October 23, 2013

OUTPERFORM

Reason for report:

EARNINGS

Howard Liang, Ph.D.
(617) 918-4857
Howard.Liang@Leerink.com

Gena Wang, Ph.D., CFA
(212) 277-6073
Gena.Wang@Leerink.com

LEERINK SWANN

HEALTHCARE EQUITY RESEARCH

EPIZYME, INC.

3Q:13 Report Highlights Broadening Opportunities Ahead of Upcoming Data

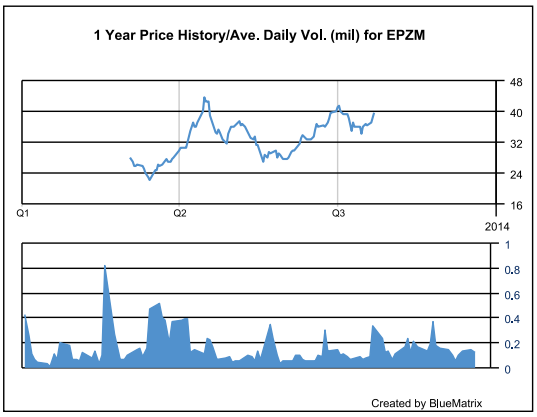
• **Bottom Line:** EPZM's 3Q:13 earnings call provided an incremental update on clinical development for the two epigenetic candidates EPZ-5676 (DOT1L inhibitor) and EPZ-6438 (EZH2 inhibitor), and highlighted expansion to additional indications for both programs. The company is on track to report the first clinical data for EPZ-5676 in acute leukemia and to initiate the expansion cohort in MLL-r-bearing acute myeloid leukemia (AML) in 4Q:13, which we continue to see as a potential catalyst. New developments include EPZM's plan to expand both programs in 2014 to additional indications including AML with MLL-PTD mutation and INI1 deficient tumors, expanding market potential to an additional 4,700 patients worldwide. Rapid progress in DOT1L and EZH2 inhibitors shows high level of interest in targeted epigenetics for cancer drug development, where we believe EPZM is well positioned as a leader. Our price target on EPZM remains $43.

• **EPZ-5676 dose escalation data this quarter.** EPZM had previously disclosed and recently presented in a scientific forum (2013 AACR-NCI-EORTC) dosing of four advanced leukemia patients, with one bearing MLL-r who showed ~60% DOT1L methyl mark inhibition and 90% reduction in circulating blasts. Dose escalation stage of the trial appears close to completion. Patient baseline characteristics and top-line safety/efficacy data are expected in 4Q:13 from the dose escalation study, likely a press release independent of any ASH presentations (in line with our expectations). The expansion cohort in MLL-r-bearing AML patients will be initiated in 4Q:13. EPZM also plans to expand the MLL-r program to pediatric patients, with Phase I initiation anticipated in 1H:14.

• **EPZ-5676 preclinical data warrant clinical development in AML with MLL-PTD mutations.** Preclinical study in EOL1 cells bearing MLL-PTD mutations showed EPZ-5676 potent inhibition with IC50 in the nM range (2nM). Infusion of EPZ-5676 at up to 70mpk/d for 21 days showed partial inhibition of tumor growth (see Figure), compared to complete regression of tumor in MLL-r models, although it remains to be seen whether this translates into anything clinically. The company plans to initiate a Phase I trial in the AML patients with MLL-PTD mutation in 2014, which could expand the market potential to an additional 2,300 patients worldwide.

• **EPZ-6438 Phase I dose escalation ongoing, broadening to INI1-deficient tumors in 2014.** EPZM and partner Eisai initiated the first enrollment in June 2013 for EPZ-6438 Phase I/II study in Europe, and dose escalation is ongoing. Although the timeline was not further refined for the top-line data, the company indicated submission of an IND and initiation of a Phase II trial in the US in 2014.

