

Trevena Inc.

## Pain Compounds Progressing

**What's New?** TRVN reported 1Q14 earnings and provided an update on its pipeline. TRVN is moving forward with its pain compounds (IV and oral) and we should see results from both within the next year.

### Multiple ascending dose study supports progress into phase 2 trial for TRV130:

TRVN has completed the first part of a multiple ascending dose study for patients with moderate to severe acute pain. The study measured the maximum tolerated dose and PK when multiple doses were given post surgery. Analgesic effect, safety/tolerability and PK/PD results thus far are consistent with early trials and supported the start of the phase 2 bunionectomy trial. The second part of the study is ongoing and will measure duration of effect in patients who are cytochrome P450 2D6 poor metabolizers.

**Phase 2 for TRV130 underway:** The phase 2 study will evaluate multiple doses in patients post a bunionectomy procedure. The trial will enroll a total of 400 patients – the first part will enroll 150 patients randomized to one of 6 cohorts (TRV130 1, 2, 3, and 4 mg every 4 hours, placebo, or morphine 4mg every 4 hours) and the second part will evaluate a total of 250 patients in 10 consecutive cohorts. Doses in these cohorts will be based on findings from part 1 and prior cohorts to narrow in on the most appropriate doses. Results are expected in 1Q15 and will be used in to help design the phase 3 trial. TRVN will start a second phase 2 trial in 4Q14 post soft tissue procedures.

**Dosing completed in phase 1 of TRV734, results mid-year:** TRVN has completed dosing in the phase 1 trial of TRV734, an oral small molecule G protein biased ligand that targets the  $\mu$ -opioid receptor for the treatment of moderate to severe acute chronic pain. Preclinical results for TRV734, showed a reduced impact on GI motility compared to oxycodone. The phase 1 trial will measure safety and tolerability of TRV734 in healthy volunteers and results are expected mid-year. TRVN hopes to show a decrease in adverse events such as depression, constipation, vomiting, and nausea. Management will also evaluate abuse deterrent technologies as TRV734 progresses in development.

### 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	-0.59A	-0.36E	-0.54E	-0.45E	-0.60E	N/A	24%
Q2	N/A	-0.44E	-0.41E	-0.40E	-0.50E	-0.45E	-0.58E	N/A	-10%
Q3	-0.64A	-0.47E	-0.42E	-0.43E	-0.46E	-0.45E	-0.49E	34%	-7%
Q4	-0.42A	-0.53E	-0.43E	-0.48E	1.91E	2.08E	0.78E	-2%	584%
Year	-1.61A	-1.84E	-1.80E	-1.66E	0.42E	0.76E	-1.02E	-12%	142%
P/E	N/A		N/A			6.3			

Source: Barclays Research.

Consensus numbers are from Thomson Reuters

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PLEASE SEE ANALYST CERTIFICATION(S) AND IMPORTANT DISCLOSURES BEGINNING ON PAGE 3.

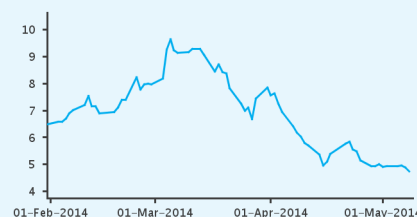
Stock Rating	<b>OVERWEIGHT</b>
	Unchanged
Industry View	<b>NEUTRAL</b>
	Unchanged
Price Target	<b>USD 14.00</b>
	Unchanged

Price (08-May-2014)	USD 4.75
Potential Upside/Downside	+195%
Tickers	TRVN

Market Cap (USD mn)	125
Shares Outstanding (mn)	26.23
Free Float (%)	85.92
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 9.95-4.74



[Link to Barclays Live for interactive charting](#)

### U.S. Biotechnology

Ying Huang, Ph.D.

1.212.526.5387

ying.huang2@barclays.com

BCI, New York

Catherine Hu

+1 212 526 9719

catherine.hu@barclays.com

BCI, New York

Dimitar V. Tashev, Ph.D.

