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Equity Research

Healthcare | U.S. Biotechnology

28 March 2014

Trevena Inc.

TRV027 Moving Ahead

What's new? The FDA advisory panel for Novartis' serelaxin for the treatment of acute heart failure was held yesterday and the panel voted 11 to 0 against an approval. TRVN is also developing an acute heart failure product, TRV027, which is currently in phase 2b trial. In our view, the disappointing serelaxin panel was more a result of inadequate trial design and is not a read-thru to TRV027. In addition, it is difficult to compare the structure of Novartis' phase 3 trial to the design of a phase 2b trial for TRV027.

Concerns of the serelaxin FDA panel. The committee's biggest concern was that the trial failed to show consistent dyspnea benefits and the only benefit shown was heavily skewed by the imputation of data. Sensitivity analyses removed the treatment effect and the effect on worsening heart failure was too poorly defined to draw conclusions. However, most panel members encouraged further development of the product.

TRVN can learn from these mistakes: At the panel, the FDA indicated that worsening heart failure is an acceptable endpoint as long as it is clearly defined and measured with enough detail. Two important factors to consider when characterizing worsening HF events are 1) severity of event as defined by the investigator and supported by intervention and 2) duration of event. Novartis inadequately defined the severity of events and did not evaluate the duration. With a better understanding of what the FDA is looking for in the design of an acute heart failure trial, we believe this only raises TRVN's likelihood of designing and conducting a successful phase 3 trial.

Phase 2b results expected by the end of 2015: TRVN initiated its phase 2b trial, BLAST-AHF, in January 2014 and full results are expected by the end of 2015. The trial will enroll 500 patients and will evaluate 3 doses of TRV027. The primary endpoint is a composite of clinical outcomes, including dyspnea, worsening heart failure, length of hospital stay, hospital readmission rates, and mortality. TRVN will take findings from this phase 2 trial to help design the phase 3 trials. If results are favorable, the phase 3 trials will start in the second half of 2016.

TRVN: Quarterly and Annual EPS (USD)

	2013	2014			2015			Change y/y	
FY Dec	Actual	Old	New	Cons	Old	New	Cons	2014	2015
Q1	N/A	-0.40E	-0.40E	-0.40E	-0.54E	-0.54E	-0.60E	N/A	-35%
Q2	N/A	-0.44E	-0.44E	-0.45E	-0.50E	-0.50E	-0.58E	N/A	-14%
Q3	-0.64A	-0.47E	-0.47E	-0.49E	-0.46E	-0.46E	-0.49E	27%	2%
Q4	-0.42A	-0.53E	-0.53E	-0.54E	1.91E	1.91E	0.78E	-26%	460%
Year	-1.61A	-1.84E	-1.84E	-1.89E	0.42E	0.42E	-1.02E	-14%	123%
P/E	N/A		N/A			15.8			

Source: Barclays Research.
Consensus numbers are from Thomson Reuters

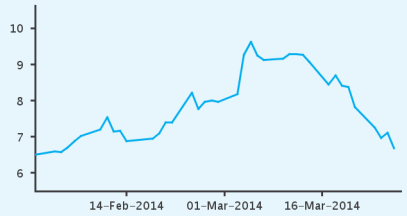
Stock Rating	OVERWEIGHT Unchanged
Industry View	NEUTRAL Unchanged
Price Target	USD 14.00 Unchanged

Price (27-Mar-2014)	USD 6.69
Potential Upside/Downside	+109%
Tickers	TRVN

Market Cap (USD mn)	175
Shares Outstanding (mn)	26.21
Free Float (%)	85.86
52 Wk Avg Daily Volume (mn)	0.2
Dividend Yield (%)	N/A
Return on Equity TTM (%)	N/A
Current BVPS (USD)	-3.36

Source: Thomson Reuters

Price Performance	Exchange-Nasdaq
52 Week range	USD 9.95-6.08



Link to Barclays Live for interactive charting

U.S. Biotechnology

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U.S. Biotechnology — **Industry View: NEUTRAL**

Trevena Inc. (TRVN)