Key Stats:	**(NASDAQ:EPZM)**
S&P 600 Health Care Index:	**1,205.35**
Price:	**$39.62**
Price Target:	$43.00
Methodology:	DCF analysis
52 Week High:	$45.72
52 Week Low:	$15.00
Shares Outstanding (mil):	28.4
Market Capitalization (mil):	1,125.2
Book Value/Share:	0.00
Cash Per Share:	$4.91
Dividend (ann):	$0.00
Dividend Yield:	0.0%



Dec Yr	1Q	2Q	3Q	4Q	FY Rev	1Q	2Q	3Q	4Q	FY EPS	P/E
2012A	--	--	--	--	$45.2	--	--	--	--	($0.72)	NM
2013E - New	**$8.9A**	**$14.8A**	**$8.4A**	**$8.0**	**$40.2**	**($4.27)A**	**($0.25)A**	**($0.34)A**	**($0.39)**	**($1.81)**	**NM**
2013E - Old	$8.9A	$14.8A	$9.0	$10.0	$42.7	($4.27)A	($0.25)A	($0.32)	($0.28)	($1.59)	NM
2014E	--	--	--	--	$60.0	--	--	--	--	($0.69)	NM
2015E	--	--	--	--	$35.0	--	--	--	--	($1.70)	NM

Source: Company Information and Leerink Swann LLC Research
Revenues in $MM; GAAP EPS

Please refer to pages 6 - 9 for Important Disclosures, Price Charts and Analyst Certification.

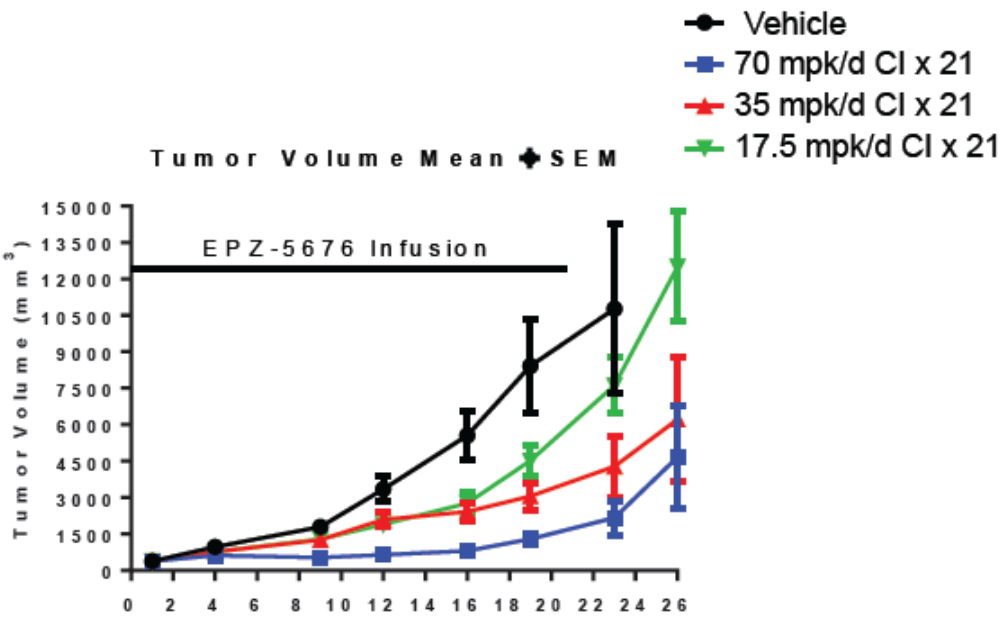
INVESTMENT THESIS

EPZM is a clinical-stage biotechnology company focused on epigenetic treatments for cancer and has a proprietary platform for developing inhibitors of histone methyltransferases (HMTs), an important class of enzymes that controls gene expression. Epigenetics represents an important new direction for new cancer treatment, and EPZM's has a leading platform for development of HMT inhibitors. The historical approach of targeting individual signaling pathways has often yielded modest efficacy except in limited circumstances. This has resulted in pursuit of alternative strategies such as epigenetics, which is supported by impressive survival benefit in a currently marketed epigenetic drug as well as recent findings linking mutations affecting the epigenetic complexes and cancer. HMTs have emerged as an attractive class of epigenetic targets due to both mutational evidence and drugability. EPZM characterized the 96 members of the class, and it has a leading intellectual property position in this area. The company has prioritized 20 HMTs for development and currently has 23 HMTs in screen today. The strong partnerships signed with CELG, GSK and Eisai provide further validation of the platform. Two clinical programs could potentially generate proof of principle data in the near future. EPZ-5676 is a DOT1L inhibitor for the treatment of MLL-r, a subtype of leukemias with particularly poor prognosis. Pre-clinical models have demonstrated tumor eradication, without re-growth, post washout of the drug. Biological activity was seen in the 1st MLL-r patient dosed in the Phase I dose escalation, with a decrease in blast counts prior to CNS relapse. Though the agent is administered through a continuous IV infusion, our conversation with MEDACorp key opinion leaders (KOLs) suggest that the unmet medical need is high, and if the agent is effective, dosing will not be a problem. Early efficacy data from the trial will be available in 2H:13. EPZ-6438 is an orally dosed inhibitor of EZH2, which is implicated in the development of lymphomas as well as major solid tumors. Preclinical models by both EPZM and GSK have demonstrated the efficacy of EZH2 inhibition in lymphomas, with lack of tumor re-growth, post cessation of dosing. Phase I dosing has recently begun, and an early assessment of efficacy will be available in 1H:14.

