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Equity Research

Healthcare | U.S. Biotechnology

14 May 2014

Celladon Corp.

1Q14 Earnings Review

CUPID-2 will read out in April 2015: CLDN reaffirmed that the event rate for the CUPID-2 trial is on track and results are still expected in April 2015. Recall that patients will be followed-up for one-year and until at least 186 events have occurred. If these results show significant benefits with MYDICAR treatment, then it could be accepted as a pivotal trial and an FDA approval could be granted in 2018. The FDA granted Breakthrough Therapy Designation for MYDICAR for the reduction of hospitalizations for NYHA Class III and IV chronic heart failure patients in early April.

CLDN plans to evaluate MYDICAR for Nab positive patients: CLDN plans to conduct trials to target the ~60% of patients who carry AAV1-neutralizing antibodies, currently excluded from the MYDICAR trials. AAV antibodies block MYDICAR from entering heart muscle cells and therefore the treatment effect. Early data from three patients showed plasmapheresis was able to reduce neutralizing antibody titers to levels that allowed these patients to benefit from MYDICAR therapy. If this approach is successful, CLDN estimates this would broaden the market for MYDICAR to an additional 900,000 patients. CLDN expects to start these studies in late 2014 or early 2015.

Servier agreement should progress early next year: Per terms of the agreement, Servier has the option to license ex-US rights to CLDN's small molecule platform following in-vitro and in-vivo study results. CLDN will retain all products rights in the U.S. If Servier decides to exercise its option, CLDN would receive an upfront payment and research and milestone payments and royalties on future ex-US sales. The two companies will work together in the discovery phase and Servier will be responsible for all development, regulatory, and commercialization costs in ex-US territories if development efforts continue. CLDN will then have the option to develop the compound in the U.S. CLDN expects Servier to decide whether or not to exercise its option to license ex-US rights for SERCA2a modulators for the treatment of type II diabetes and other metabolic diseases by early 2015. CLDN is also planning to conduct preclinical studies to evaluate SERCA2a modulators for neurodegenerative conditions.

CLDN: 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	-0.37E	-0.60A	N/A	-0.40E	-0.60E	N/A	N/A	0%
Q2	N/A	-0.40E	-0.59E	N/A	-0.35E	-0.51E	N/A	N/A	14%
Q3	N/A	-0.41E	-0.61E	N/A	-0.25E	-0.33E	N/A	N/A	46%
Q4	N/A	-0.44E	-0.95E	N/A	-0.27E	-0.54E	N/A	N/A	43%
Year	-30.12A	-1.62E	-2.75E	N/A	-1.27E	-1.98E	N/A	91%	28%
P/E	N/A		N/A			N/A			

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.

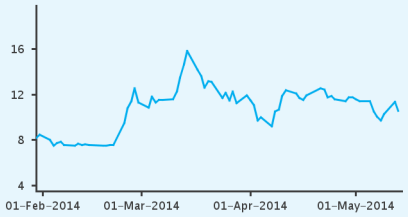
Stock Rating	OVERWEIGHT Unchanged
Industry View	NEUTRAL Unchanged
Price Target	USD 15.00 Unchanged

Price (13-May-2014)	USD 10.57
Potential Upside/Downside	+42%
Tickers	CLDN

Market Cap (USD mn)	196
Shares Outstanding (mn)	18.50
Free Float (%)	68.18
52 Wk Avg Daily Volume (mn)	0.2
Dividend Yield (%)	N/A
Return on Equity TTM (%)	N/A
Current BVPS (USD)	-2.88

Source: Thomson Reuters

Price Performance	Exchange-Nasdaq
52 Week range	USD 17.16-7.45



Link to Barclays Live for interactive charting

U.S. Biotechnology

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

Celladon Corp. (CLDN)

Stock Rating: OVERWEIGHT

Income statement ($k)	2013A	2014E	2015E	2016E	CAGR
Revenue	0	0	0	N/A	N/A
EBITDA (adj)	-23,369	-32,630	-28,444	-33,483	N/A
EBIT (adj)	-23,436	-32,784	-30,506	N/A	N/A
Pre-tax income (adj)	-26,572	-32,863	-30,440	N/A	N/A
Net income (adj)	-26,630	-33,082	-30,440	N/A	N/A
EPS (adj) ($)	-30.12	-2.75	-1.98	N/A	N/A
Diluted shares (k)	884.2	12,029.7	15,780.9	N/A	N/A
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 (%)	-170.7	-107.9	-41.8	-89.7	-102.5
ROA (%)	-110.8	-80.0	-37.0	-70.7	-74.6
ROE (%)	-182.9	-111.7	-42.4	-92.1	-107.3

Balance sheet and cash flow ($k)					CAGR
Tangible fixed assets	308	5,154	11,092	16,319	275.6%
Intangible fixed assets	N/A	N/A	N/A	N/A	N/A
Cash and equivalents	18,370	32,894	68,529	31,930	20.2%
Total assets	21,154	41,000	82,528	51,271	34.3%
Short and long-term debt	1,044	1,044	1,044	1,044	0.0%
Other long-term liabilities	N/A	N/A	N/A	N/A	N/A
Total liabilities	6,597	11,391	10,753	12,363	23.3%
Net debt/(funds)	-6,859	-21,383	-57,018	-20,419	N/A
Shareholders' equity	14,557	29,609	71,775	38,908	38.8%
Change in working capital	-19,169	10,206	36,228	-38,094	N/A
Cash flow from operations	-16,196	-27,083	-27,291	-29,718	N/A
Capital expenditure	-87	-5,000	-8,000	-8,000	N/A
Free cash flow	1,664	-27,083	-27,291	-29,718	N/A