Stock Rating: OVERWEIGHT

Income statement ($k)	2013A	2014E	2015E	2016E	CAGR
Revenue	135	0	65,000	0	-100.0%
EBITDA (adj)	-22,649	-47,338	12,629	-56,553	N/A
EBIT (adj)	-23,345	-48,000	12,000	-57,150	N/A
Pre-tax income (adj)	-23,585	-48,496	11,491	-57,596	N/A
Net income (adj)	-23,585	-48,496	11,491	-57,596	N/A
EPS (adj) ($)	-1.61	-1.84	0.42	-2.08	N/A
Diluted shares (k)	14,669	26,369	27,189	27,737	23.7%
DPS	N/A	N/A	N/A	N/A	N/A

Margin and return data					Average
EBITDA (adj) margin (%)	N/A	N/A	N/A	N/A	N/A
EBIT (adj) margin (%)	N/A	N/A	N/A	N/A	N/A
Pre-tax (adj) margin (%)	N/A	N/A	N/A	N/A	N/A
Net (adj) margin (%)	N/A	N/A	N/A	N/A	N/A
ROIC (%)	0.0	0.0	0.0	0.0	0.0
ROA (%)	0.0	0.0	0.0	0.0	0.0
ROE (%)	-60.5	-95.1	18.2	-891.1	-257.1

Balance sheet and cash flow ($k)					CAGR
Tangible fixed assets	343	-119	-248	-145	N/A
Intangible fixed assets	N/A	N/A	N/A	N/A	N/A
Cash and equivalents	37,965	56,330	69,234	12,722	-30.5%
Total assets	42,393	56,771	69,591	13,219	-32.2%
Short and long-term debt	0	0	0	0	N/A
Other long-term liabilities	N/A	N/A	N/A	N/A	N/A
Total liabilities	3,401	5,786	6,316	6,755	25.7%
Net debt/(funds)	-37,965	-56,330	-69,234	-12,722	N/A
Shareholders' equity	38,992	50,985	63,275	6,463	-45.1%
Change in working capital	36,109	51,641	64,060	7,145	-41.7%
Cash flow from operations	-23,676	-41,925	12,604	-56,596	N/A
Capital expenditure	-108	-200	-500	-700	N/A
Free cash flow	-23,568	-41,725	13,104	-55,896	N/A

Valuation and leverage metrics					Average
P/E (adj) (x)	N/A	N/A	15.8	N/A	15.8
EV/EBITDA (adj) (x)	-1.4	-0.3	0.0	-1.0	-0.7
Equity FCF yield (%)	N/A	N/A	N/A	N/A	N/A
EV/sales (x)	233.8	N/A	0.0	N/A	116.9
P/BV (x)	N/A	N/A	N/A	N/A	N/A
Dividend yield (%)	N/A	N/A	N/A	N/A	N/A
Total debt/capital (%)	0.0	0.0	0.0	0.0	0.0

Selected operating metrics					Average
SG&A/sales (%)	N/A	N/A	N/A	N/A	N/A
R&D/sales (%)	N/A	N/A	N/A	N/A	N/A
R&D growth (%)	N/A	N/A	N/A	N/A	N/A
SG&A growth (%)	N/A	N/A	N/A	N/A	N/A

Source: Company data, Barclays Research
Note: FY End Dec

Price (27-Mar-2014) USD 6.69
Price Target USD 14.00

Why Overweight? Trevena develops GPCR targeted therapies and its Advanced Biased Ligand Explorer platform discovers biased ligands that will help TRVN develop more targeted and selective therapies with improved efficacy and safety. It has two products in ph 2 trials in large markets (AHF and pain), which if successfully developed offer significant market opportunities.

