COWEN
AND COMPANY

Biotechnology

Fate Therapeutics, Inc.

Equity Research

Company Quick Take

February 26, 2014

Price: $6.19 (02/25/2014)
Price Target: NA

OUTPERFORM (1)

Simos Simeonidis, Ph.D.
646.562.1386
simos.simeonidis@cowen.com

Yatin Suneja
646.562.1388
yatin.suneja@cowen.com

Key Data

Symbol	NASDAQ: FATE
Market Cap (MM)	$126.0

Phase Ib data point to ProHema's effect on T-cells

The Cowen Insight

Fate announced new data from the completed ProHema-01 trial, a Phase Ib clinical study of ProHema in patients undergoing HSCT for hematological malignancies. The data announced today show that treatment with ProHema led to a doubling in the percentage of naïve and early memory T-cell fraction within the CD8+ T-cell compartment compared with patients who did not receive ProHema.

The news: Fate announced new data from the completed ProHema-01 trial, a Phase Ib clinical study of ProHema evaluating its effect of pharmacologic modulation on CD8+ T cells and immune reconstitution in adult patients undergoing hematopoietic stem cell transplantation for hematological malignancies. The company is currently optimizing the ProHema manufacturing process and expects to resume enrollment in the Phase II ProHema-03 trial in 1H14, with full data expected in mid 2015.

The data: According to the data, the 12 patients who received ProHema and a unit of unmanipulated cord blood showed a two-fold increase in the percentage of naïve and early memory T cell fraction within the CD8+ T cell compartment compared with the 9 patients who did not receive ProHema but two units of unmanipulated cord blood. In addition, the functional properties of CD8+ T cells were also significantly improved. Details of the study were recently published in *Blood Cancer Journal*. On the safety side, viral reactivation was observed in 17% of the ProHema subjects (2/12) with no cases of CMV disease (vs. 36-56%, as reported in the literature), and no cases of Epstein-Barr virus (EBV)-associated post-transplant lymphoproliferative disorders (PTLD) were observed vs. up to 16% reported in the literature.

What's next for FATE? 1) Resumption of enrollment in Phase II ProHema-03 trial, 1H14; 2) Initiation of Phase Ib trial of ProHema in pediatric patients, mid-2014; 3) Initiation of Phase I trial of ProHema in lysosomal storage disorders, 2H14; 4) IND submission for Wnt7a, YE14; 5) Full data from Phase II ProHema-03 trial, mid-2015; and 6) Initiation of Wnt7a Phase I program, 2015.

Our thesis on FATE: Our view on FATE is based on the company's core technology and expertise in the pharmacologic modulation of adult stem cells for the development of therapeutics for the treatment of orphan diseases. If successful in its Phase II and Phase III development, we estimate that ProHema can gain significant share in the umbilical cord blood-derived HSCT market, along with share in the bone marrow- and peripheral blood-derived markets as well. Using conservative market penetration assumptions for ProHema (16% of the overall allogeneic HSCT market), we project that it can be a $360M US/EU product in 2025, with peak US/EU sales of ~$515M in 2030. These revenue numbers do not account for the upside that exists should ProHema and follow-on products manage to demonstrate utility in rare genetic disorders for which transplantation is not currently used as the standard of care, but is being used investigationally and starting to emerge as a potential treatment option. We believe that the combination of the ProHema opportunity with the potential upside

from the Wnt7a analog program make FATE an attractive early-stage biotech play. We reiterate our Outperform rating on FATE.

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 FATE shares include: 1) delays and/or clinical setbacks in the development of ProHema, 2) delays and/or setbacks in the development of the Wnt7a analog program, and 3) a change in the appetite for early-stage company risk among healthcare investors.

Addendum

Stocks Mentioned In Important Disclosures

Ticker	Company Name
FATE	Fate Therapeutics, Inc.

Analyst Certification

Each author of this research report hereby certifies that (i) the views expressed in the research report accurately reflect his or her personal views about any and all of the subject securities or issuers, and (ii) no part of his or her compensation was, is, or will be related, directly or indirectly, to the specific recommendations or views expressed in this report.

Important Disclosures

Cowen and Company, LLC and or its affiliates make a market in the stock of Fate Therapeutics, Inc. securities.

Fate Therapeutics, Inc. has been client(s) of Cowen and Company, LLC in the past 12 months.

Fate Therapeutics, Inc. is or was in the past 12 months a client of Cowen and Company, LLC; during the past 12 months, Cowen and Company, LLC provided IB services.

Cowen and Company, LLC and/or its affiliates received in the past 12 months compensation for investment banking services from Fate Therapeutics, Inc..

Cowen and Company, LLC and/or its affiliates managed or co-managed a public offering of Fate Therapeutics, Inc. within the past twelve months.

Cowen and Company, LLC compensates research analysts for activities and services intended to benefit the firm's investor clients. Individual compensation determinations for research analysts, including the author(s) of this report, are based on a variety of factors, including the overall profitability of the firm and the total revenue derived from all sources, including revenues from investment banking. Cowen and Company, LLC does not compensate research analysts based on specific investment banking transactions.

Disclaimer

This research is for our clients only. Our research is disseminated primarily electronically and, in some cases, in printed form. Research distributed electronically is available simultaneously to all Cowen and Company, LLC clients. All published research can be obtained on the Firm's client website, https://cowenlibrary.bluematrix.com/client/library.jsp.

