |
| Firibastat (QGC001) | Development costs | | | | | | | (128.49) |
| Firibastat (QGC001) | Heart failure | US | Phase IIb | 15% | 2023 | 574 | 2031 | 77.52 |
| Firibastat (QGC001) | Heart failure | Europe | Phase IIb | 15% | 2023 | 687 | 2031 | 91.98 |
| Firibastat (QGC001) | Development costs | | | | | | | (70.28) |
| Total | | | | | | | | 195.86 |
| Cash and cash equivalents (31 December 2017) (€m) | | | | | | | | 11.09 |
| Total firm value (€m) | | | | | | | | 206.95 |
| Total shares (31 May 2018) (m) | | | | | | | | 11.21 |
| Value per basic share (€) | | | | | | | | 18.45 |

Source: Edison Investment Research

Financials

Quantum ended 2017 with €11.1m in cash and investments. In March, it announced an equity line of credit with Kepler Cheuvreux, which could raise €24m over three years in four tranches. The company has stated it believes the equity line would fund it through the end of 2020. This will be somewhat dependent on whether additional trials are conducted by the company or a partner. As late-stage cardiovascular trials are extremely expensive to conduct, we expect further development (such as Phase III trials) to be financed via a partnership.

| Exhibit 3: Financial summary | | | | | |
|--|-------|----------|----------|----------|----------|
| | €000s | 2016 | 2017 | 2018e | 2019e |
| Year end 31 December | | PCG | PCG | PCG | PCG |
| PROFIT & LOSS | | | | | |
| Revenue | | 0 | 0 | 0 | 0 |
| Cost of Sales | | 0 | 0 | 0 | 0 |
| Gross Profit | | 0 | 0 | 0 | 0 |
| EBITDA | | (6,216) | (10,292) | (10,948) | (14,792) |
| Operating Profit (before amort. and except.) | | (6,216) | (10,292) | (10,948) | (14,792) |
| Intangible Amortisation | | 0 | 0 | 0 | 0 |
| Other | | 1 | 0 | 0 | 0 |
| Exceptionals | | 0 | 0 | 0 | 0 |
| Operating Profit | | (6,216) | (10,292) | (10,948) | (14,792) |
| Net Interest | | 0 | 0 | (481) | (1,440) |
| Other | | 18 | (176) | 0 | 0 |
| Profit Before Tax (norm) | | (6,216) | (10,292) | (11,429) | (16,232) |
| Profit Before Tax (FRS 3) | | (6,198) | (10,468) | (11,429) | (16,232) |
| Tax | | 958 | 1,150 | 1,486 | 2,110 |
| Deferred tax | | 0 | 0 | 0 | 0 |
| Profit After Tax (norm) | | (5,258) | (9,142) | (9,943) | (14,122) |
| Profit After Tax (FRS 3) | | (5,240) | (9,318) | (9,943) | (14,122) |
| Average Number of Shares Outstanding (m) | | 8.7 | 9.9 | 13.6 | 14.1 |
| EPS - normalised (c) | | (59.79) | (92.81) | (73.20) | (99.97) |
| EPS - FRS 3 (€) | | (0.60) | (0.95) | (0.73) | (1.00) |
| Dividend per share (c) | | 0.0 | 0.0 | 0.0 | 0.0 |
| BALANCE SHEET | | | | | |
| Fixed Assets | | 701 | 439 | 434 | 431 |
| Intangible Assets | | 142 | 91 | 91 | 91 |
| Tangible Assets | | 60 | 52 | 48 | 44 |
| Other | | 500 | 296 | 296 | 296 |
| Current Assets | | 13,809 | 13,478 | 15,540 | 13,422 |
| Stocks | | 1,011 | 189 | 189 | 189 |
| Debtors | | 1,599 | 2,197 | 2,197 | 2,197 |
| Cash | | 11,198 | 11,089 | 13,151 | 11,033 |
| Other | | 1 | 3 | 3 | 3 |
| Current Liabilities | | (3,481) | (4,572) | (4,572) | (4,572) |
| Creditors | | (3,480) | (4,571) | (4,571) | (4,571) |
| Short term borrowings | | (1) | (1) | (1) | (1) |
| Long Term Liabilities | | (506) | (474) | (6,474) | (18,474) |
| Long term borrowings | | (18) | (19) | (6,019) | (18,019) |
| Other long term liabilities | | (488) | (454) | (454) | (454) |
| Net Assets | | 10,524 | 8,871 | 4,929 | (9,193) |
| CASH FLOW | | | | | |
| Operating Cash Flow | | (5,531) | (7,977) | (9,931) | (14,110) |
| Net Interest | | 0 | 0 | 0 | 0 |
| Tax | | 0 | 0 | 0 | 0 |
| Capex | | (66) | 32 | (8) | (8) |
| Acquisitions/disposals | | 0 | 0 | 0 | 0 |
| Financing | | 7,744 | 7,733 | 6,000 | 0 |
| Dividends | | 0 | 0 | 0 | 0 |
| Other | | 399 | 104 | 0 | 0 |
| Net Cash Flow | | 2,546 | (108) | (3,939) | (14,118) |
| Opening net debt/(cash) | | (8,573) | (11,179) | (11,069) | (7,131) |
| HP finance leases initiated | | 0 | 0 | 0 | 0 |
| Exchange rate movements | | 0 | 0 | 0 | 0 |
| Other | | 60 | -2 | 0 | 0 |
| Closing net debt/(cash) | | (11,179) | (11,069) | (7,131) | 6,988 |

Source: Quantum Genomics accounts, Edison Investment Research. Note: We assume €24m additional financing, the amount of the equity credit line, €18m of which is shown as debt for the purpose of our model.

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