+1 212 526 5157

dimitar.tashev@barclays.com

BCI, New York

## 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)	-22,639	-40,829	19,638	-49,194	N/A
EBIT (adj)	-23,345	-41,500	19,000	-49,800	N/A
Pre-tax income (adj)	-23,585	-41,100	19,305	-49,630	N/A
Net income (adj)	-23,585	-41,100	19,305	-49,630	N/A
EPS (adj) (\$)	-1.61	-1.80	0.76	-1.90	N/A
Diluted shares (k)	14,669	22,838	25,552	26,067	21.1%
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	-70.4	24.6	-167.4	-68.4

Balance sheet and cash flow (\$k)	CAGR				
Tangible fixed assets	343	-128	-266	-172	N/A
Intangible fixed assets	N/A	N/A	N/A	N/A	N/A
Cash and equivalents	37,965	63,105	83,784	35,213	-2.5%
Total assets	42,393	63,478	84,060	35,617	-5.6%
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	5,097	5,574	5,976	20.7%
Net debt/(funds)	-37,965	-63,105	-83,784	-35,213	N/A
Shareholders' equity	38,992	58,381	78,486	29,640	-8.7%
Change in working capital	36,109	59,047	79,289	30,349	-5.6%
Cash flow from operations	-24,239	-35,150	20,379	-48,655	N/A
Capital expenditure	-140	-200	-500	-700	N/A
Free cash flow	-24,099	-34,950	20,879	-47,955	N/A

Valuation and leverage metrics	Average				
P/E (adj) (x)	N/A	N/A	6.3	N/A	6.3
EV/EBITDA (adj) (x)	-0.5	0.3	-1.8	-0.3	-0.6
Equity FCF yield (%)	N/A	N/A	N/A	N/A	N/A
EV/sales (x)	84.5	N/A	-0.5	N/A	42.0
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

Price (08-May-2014) USD 4.75  
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.

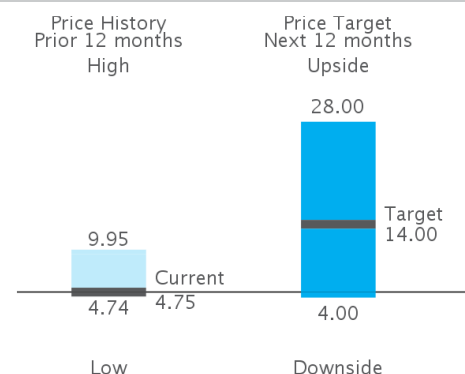
**Upside case** USD 28.00

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

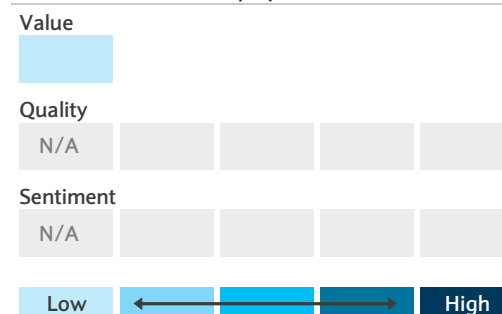
**Downside case** USD 4.00

Our downside scenario of \$4 assumes the TRV027 acute heart failure program fails and TRV130 peak sales are lower than our assumption and represent only \$3/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.

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

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Trevena Inc. (TRVN, 08-May-2014, USD 4.75), Overweight/Neutral, A/C/D/J/L

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**Overweight** - The stock is expected to outperform the unweighted expected total return of the industry coverage universe over a 12-month investment horizon.

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**Negative** - industry coverage universe fundamentals/valuations are deteriorating.

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Dendreon Corp. (DNDN)	Fibrocell Science Inc. (FCSC)	Gilead Sciences (GILD)
GlycoMimetics Inc. (GLYC)	Halozyne 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)

USD 4.75 (08-May-2014)

Stock Rating

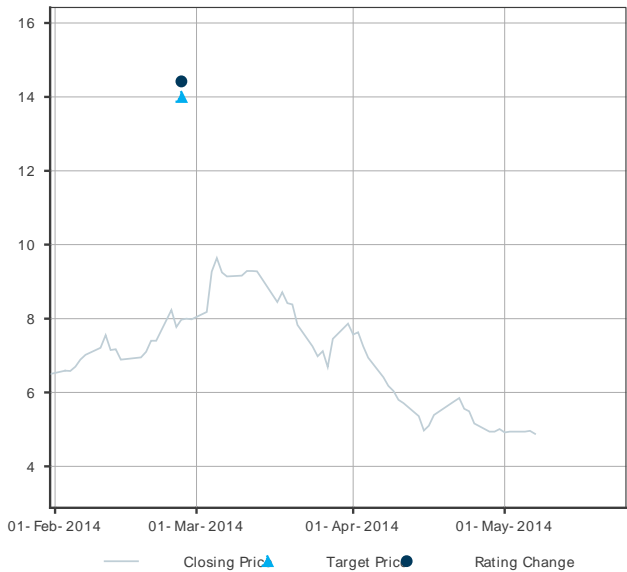
OVERWEIGHT

Industry View

NEUTRAL

Rating and Price Target Chart - USD (as of 08-May-2014)

Currency=USD



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 pipeline 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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