EPZ-6438 program could broaden to INI1-deficient tumors in 2014. Based on underlying mechanism and preclinical evidence where EZH2 is a driving oncogene in INI-1 (hSNF5/SMARCB1) deficient solid tumors, the company plans to initiate a Phase I trial in synovial sarcomas (INI1-deficient tumors) in 2014 as well as additional INI1 deficient tumors, expanding to additional 2,400-patient market opportunity.

Financial results highlight strong cash position. Yesterday after the market close, EPZM reported generally in-line financial results for 3Q:13. Top-line collaboration revenue was $8.4M vs. our estimate of $9M. Operating expenses were $18.2M vs. our estimate of $18M. EPS was ($0.34), slightly lower than our estimate of ($0.32). Management guided to ~$60M in operating cash burn and ~$40M in GAAP revenue for 2013. YE:13 cash was guided to $115M, which is expected to fund operations through at least mid-2015. We have updated our model to reflect these changes. As a result, our 2013 revenue projection changes from $43M to $40M, and our EPS estimate changes from ($1.59) to ($1.81).

EPZM – EPZ-5676 Inhibiting MLL-PTD Tumor Growth



Source: Copeland et al., AACR-NCI-EORTC 2013

EPZM – Expected Events

Compound	Timing	Event
EPZ-5676	4Q:13	Top-line dose escalation data in acute
	4Q:13	Initiate expansion cohort of EPZ-5676 in MLL-r
	1H:14	Initiate Phase I in pediatric MLL-
	2014	Initiate Phase I in AML with MLL-PTD
EPZ-6438	1H:14	IND filing
	1H:14	Early assessment of therapeutic effects of EPZ-6438 for mutated subtype of NHL
	2014	Initiate Phase II clinical trial in NHL with EZH2
	2014	Initiate Phase I in synovial sarcomas (INI1 deficient

Source: Company reports and Leerink Swann LLC

EPZM – Product Pipeline

Compound	Target	Phase	Partner
EPZ-5676	DOT1L inhibitor	I	CELG
EPZ-6438	EZH2 Inhibitor	I	Eisai
GSK targets	Undisclosed	Pre-clinical	GSK
Platform	Various - 23 HMT in screen today	Pre-clinical	

Source: Company reports

VALUATION

Our $43 valuation for EPZM is based on a DCF for EPZ-5676 and EPZ-6438 discounted at 10%. We believe this discount rate is appropriate as we use probability-weighted sales for the products and we lowered the discount rate to be consistent with what we currently use for other companies in our coverage universe due to greater market risk tolerance. We also include $60M of cash at the end of 2014 and $500M in technology value.

RISKS TO VALUATION

- Pre-clinical models may not accurately predict for clinical benefit.
- Human safety and efficacy of EPZ-5676 or EPZ-6438 are unknown due to early stage of development. Dosing of EPZ-5676 (continuous infusion) is not optimal, and human dosing requirement of EPZ-6438 remains to be determined.
- Competition from GSK or other companies focused on these targets could negatively impact EPZM's revenues.
- Competition from other agents for MLL-r or other hematological malignancies could limit the revenues of EPZM's products.
- Commercial uptake may be limited by reimbursement, access or dosing concerns for EPZ-5676 and EPZ-6438.

