

Equity Research

June 18, 2015

Price: \$51.73 (06/17/2015)

Price Target: NA

OUTPERFORM (1)

Eric Schmidt, Ph.D.

646.562.1345

eric.schmidt@cowen.com

Jeff Chen, Ph.D.

646.562.1417

jeff.chen@cowen.com

Key Data

Symbol **NASDAQ: RDUS**

Market Cap (MM) **\$1,960.1**

Quick Take: Company Update

Abaloparatide's Benefits Carry Over Into ACTIVEExtend

The Cowen Insight

Radius reported positive data from the ACTIVEExtend extension trial showing that osteoporosis patients treated with abaloparatide followed by alendronate had reduced fractures as compared to placebo-alendronate. With data from ACTIVEExtend in hand, RDUS is looking toward H2 regulatory filings and 2016 approvals. We think abaloparatide will capture a sizable portion of Forteo's \$1.3B+ market.

The News: Last night Radius announced top-line data from the first six months of ACTIVEExtend and 25-month combined data from the Phase III ACTIVE and ACTIVEExtend trials. Recall that in December 2014, Radius presented positive data from the 18-month ACTIVE trial. This study demonstrated that subQ abaloparatide reduced fractures versus placebo and improved BMD and other parameters versus LLY's Forteo. ACTIVEExtend enrolled patients from the placebo and abaloparatide arms to receive treatment with alendronate (Fosamax) for an additional six months. Impressively, ACTIVEExtend showed that patients previously treated with abaloparatide experienced no new vertebral fractures during ACTIVEExtend. Moreover, across the combined 25-months of observation, treatment with abaloparatide followed by alendronate led to statistically significant reductions versus placebo-alendronate in new vertebral fractures (87%, $p < 0.0001$), non-vertebral fractures (52%, $p = 0.0168$), clinical fractures (48%, $p = 0.0139$), and major osteoporotic fractures (58% $p = 0.0122$). These rates of fracture reduction are very similar to the benefits observed for abaloparatide vs. placebo in the 18-month ACTIVE trial. BMD increases also continued for the abaloparatide-alendronate treatment group over the 25-month study period with average BMD increases of 12.8%, 4.5% and 5.5% at the lumbar spine, femoral neck, and total hip. Furthermore, 20.4% of the patients on abaloparatide-alendronate achieved BMD increases of at least 6% at all three aforementioned sites. Reported AEs in ACTIVEExtend were comparable between the placebo-alendronate and abaloparatide-alendronate arm.

Our Take: While we had little doubt that abaloparatide-alendronate treatment would be superior to placebo-alendronate treatment in ACTIVEExtend, we nonetheless find the fracture reduction data and continued BMD increases at 25-months compelling. Notably, the abaloparatide-alendronate treated group reported no new vertebral fractures and achieved statistically significant fracture reductions at nearly all sites with favorable safety. In ACTIVE, Abaloparatide was already shown to be superior to Forteo at increasing BMD and reducing fractures at cortical sites such as the wrist. Last night, Radius presented data from an additional exploratory analysis of the ACTIVE trial that showed abaloparatide was associated with a 53% reduction in major osteoporotic fractures relative to the Forteo comparator arm ($p = 0.0437$). We view this as further evidence of abaloparatide's superior efficacy over Forteo, a quality that should allow it to gain substantial share in the injectable osteoporosis market.

We continue to view regulatory approval as low risk based on abaloparatide's favorable efficacy and safety profile in ACTIVE and ACTIVEExtend. Radius expects to

Please see addendum of this report for important disclosures.

submit NDA and MMA filings for abaloparatide in H2:15 and approval decisions may be available as early as H2:16. Radius intends to market abaloparatide on its own in the U.S. while discussions around a potential ex-U.S. partnership continue. Forteo sales were just over \$1.3B in 2014, and LLY recently took a 15% U.S. price increase on the drug. We think abaloparatide could gain significant share and potentially expand this market by virtue of its superior potency (better BMD and fracture reductions), convenience (small injection volume and room temperature storage), and safety (lower incidences of hypercalcemia).

What Is Next For RDUS: Radius anticipates NDA and MAA filings for abaloparatide in H2. Also in H2, Radius expects to initiate a clinical evaluation of an optimized abaloparatide-TD patch and a Phase I trial of RAD1901 for breast cancer in Europe. Initial efficacy data from RAD1901's U.S. Phase I trial in ER+ breast cancer may be available by SABCS in December.

