EDISON

4SC

Q118 company update

Yakult starts Phase II trial; fresh 4SC-202 data

Pharma & biotech

Yakult, 4SC's development partner for resminostat in Japan, has reached two clinical development milestones. First, just two weeks after it joined 4SC's pivotal RESMAIN study (n=150) in CTCL, the company recruited the first patient in Japan. Top-line results from the RESMAIN trial are expected in mid-2019. In addition, Yakult initiated its own Phase II study in biliary tract cancer (n=100) in combination with S-1 chemotherapy. S-1 is widely used in Japan and other Asian countries to treat patients following relapse after a 1st line chemotherapy regimen. The final data readout is expected in mid-2020. Meanwhile, at the AACR Annual Meeting in April, 4SC presented new preclinical data supporting the use of its second lead product, 4SC-202 in combination with various immunotherapy agents. Our valuation is virtually unchanged at €348 or €11.4/share.

Year end	Revenue (€m)	PBT* (€m)	EPS* (€)	DPS (€)	P/E (x)	Yield (%)
12/16	2.1	(10.9)	(0.54)	0.0	N/A	N/A
12/17	4.2	(10.0)	(0.41)	0.0	N/A	N/A
12/18e	4.7	(17.6)	(0.57)	0.0	N/A	N/A
12/19e	3.1	(19.2)	(0.63)	0.0	N/A	N/A

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

New preclinical data with second lead asset 4SC-202

4SC has recently presented fresh preclinical data with 4SC-202 at the AACR Annual Meeting in Chicago, US on 14-18 April 2018. The findings show 4SC-202's synergistic effect in combinations (double and triple) with various immunotherapy agents in animal cancer model. This backs the company's previously announced intention to carry out a broad clinical programme for 4SC-202 involving combination studies with checkpoint inhibitors (CPI) to tackle the high non-responder issue. Currently, 4SC-202 (HDAC class I specific inhibitor) is being studied in a Phase Ib/II trial SENSITIZE in unresectable melanoma in combination with pembrolizumab (Keytruda). The study is expected to be completed in H119 with top-line results from the first patient cohorts available in H218. Another investigator-led Phase II EMERGE study will test 4SC-202 in combination with the anti-PD-L1 antibody avelumab for treating GI tumours.

On track to reach significant clinical milestones

4SC's brief financial update indicated that the average cash burn in Q118 was €1.8m/month, in line with management's previous guidance for FY18 (€1.8-2.0m/month) and our model. This was up from €1.3m in Q117 due to increased clinical R&D. 4SC continues to guide cash reach into 2020 and should deliver a number of R&D catalysts until then (see below).

Valuation: Unchanged at €11.4/share (€348m)

Our rNPV-based valuation is virtually unchanged at €348m or €11.4/share versus €349m (€11.4/share) previously, due to slightly lower cash which was offset by rolling our model forward. We keep all our R&D assumptions for the assets unchanged. First interim data from the SENSITIZE study are expected later this year.

3 May 2018

Price	**€6.10**
Market cap	**€187m**
Net cash (€m) at 31 March 2018	35.9
Shares in issue	30.6m
Free float	35%
Code	VSC
Primary exchange	Frankfurt (Xetra)
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	(13.2)	(11.1)	162.7
Rel (local)	(18.0)	(11.2)	156.7
52-week high/low		€8.5	€2.3

Business description

4SC is a Munich-based cancer biopharmaceutical company. Resminostat (HDAC inhibitor) is the lead candidate for cutaneous T-cell lymphoma (CTCL, pivotal study started in Q416). It has a second compound, 4SC-202 (Phase Ib/II started in Q317) and a preclinical asset, 4SC-208. 4SC also has several partners including Yakult Honsha for resminostat in Japan in various indications.

Next events

Initiation of EMERGE study	H118
Top-line data from SENSITIZE study	H218
Top-line data from RESMAIN study	H119

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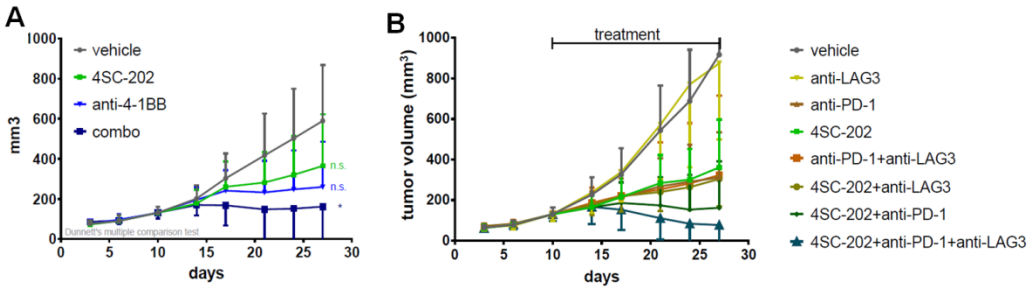
4SC-202 as immune primer in CPI combinations

4SC has already demonstrated in previous preclinical studies that 4SC-202 increases the immunogenicity of tumour cells and also increases the tumour response to CPIs when used in combination. The new study tested 4SC-202 in a C38 mouse tumour model and demonstrated increased tumour response to 4SC-202 with three different immuno-therapies: 4-1BB antibody (4-1BB is a potential novel immunotherapy target, Exhibit 1, A), anti-PD-1 antibody (RMP1-14, a CPI) and anti-LAG3 (C9B7W, a CPI) (Exhibit 1, B). The triple combination of 4SC-202 + anti-PD-1 antibody + anti-LAG3 showed the best response (Exhibit 1, B) and led to tumor regression in nearly all animals. The researchers concluded that the treatment with 4SC-202 enhanced inflammatory signature and infiltration of tumours with cytotoxic T-cells and, when used in combination with immunotherapies, the drug increased durable responses and animal survival.