Figures in $000, except EPS	2011A	2012A	1QA	2QA	3QA	4QE	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
EPZ-5676																
US											6,753	62,552	123,760	170,843	230,779	338,118
EU											0	7,028	56,341	100,932	164,122	215,866
JP											0	0	1,114	8,908	18,153	25,842
Total											6,753	69,580	181,214	280,684	413,053	579,826
Probability of success											*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*
OUS Royalty Rate												*5.0%*	*5.0%*	*6.0%*	*7.0%*	*8.0%*
EPZ-6438																
US											0	23,725	219,752	431,736	587,653	846,568
EU											0	0	13,627	122,900	236,425	316,887
JP											0	0	0	1,644	14,800	29,569
Total											0	23,725	233,379	556,280	838,877	1,193,024
Probability of success											*40.0%*	*40.0%*	*40.0%*	*40.0%*	*40.0%*	*40.0%*
OUS Royalty Rate												*6.0%*	*6.0%*	*6.0%*	*6.0%*	*6.0%*
Booked by Epizyme																
EPZ-5676 US (POS adjusted)											3,377	31,276	61,880	85,422	115,389	169,059
EPZ-6438 US (POS adjusted) - 50% share											0	4,745	43,950	86,347	117,531	169,314
Sales booked by other companies																
EPZ-5676 (POS adjusted)											0	3,514	28,727	54,920	91,137	120,854
EPZ-6438 (POS adjusted)											0	0	5,451	49,818	100,490	138,583
Royalties																
EPZ-5676 (POS adjusted)											0	176	1,436	3,295	6,380	9,668
EPZ-6438 (POS adjusted)											0	0	327	2,989	6,029	8,315
Collaboration revenue	6,944	45,222	8,882	14,839	8,444	8,000	40,165	60,000	35,000	20,000	20,000	20,000	0	0	0	0
Total revenues			8,882	14,839	8,444	8,000	40,165	60,000	35,000	20,000	23,377	56,197	107,594	178,053	245,329	356,356
Operating expenses:																
Research and development	22,911	38,482	13,361	13,937	14,584	15,000	56,882	65,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000
General and administrative	5,000	7,508	2,998	3,079	3,587	4,000	13,664	15,000	15,000	15,000	35,000	50,000	50,000	50,000	50,000	50,000
Total operating expenses	27,911	45,990	16,359	17,016	18,171	19,000	70,546	80,000	85,000	85,000	105,000	120,000	120,000	120,000	120,000	120,000
Loss from operations	(20,967)	(768)	(7,477)	(2,177)	(9,727)	(11,000)	(30,381)	(20,000)	(50,000)	(65,000)	(81,623)	(63,803)	(12,406)	58,053	125,329	236,356
Other income (expense):																
Interest income	33	145	19	20	0	20	59	59	59	59	59	59	59	59	59	59
Other expense	(23)	(78)	(39)	(55)	23	(40)	(111)	(111)	(111)	(111)	(111)	(111)	(111)	(111)	(111)	(111)
Other income (expense), net	10	67	(20)	(35)	23	(20)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Loss before income taxes	(20,957)	(701)	(7,497)	(2,212)	(9,704)	(11,020)	(30,433)	(20,052)	(50,052)	(65,052)	(81,675)	(63,855)	(12,458)	58,001	125,277	236,304
Income tax expense	—	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net income	(20,957)	(702)	(7,497)	(2,212)	(9,704)	(11,020)	(30,433)	(20,052)	(50,052)	(65,052)	(81,675)	(63,855)	(12,458)	58,001	125,277	236,304
Less: accretion of redeemable convertible preferred stock to redemption value	45	486	157	107	0	0	264	0	0	0	0	0	0	0	0	0
Loss attributable to common stockholders	(21,002)	(1,188)	(7,654)	(2,319)	(9,704)	(11,020)	(30,697)	(20,052)	(50,052)	(65,052)	(81,675)	(63,855)	(12,458)	58,001	125,277	236,304
Loss per share attributable to common stockholders:																
Basic	($14.65)	($0.72)	($4.27)	($0.25)	($0.34)	($0.39)	($1.81)	($0.69)	($1.70)	($2.18)	($2.70)	($2.08)	($0.40)	$1.83	$3.90	$7.24
Diluted	($14.65)	($0.72)	($4.27)	($0.25)	($0.34)	($0.39)	($1.81)	($0.69)	($1.70)	($2.18)	($2.70)	($2.08)	($0.40)	$1.58	$3.35	$6.23
Weighted average shares outstanding:																
Basic	1,434	1,645	1,791	9,146	28,406	28,406	16,937	28,974	29,409	29,850	30,298	30,752	31,213	31,682	32,157	32,639
Diluted	1,434	1,645	1,791	13,797	32,985	33,018	20,398	33,678	34,184	34,696	35,217	35,745	36,281	36,825	37,378	37,938

Source: Company information and Leerink Swann estimates

Disclosures Appendix

Analyst Certification

I, Howard Liang, Ph.D., certify that the views expressed in this report accurately reflect my views and that no part of my compensation was, is, or will be directly related to the specific recommendation or views contained in this report.