Our Investment Thesis On RDUS: Abaloparatide, a peptide analog of the PTH-related protein, is an anabolic drug candidate for osteoporosis that has succeeded in a Phase III trial. We view abaloparatide as superior to LLY's Forteo, and capable of capturing a significant portion of Forteo's \$1.3B+ market. RAD1901, a selective estrogen receptor degrader (SERD), has demonstrated proof of mechanism data and is being studied in Phase I trials in ER+ breast cancer patients. We expect greater investor appreciation for abaloparatide's potential to drive significant stock outperformance.

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

Radius Health is unprofitable, has no approved products, and will likely need to raise additional capital from the public markets prior to turning profitable. There is no guarantee that abaloparatide's Phase III study will meet its primary endpoint of fracture reduction. Even if successful, abaloparatide may face other commercial and competitive risks that thwart adoption.

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.

Addendum

Stocks Mentioned in Important Disclosures

Ticker	Company Name
RDUS	Radius Health

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 Radius Health securities.

Radius Health has been client(s) of Cowen and Company, LLC in the past 12 months.

Radius Health 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 Radius Health.

Cowen and Company, LLC and/or its affiliates managed or co-managed a public offering of Radius Health 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.

Copyright, User Agreement and other general information related to this report

© 2015 Cowen and Company, LLC. Member NYSE, FINRA and SIPC. All rights reserved. This research report is prepared for the exclusive use of Cowen clients and may not be reproduced, displayed, modified, distributed, transmitted or disclosed, in whole or in part, or in any form or manner, to others outside your organization without the express prior written consent of Cowen. Cowen research reports are distributed simultaneously to all clients eligible to receive such research reports. Any unauthorized use or disclosure is prohibited. Receipt and/or review of this research constitutes your agreement not to reproduce, display, modify, distribute, transmit, or disclose to others outside your organization the contents, opinions, conclusion, or information contained in this report (including any investment recommendations, estimates or price targets). All Cowen trademarks displayed in this report are owned by Cowen and may not be used without its prior written 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 03/31/15

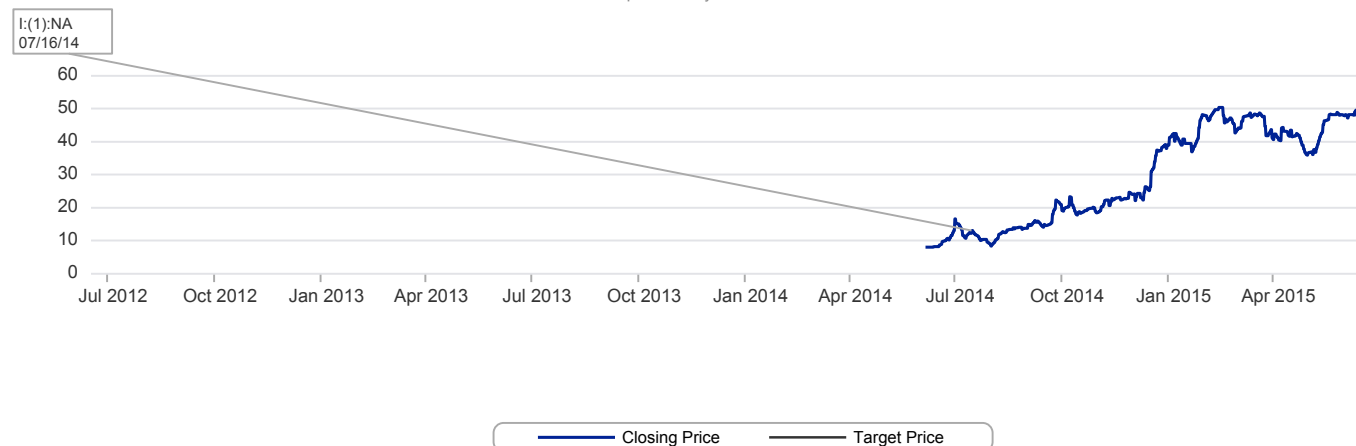
Rating	Count	Ratings Distribution	Count	IB Services/Past 12 Months
Buy (a)	450	58.67%	103	22.89%
Hold (b)	302	39.37%	8	2.65%
Sell (c)	15	1.96%	0	0.00%

(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.

Radius Health Rating History as of 06/17/2015

powered by: BlueMatrix



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 | S=Suspended

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

Cleveland

20006 Detroit Road
Suite 100
Rocky River, OH 44116
440.331.3531

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

Chicago

181 West Madison Street
Suite 3135
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