Further information on any of the above securities may be obtained from our offices. This report is published solely for information purposes, and is not to be construed as an offer to sell or the solicitation of an offer to buy any security in any state where such an offer or solicitation would be illegal. Other than disclosures relating to Cowen and Company, LLC, the information herein is based on sources we believe to be reliable but is not guaranteed by us and does not purport to be a complete statement or summary of the available data. Any opinions expressed herein are statements of our judgment on this date and are subject to change without notice.

For important disclosures regarding the companies that are the subject of this research report, please contact Compliance Department, Cowen and Company, LLC, 599 Lexington Avenue, 20th Floor, New York, NY 10022. In addition, the same important disclosures, with the exception of the valuation methods and risks, are available on the Firm's disclosure website at https://cowen.bluematrix.com/sellside/Disclosures.action.

Price Targets: Cowen and Company, LLC assigns price targets on all covered companies unless noted otherwise. The price target for an issuer's stock represents the value that the analyst reasonably expects the stock to reach over a performance period of twelve months. The price targets in this report should be considered in the context of all prior published Cowen and Company, LLC research reports (including the disclosures in any such report or on the Firm's disclosure website), which may or may not include price targets, as well as developments relating to the issuer, its industry and the financial markets. For price target valuation methodology and risks associated with the achievement of any given price target, please see the analyst's research report publishing such targets.

Notice to UK Investors: This publication is produced by Cowen and Company, LLC which is regulated in the United States by FINRA. It is to be communicated only to persons of a kind described in Articles 19 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005. It must not be further transmitted to any other person without our consent.

Cowen and Company, LLC. New York (646) 562-1000 **Boston** (617) 946-3700 **San Francisco** (415) 646-7200 **Chicago** (312) 577-2240 **Cleveland** (440) 331-3531 **Atlanta** (866) 544-7009 **London** (affiliate) 44-207-071-7500

COWEN AND COMPANY RATING DEFINITIONS

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 Dahlman 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

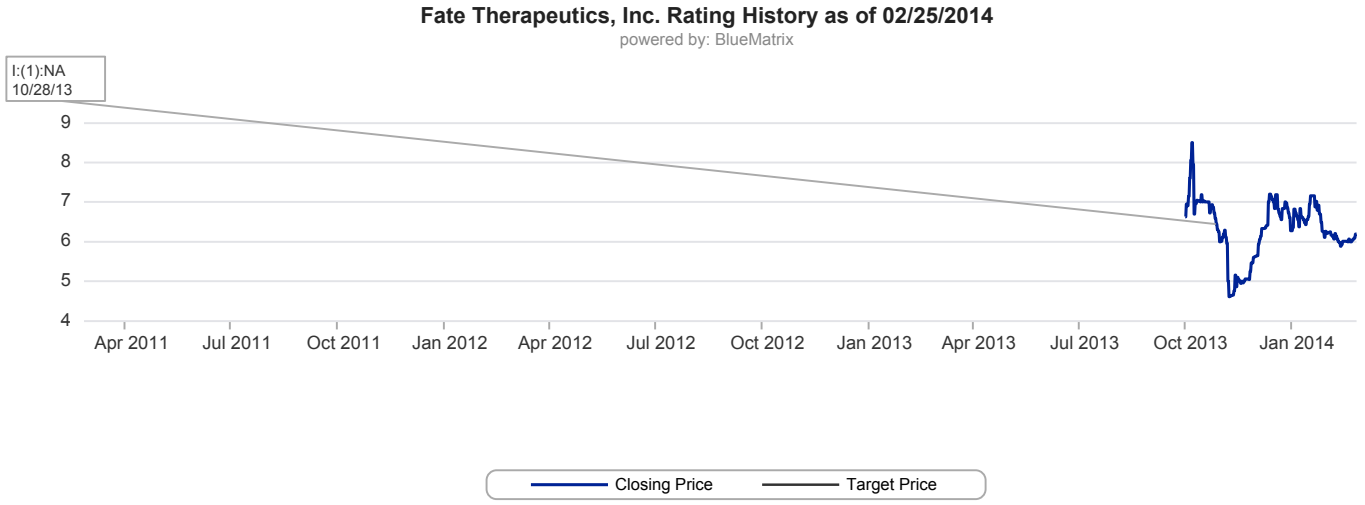
Cowen And Company Rating Definitions

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.



Legend for Price Chart:

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

Points Of Contact

Reaching Cowen

Main U.S. Locations

New York
599 Lexington Avenue
New York, NY 10022
646.562.1000
800.221.5616

Boston
Two International Place
Boston, MA 02110
617.946.3700
800.343.7068

San Francisco
555 California Street, 5th Floor
San Francisco, CA 94104
415.646.7200
800.858.9316

Atlanta
3399 Peachtree Road NE
Suite 417
Atlanta, GA 30326
866.544.7009

Cleveland
20006 Detroit Road
Suite 100
Rocky River, OH 44116
440.331.3531

Chicago
181 West Madison Street
Suite 1925
Chicago, IL 60602
312.577.2240

International Locations

Cowen International Limited

London
1 Snowden Street - 11th Floor
London EC2A 2DQ
United Kingdom
44.20.7071.7500

Cowen and Company (Asia) Limited

Hong Kong
Suite 1401 Henley Building
No. 5 Queens Road Central
Central, Hong Kong
852 3752 2333

@CowenResearch

Cowen and Company