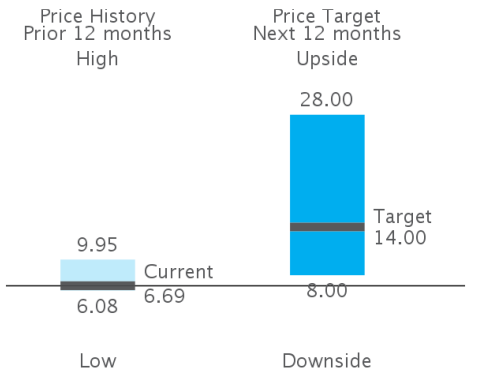
Upside case USD 28.00

Our upside scenario of $28 assumes an FDA approval for TRV130 as well as a positive outcome for the phase 2b for TRV027.

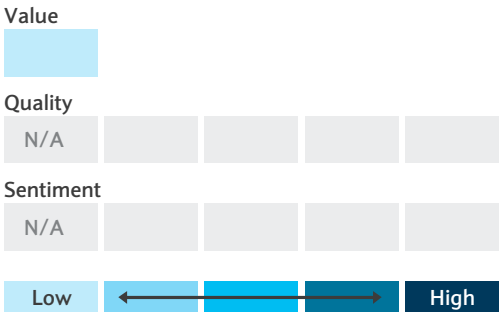
Downside case USD 8.00

Our downside scenario of $8 assumes the TRV027 acute heart failure program fails with TRV130 representing $6/share and some cash value.

Upside/Downside scenarios



POINT® Quantitative Equity Scores



Source: POINT®. The scores are valid as of the date of this report and are independent of the fundamental analysts' views. To view the latest scores, please go to the equity company page on Barclays Live.

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Primary Stocks (Ticker, Date, Price)

Trevena Inc. (TRVN, 27-Mar-2014, USD 6.69), Overweight/Neutral, A/C/D/J/L

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Halozyme Therapeutics Inc. (HALO)	Idenix Pharmaceuticals (IDIX)	Incyte Corp. (INCY)
Intrexon Corp. (XON)	Medivation Inc. (MDVN)	Regeneron Pharmaceuticals (REGN)
Tetraphase (TTPH)	Trevena Inc. (TRVN)	Vertex Pharmaceuticals (VRTX)

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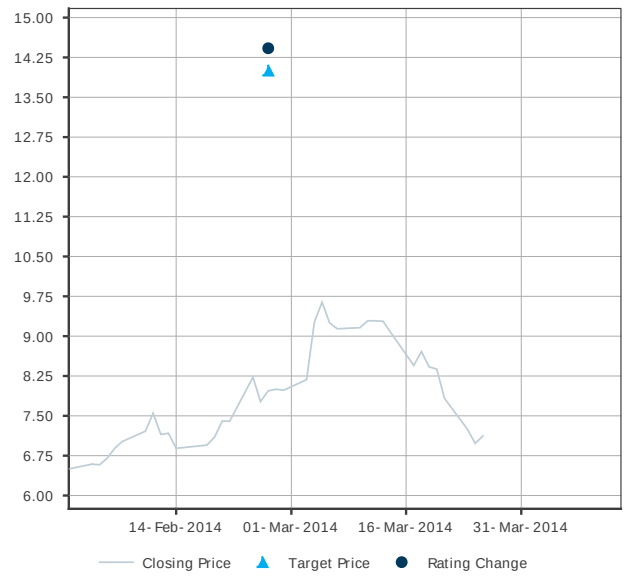
IMPORTANT DISCLOSURES CONTINUED

Trevena Inc. (TRVN)

Stock Rating	Industry View
USD 6.69 (27-Mar-2014)	**OVERWEIGHT**	**NEUTRAL**

Rating and Price Target Chart - USD (as of 27-Mar-2014) **Currency=USD**



Date	Closing Price	Rating	Adjusted Price Target
26-Feb-2014	7.97	Overweight	14.00

Source: Thomson Reuters, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Source: IDC, Barclays Research

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Valuation Methodology: We arrive at our price target using a probability-adjusted NPV analysis. We value the two foremost pipelien products - TRV130 at $6/share and TRV027 at $4/share. Including cash value of $4/share, we arrive at our price target of $14.

Risks which May Impede the Achievement of the Barclays Research Price Target: Downside risks include failure of trials results for both TRV130 and TRV027, ACT/FRX not opting to license TRV027, and inability to raise additional capital in the future.

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