Valuation

Our $43 valuation for EPZM is based on a DCF for EPZ-5676 and EPZ-6438 discounted at 10%. We believe this discount rate is appropriate as we use probability-weighted sales for the products and we lowered the discount rate to be consistent with what we currently use for other companies in our coverage universe due to greater market risk tolerance. We also include $60M of cash at the end of 2014 and $500M in technology value.

Risks to Valuation

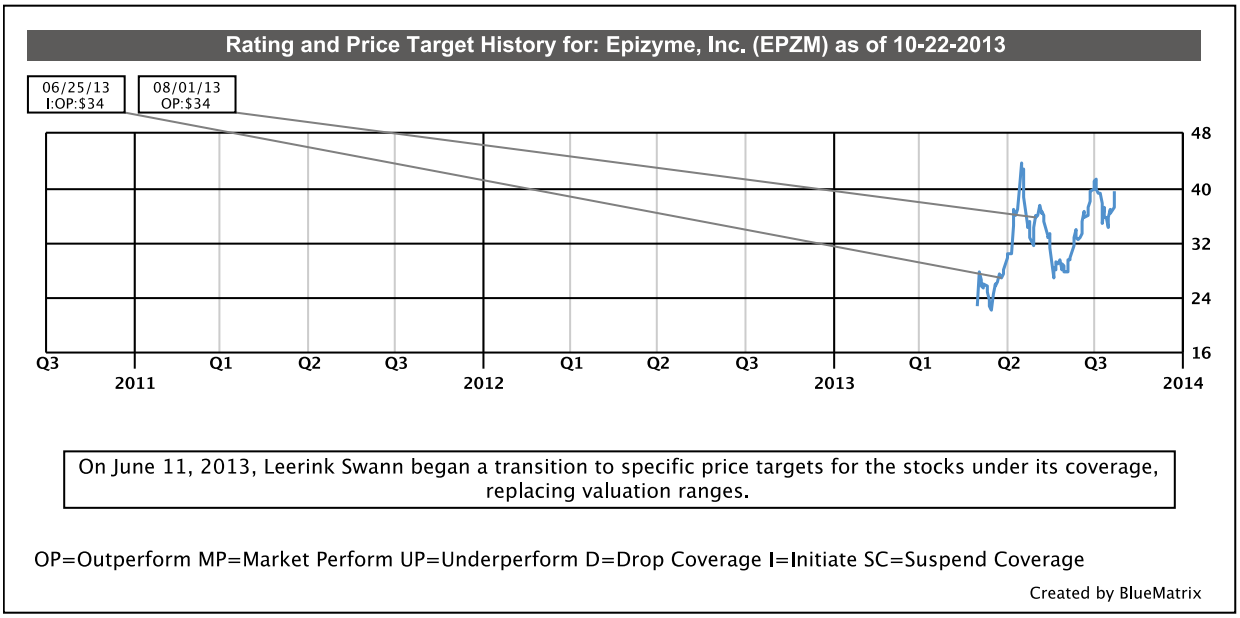
Pre-clinical models may not accurately predict for clinical benefit.

Human safety and efficacy of EPZ-5676 or EPZ-6438 are unknown due to early stage of development. Dosing of EPZ-5676 (continuous infusion) is not optimal and human dosing requirement of EPZ-6438 remains to be determined.

Competition from GSK or other companies focused on these targets could negatively impact EPZM's revenues.