In our view, the new data support 4SC-202's positioning as an immune primer in combinations with novel immunotherapies hoping to increase patient response. While this was an early animal study, the two aforementioned clinical trials, SENSITIZE and EMERGE, will deliver the first human proof-of-concept data in this setting. Building on that 4SC may initiate further combination studies in various indications and seek partners. Ultimately, 4SC plans to run its own pivotal trial with 4SC-202 in an orphan indication Merkel-cell carcinoma, as discussed in our previous report.

Exhibit 1: 4SC-202 increases efficacy of 4-1BB antibody (A) and checkpoint inhibitors (B) in a C38 mouse tumour model



Source: Hamm et al. 4SC-202 primes tumor microenvironment for treatment with cancer immunotherapy. *Poster presentation at AACR, 14-18 April 2018*

Upcoming newsflow

2018

- First data read-out from Phase Ib/II SENSITIZE study in melanoma (**4SC-202** with pembrolizumab) in H218 (first patient in Q417)
- Completion of recruitment to **resminostat** pivotal RESMAIN CTCL study
- Initiation of Phase II EMERGE study (**4SC-202** with avelumab) in H118, with safety data expected H218
- Data from preclinical studies with **4SC-202** in combination with CPIs published at oncological conferences in 2018
- Expected initiation of additional **4SC-202** CPI combination studies, including the first triple combination therapy study in collaboration with a new partner
- At least one new non-core asset licensing/partnering deal

2019

- CTCL pivotal RESMAIN study with **resminostat** top-line data read-out in H119
- Final data read-out from Phase Ib/II SENSITIZE study
- Interim data from Phase II EMERGE study in H219

2020

- **4SC-208** could enter the clinic in Q119, data read-out in Q419/Q120
- Final data read-out from **resminostat** Phase II trial in biliary tract cancer by Yakult mid-2020

2021

- Pivotal study with **4SC-202** following on from melanoma and GI cancer studies in MCC in Q119, data readout 2021

Exhibit 2: Financial summary

€'000s	2016	2017	2018e	2019e
Year end 31 December	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS				
Revenue	2,060	4,197	4,724	3,133
Cost of sales	(76)	(574)	(574)	(574)
Gross profit	1,984	3,623	4,150	2,559
R&D expenditure	(10,601)	(11,475)	(19,555)	(19,461)
Administrative, distribution and other	(3,175)	(3,084)	(3,195)	(3,289)
Operating profit	(11,792)	(10,936)	(18,600)	(20,191)
Intangible amortisation	(892)	(892)	(892)	(892)
Exceptionals (impairment / restructuring costs)	0	0	0	0
Share-based payments	0	0	(20)	(20)
EBITDA	(10,900)	(9,819)	(17,463)	(19,054)
Operating Profit (before amort and except.)	(10,900)	(10,044)	(17,688)	(19,279)
Net interest	(14)	9	100	100
Other (profit/loss from associates)	711	0	0	0
Profit before tax (norm)	(10,914)	(10,035)	(17,588)	(19,179)
Profit before tax (FRS 3)	(11,095)	(10,927)	(18,500)	(20,091)
Tax	(71)	(33)	0	0
Profit after tax (norm)	(10,274)	(10,068)	(17,588)	(19,179)
Profit after tax (FRS 3)	(11,166)	(10,960)	(18,500)	(20,091)
Average Number of Shares Outstanding (m)	19.0	24.8	30.6	30.6
EPS - normalised (€)	(0.54)	(0.41)	(0.57)	(0.63)
EPS - FRS 3 (€)	(0.59)	(0.44)	(0.60)	(0.66)
Dividend per share (c)	0.0	0.0	0.0	0.0
BALANCE SHEET				
Fixed assets	7,096	6,365	5,452	4,539
Intangible assets	6,499	5,694	4,806	3,918
Tangible assets	497	570	545	520
Investments and other	100	101	101	101
Current assets	11,959	41,548	22,957	4,522
Stocks	0	0	0	0
Debtors	95	30	30	30
Cash	10,048	41,327	22,736	4,301
Other current assets	1,816	191	191	191
Current liabilities	(3,257)	(2,759)	(3,636)	(2,840)
Creditors	(834)	(1,175)	(1,175)	(1,175)
Short-term borrowings	0	0	0	0
Deferred revenue (short term)	(1,431)	(1,485)	(2,362)	(1,566)
Other current liabilities	(992)	(99)	(99)	(99)
Long-term liabilities	(525)	(461)	(511)	(486)
Long-term borrowings	0	0	0	0
Deferred revenue (long term)	(493)	(394)	(444)	(419)
Other long-term liabilities	(32)	(67)	(67)	(67)
Net assets	15,273	44,693	24,263	5,735
CASH FLOW				
Operating cash flow	(12,320)	(8,508)	(18,390)	(18,234)
Net interest	(531)	0	3	3
Tax	(71)	(33)	0	0
Capex	(404)	(168)	(200)	(200)
Expenditure on intangibles	(60)	(4)	(4)	(4)
Acquisitions/disposals	2,808	39	0	0
Financing	0	39,953	0	0
Other	650	0	0	0
Net cash flow	(9,928)	31,279	(18,591)	(18,435)
Opening net debt/(cash)	(19,514)	(10,048)	(41,327)	(22,736)
HP finance leases initiated	0	0	0	0
Other	462	0	0	0
Closing net debt/(cash)	(10,048)	(41,327)	(22,736)	(4,301)

Source: Company accounts, Edison Investment Research

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