

Equity Research

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Price: \$20.50 (01/6/2014)

Price Target: NA

OUTPERFORM (1)

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Company Quick Take

It seems to be playing out as planned for EPZM

The Cowen Insight

Two more MLL-r patients achieved objective responses in the ongoing dose escalation stage of the Phase I trial of EPZ-5676, after they were switched to a continuous dosing schedule of the drug, triggering a \$25M milestone from partner Celgene. Epizyme also announced that it has achieved a development milestone for one of the three HMT targets in its GSK partnership, triggering a \$4M payment.

The news: Epizyme announced that it has achieved the proof of concept (POC) milestone in the EPZ-5676 DOT1L inhibitor clinical program, which entitled it to receive a \$25M milestone payment from its collaboration partner Celgene. This milestone was triggered by the achievement of objective responses in two MLL-r patients that are currently enrolled in the fourth dose cohort (54 mg/m²/day) in the ongoing dose escalation stage of the Phase I trial of EPZ-5676. The protocol was modified for these two patients, allowing them to receive continuous infusion. Recall, in November, Epizyme announced that based on the data available thus far, it will be using continuous dosing schedule in the expansion phase of the trial. The fifth cohort in which patients are receiving 80 mg/m²/day on a 21-day on/7-day off schedule is fully enrolled. Epizyme has also initiated the expansion stage, which is limited to MLL-r patients only, and patients are currently receiving 80 mg/m²/day with continuous infusion. Epizyme also announced that it has achieved a development milestone for one of the three histone methyltransferase (HMT) targets under its collaboration with GSK. This milestone triggered a \$4M payment from GSK. Based on these two milestones, Epizyme increased its YE13 cash guidance from \$115M to \$145M.

Our take on the news: We view today's news as very positive for Epizyme, especially the disclosure about the two 4th cohort patients (54mg/m²/day, not a particularly high dose, btw, especially given the disease state and the safety profile) that were on the 21/7 schedule and achieved objective responses after being switched to the continuous infusion schedule. In addition, we view the progress made on the GSK partnership front as an additional positive, not because of the \$4M in cash, but because it provides additional evidence of Epizyme's platform's potential, with another target/program validated by a different partner. Finally, bringing everything together, so to speak, the additional \$29M in milestone payments, which is roughly half a year's worth of cash, based on last year's \$60M cash burn, brings YE13 cash to \$145M, which should be enough cash through 2015, and enough to turn over most-if not all-of the cards for these programs, without the need to come back to the capital markets, which has been this management team's goal right from the start, i.e. to not have a financing overhang.

What's next for EPZM? 1) Initiation of Phase I trial of EPZ-5676 in pediatric MLL-r patients, early 2014; 2) Initiation of clinical study of EPZ-5676 in MLL-PTD subset of AML, early 2014; 3) Completion of Phase I dose-escalation study of EPZ-6438 and initiation of the Phase II portion (EZH2-mutated patients only) of the Phase I/II trial,

2014; and 4) Initiation of proof-of-concept trials of EPZ-6438 in INI1-deficient tumors, including synovial sarcoma, 2014.

Our thesis on Epizyme: Both of Epizyme's clinical programs, EPZ-5676 and EPZ-6438, target high unmet medical need hematology/oncology indications, with genetically defined patient populations. Epizyme has formed three partnerships since 2011 (GSK, Eisai, Celgene), which have provided **1)** big pharma validation for its R&D efforts, and **2)** \$181M in actual cash as of today, with another \$1B in potential milestones. It is obvious to investors that Epizyme's early stage of development comes with both significant clinical risk and potential downside to an EPZM investment. However, we believe EPZM will continue to trade at a premium to its conventional peers, given: 1) the novelty of its targets, and 2) the value that investors would assign to the company's platform of additional HMT targets, IP, and know-how. And we believe that if one of its first two clinical candidates is successful, Epizyme, with its IP and leading position in HMT biology, could become an acquisition target.

Valuation Methodology And Risks

Valuation Methodology

Biotechnology:

In calculating our 12-month target price, we employ one or more valuation methodologies, which include a discounted earnings analysis, discounted cash flow analysis, net present value analysis and/or a comparable company analysis. These analyses may or may not require the use of objective measures such as price-to-earnings or price-to-sales multiples as well as subjective measures such as discount rates.

We make investment recommendations on early stage (pre-commercial) biotechnology companies based upon an assessment of their technology, the probability of pipeline success, and the potential market opportunity in the event of success. However, because these companies lack traditional financial metrics, we do not believe there are any good methodologies for assigning a specific target price to such stocks.

Investment Risks

Biotechnology:

There are multiple risks that are inherent with an investment in the biotechnology sector. Beyond systemic risk, there is also clinical, regulatory, and commercial risk. Additionally, biotechnology companies require significant amounts of capital in order to develop their clinical programs. The capital-raising environment is always changing and there is risk that necessary capital to complete development may not be readily available.

Risks To The Price Target

Risks to our Outperform rating on EPZM shares include: 1) clinical setbacks or delays in the ongoing trials of EPZ-5676 and EPZ-6438, 2) the possibility of additional financings to fund development, and 3) a change in appetite for early-company risk among biotech investors.

Addendum

Stocks Mentioned In Important Disclosures

Ticker	Company Name
EPZM	Epizyme Inc

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Cowen and Company Rating System effective May 25, 2013

Outperform (1): The stock is expected to achieve a total positive return of at least 15% over the next 12 months

Market Perform (2): The stock is expected to have a total return that falls between the parameters of an Outperform and Underperform over the next 12 months

Underperform (3): Stock is expected to achieve a total negative return of at least 10% over the next 12 months

Assumption: The expected total return calculation includes anticipated dividend yield

Cowen and Company Rating System until May 25, 2013

Outperform (1): Stock expected to outperform the S&P 500

Neutral (2): Stock expected to perform in line with the S&P 500

Underperform (3): Stock expected to underperform the S&P 500

Assumptions: Time horizon is 12 months; S&P 500 is flat over forecast period

Cowen Securities, formerly known as Dahlgren Rose & Company, Rating System until May 25, 2013

Buy – The fundamentals/valuations of the subject company are improving and the investment return is expected to be 5 to 15 percentage points higher than the general market return

Sell – The fundamentals/valuations of the subject company are deteriorating and the investment return is expected to be 5 to 15 percentage points lower than the general market return

Hold – The fundamentals/valuations of the subject company are neither improving nor deteriorating and the investment return is expected to be in line with the general market return

Cowen And Company Rating Definitions

Distribution of Ratings/Investment Banking Services (IB) as of 12/31/13

Rating	Count	Ratings Distribution	Count	IB Services/Past 12 Months
Buy (a)	415	59.20%	68	16.39%
Hold (b)	270	38.52%	4	1.48%
Sell (c)	16	2.28%	1	6.25%

(a) Corresponds to "Outperform" rated stocks as defined in Cowen and Company, LLC's rating definitions. (b) Corresponds to "Market Perform" as defined in Cowen and Company, LLC's ratings definitions. (c) Corresponds to "Underperform" as defined in Cowen and Company, LLC's ratings definitions.

Note: "Buy", "Hold" and "Sell" are not terms that Cowen and Company, LLC uses in its ratings system and should not be construed as investment options. Rather, these ratings terms are used illustratively to comply with FINRA and NYSE regulations.

Epizyme Inc Rating History as of 01/06/2014

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Legend for Price Chart:

I = Initiation | 1 = Outperform | 2 = Market Perform | 3 = Underperform | UR = Price Target Under Review | T = Terminated Coverage | \$xx = Price Target | NA = Not Available

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