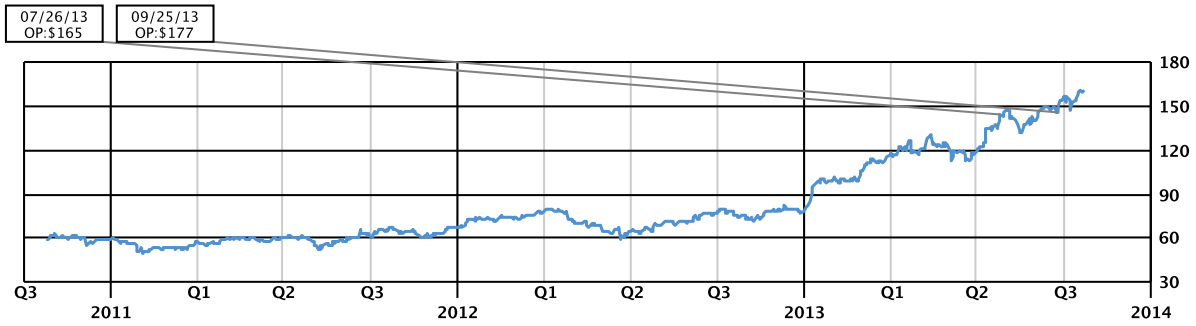
Competition from other agents for MLL-r or other hematological malignancies could limit the revenues of EPZM's products.

Commercial uptake may be limited by reimbursement, access or dosing concerns for EPZ-5676 and EPZ-6438.



LEERINK SWANN

Rating and Price Target History for: Celgene, Inc. (CELG) as of 10-22-2013

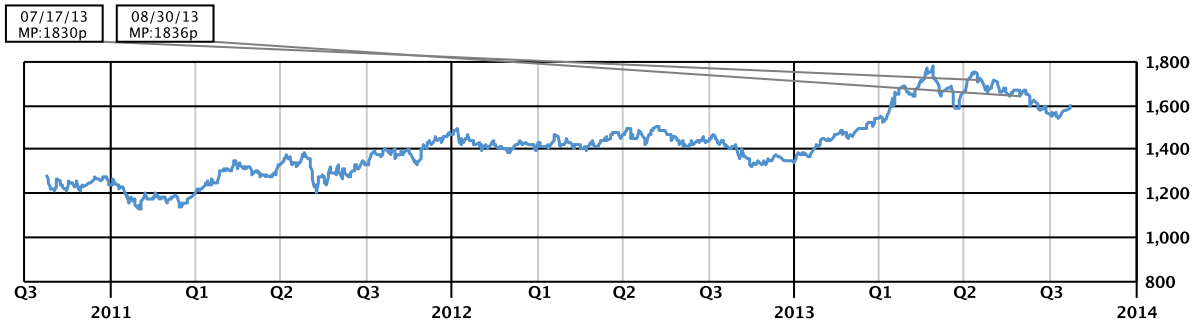


Leerink Swann initiated coverage of CELG with an Outperform rating on February 7, 2003. On June 11, 2013, Leerink Swann began a transition to specific price targets for the stocks under its coverage, replacing valuation ranges.

OP=Outperform MP=Market Perform UP=Underperform D=Drop Coverage I=Initiate SC=Suspend Coverage

Created by BlueMatrix

Rating and Price Target History for: GlaxoSmithKline plc (GSK LN) as of 10-22-2013



Leerink Swann initiated coverage of GSK LN with a Market Perform rating on Nov. 24, 2009. On June 11, 2013, Leerink Swann began a transition to specific price targets for the stocks under its coverage, replacing valuation ranges.

OP=Outperform MP=Market Perform UP=Underperform D=Drop Coverage I=Initiate SC=Suspend Coverage

Created by BlueMatrix

Distribution of Ratings/Investment Banking Services (IB) as of 09/30/13			IB Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [OP]	111	64.90	27	24.00
HOLD [MP]	60	35.10	0	0.00
SELL [UP]	0	0.00	0	0.00

Explanation of Ratings

Outperform (Buy): We expect this stock to outperform its benchmark over the next 12 months.

Market Perform (Hold/Neutral): We expect this stock to perform in line with its benchmark over the next 12 months.

Underperform (Sell): We expect this stock to underperform its benchmark over the next 12 months.The degree of outperformance or underperformance required to warrant an Outperform or an Underperform rating should be commensurate with the risk profile of the company.

For the purposes of these definitions the relevant benchmark will be the S&P 600® Health Care Index for issuers with a market capitalization of less than $2 billion and the S&P 500® Health Care Index for issuers with a market capitalization over $2 billion.