Valuation and leverage metrics					Average
P/E (adj) (x)	N/A	N/A	N/A	N/A	N/A
EV/EBITDA (adj) (x)	-0.1	0.4	1.7	0.3	0.6
Equity FCF yield (%)	N/A	N/A	N/A	N/A	N/A
EV/sales (x)	N/A	N/A	N/A	N/A	N/A
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 (%)	-89.1	-259.9	-386.4	-110.4	-211.5

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 (%)	49.1	40.0	-10.0	N/A	26.4
SG&A growth (%)	36.5	39.3	10.0	N/A	28.6

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

Price (13-May-2014) USD 10.57
Price Target USD 15.00

Why Overweight? We view Celladon as having a favorable risk/reward profile for investors. The company is developing a gene therapy, Mydicar, to treat chronic heart failure. While there are considerable risks associated gene therapy, we also view the market opportunity as significant if the company is successfully develop the product.

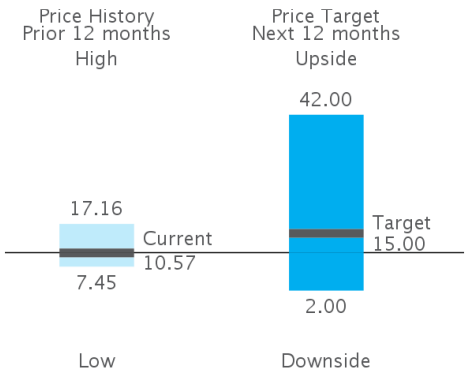
Upside case USD 42.00

We see significant upside potential for Celladon. If phase 2b results are positive, we see valuation increasing to $42/share.

Downside case USD 2.00

We see downside risks at approximately $2/share if Mydicar gene therapy does not receive approval. This assumes some value attributed to the early stage small molecule platform and some cash.

Upside/Downside scenarios



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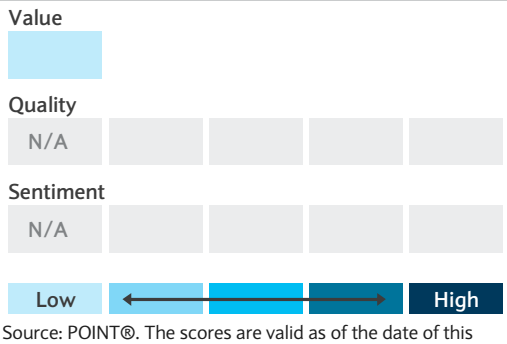

Source: POINT®. The scores are valid as of the date of this report and are independent of the fundamental analysts' views. To view the latest scores, please go to the equity company page on Barclays Live.

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Primary Stocks (Ticker, Date, Price)

Celladon Corp. (CLDN, 13-May-2014, USD 10.57), Overweight/Neutral, A/C/D/J/K/L/M

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Celgene Corp. (CELG)	Celladon Corp. (CLDN)	Cempra Inc. (CEMP)
Dendreon Corp. (DNDN)	Fibrocell Science Inc. (FCSC)	Gilead Sciences (GILD)
GlycoMimetics Inc. (GLYC)	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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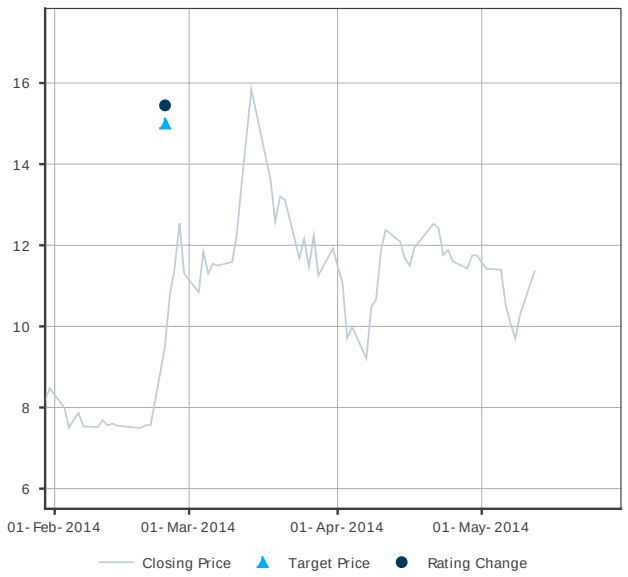
IMPORTANT DISCLOSURES CONTINUED

Celladon Corp. (CLDN)

USD 10.57 (13-May-2014)

Stock Rating	Industry View
OVERWEIGHT	**NEUTRAL**

Rating and Price Target Chart - USD (as of 13-May-2014) **Currency=USD**



Date	Closing Price	Rating	Adjusted Price Target
24-Feb-2014	9.50	Overweight	15.00

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: Our price target is based on a probability-adjusted NPV analysis. We have only included the systolic heart failure indication in our model which contributes ~$12/share. Including cash of ~$3/share, we arrive at our price target of $15.

Risks which May Impede the Achievement of the Barclays Research Price Target: Downside risks include failure of CUPID-2 trial, need for phase 3 trial, and inability to receive FDA approval for Mydicar.

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