Important Disclosures

This information (including, but not limited to, prices, quotes and statistics) has been obtained from sources that we believe reliable, but we do not represent that it is accurate or complete and it should not be relied upon as such. All information is subject to change without notice. This is provided for information purposes only and should not be regarded as an offer to sell or as a solicitation of an offer to buy any product to which this information relates. The Firm, its officers, directors, employees, proprietary accounts and affiliates may have a position, long or short, in the securities referred to in this report, and/or other related securities, and from time to time may increase or decrease the position or express a view that is contrary to that contained in this report. The Firm's salespeople, traders and other professionals may provide oral or written market commentary or trading strategies that are contrary to opinions expressed in this report. The Firm's asset management group and proprietary accounts may make investment decisions that are inconsistent with the opinions expressed in this report. The past performance of securities does not guarantee or predict future performance. Transaction strategies described herein may not be suitable for all investors. Additional information is available upon request by contacting the Publishing Department at One Federal Street, 37th Floor, Boston, MA 02110.

Like all Firm employees, analysts receive compensation that is impacted by, among other factors, overall firm profitability, which includes revenues from, among other business units, the Private Client Division, Institutional Equities, and Investment Banking. Analysts, however, are not compensated for a specific investment banking services transaction.

Leerink Swann Consulting LLC, an affiliate of Leerink Swann LLC, is a provider of evidence-based strategy and consulting to the healthcare industry.

In the past 12 months, the Firm has received compensation for providing investment banking services to Epizyme, Inc.

Leerink Swann LLC makes a market in Epizyme, Inc. and Celgene, Inc.

Leerink Swann LLC is willing to sell to, or buy from, clients the common stock of GlaxoSmithKline plc on a principal basis.

In the past 12 months, an affiliate of the Firm, Leerink Swann Consulting LLC, has received compensation for providing non-securities services to: Celgene, Inc. and GlaxoSmithKline plc.

Leerink Swann LLC has acted as the manager for a public offering of Epizyme, Inc. in the past 12 months.

Leerink Swann LLC Equity Research

Director of Equity Research	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
Associate Director of Research	**Alice C. Avanian, CFA**	(617) 918-4544	alice.avanian@leerink.com
Healthcare Strategy	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
	Alice C. Avanian, CFA	(617) 918-4544	alice.avanian@leerink.com
Biotechnology	**Howard Liang, Ph.D.**	(617) 918-4857	howard.liang@leerink.com
	Joseph P. Schwartz	(617) 918-4575	joseph.schwartz@leerink.com
	Marko Kozul, M.D.	(415) 905-7221	marko.kozul@leerink.com
	Michael Schmidt, Ph.D.	(617) 918-4588	michael.schmidt@leerink.com
	Irene Lau	(415) 905-7256	irene.lau@leerink.com
	Gena Wang, Ph.D., CFA	(212) 277-6073	gena.wang@leerink.com
	Paul Matteis	(617) 918-4585	paul.matteis@leerink.com
Life Science Tools and Diagnostics	**Dan Leonard**	(212) 277-6116	dan.leonard@leerink.com
	Justin Bowers, CFA	(212) 277-6066	justin.bowers@leerink.com
Pharmaceuticals/Major	**Seamus Fernandez**	(617) 918-4011	seamus.fernandez@leerink.com
	Ario Arabi	(617) 918-4568	ario.arabi@leerink.com
Specialty Pharmaceuticals, Generics	**Jason M. Gerberry, JD**	(617) 918-4549	jason.gerberry@leerink.com
	Christopher W. Kuehnle, JD	(617) 918-4851	chris.kuehnle@leerink.com
Medical Devices, Cardiology & Orthopedics	**Danielle Antalffy**	(212) 277-6044	danielle.antalffy@leerink.com
	Richard Newitter	(212) 277-6088	richard.newitter@leerink.com
	Robert Marcus, CFA	(212) 277-6084	robert.marcus@leerink.com
	Ravi Misra	(212) 277-6049	ravi.misra@leerink.com
Healthcare Technology & Distribution	**David Larsen, CFA**	(617) 918-4502	david.larsen@leerink.com
	Christopher Abbott	(617) 918-4010	chris.abbott@leerink.com
Sr. Editor/Supervisory Analyst	**Mary Ellen Eagan, CFA**	(617) 918-4837	maryellen.eagan@leerink.com
Supervisory Analysts	Robert Egan		bob.egan@leerink.com
	Amy N. Sonne		amy.sonne@leerink.com

New York
299 Park Avenue, 21st floor
New York, NY 10171
(888) 347-2342

Boston
One Federal Street, 37th Floor
Boston, MA 02110
(800) 808-7525

San Francisco
201 Spear Street, 16th Floor
San Francisco, CA 94105
(800) 778-1164