Radius Health

Biotechnology

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US Equity Research
10 March 2015

BUY
unchanged

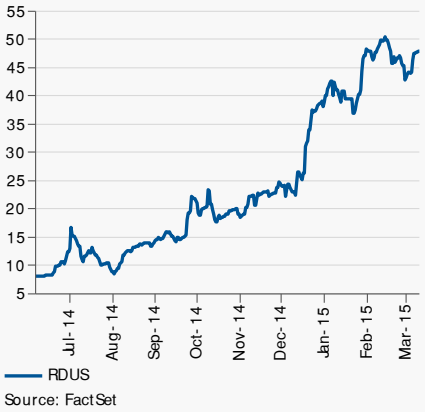
PRICE TARGET US$70.00
unchanged
Price (10-Mar) US$47.79
Ticker RDUS-NASDAQ

52-Week Range (US$):	7.46 - 51.22
Avg Daily Vol (M) :	248.6
Shares Out. (M) :	29.7
Market Cap (US$M):	1,422

FYE Dec	2013A	2014A	2015E	2016E
Revenue (US$M)	0.0	0.0	0.0	82.1
EPS Adj&Dil (US$)	(3.97)	(53.81)↑	(2.54)↑	(1.19)↑
Previous	*(3.97)*	*(54.05)*	*(3.06)*	*(1.52)*

Quarterly Revenue	Q1	Q2	Q3	Q4
2013A	-	-	-	-
2014A	0.0	0.0	0.0	0.0
2015E	0.0	0.0	0.0	0.0
2016E	-	-	-	-

Quarterly EPS Adj&Dil	Q1	Q2	Q3	Q4
2013A	-	-	-	-
2014A	(50.45)	(2.22)	(0.59)	(0.55)
2015E	(0.55)	(0.72)	(0.62)	(0.64)
2016E	-	-	-	-



Source: FactSet

Radius is a biotechnology company focused on drugs for endocrine disorders, including osteoporosis.

Estimates Revised

RDUS sets key milestones for 2015, key data readouts for abaloparatide and RAD1901

RAD1901 phase 1 data in metastatic BC key catalyst for the stock

We expect first look data for RAD1901 in patients with metastatic breast cancer by ASCO, a key driver for the stock. Although this trial is an open-label dose-escalation study, we may see clinical data and anti-tumor effects with RAD1901, which may dictate the direction the company may move the drug forward. Currently, we believe oral RAD1901 can be used ahead of the injectable Fulvestrant and be indicated in early lines of therapy, possibly in combination with aromatase inhibitors and SERMs due to the clean safety profile and lack of diarrhea (as seen by the competitor ARN-810). However, if significant anti-tumor benefits are seen, RAD1901 may potentially penetrate the neoadjuvant landscape as this can help surgeons significantly in tumor debulking, which we find interesting.

Expect data for abaloparatide 6 month extension study by 2Q15

Radius will report results from the ACTIVExtend study by 2Q15 and anticipate NDA submission by 2H15, with a commercialization date sometime in 2016. The ACTIVExtend trial will evaluate 6 months of alendronate post 18 months of either abaloparatide or placebo, which we believe the abaloparatide arm will continue to demonstrate bone marrow density (BMD) advantage and possibly fracture reductions vs. placebo. The FDA will look at the data in totality, including the 18 month results, the 6 month extension data with alendronate, and the total 24 month analysis, with a focus on maintaining BMD superiority vs. placebo, as was demonstrated by the initial PaTH study comparing PTH and alendronate. Given the recent positive data from the ACTIVE trial, we have high confidence in a positive readout from the ACTIVExtend trial and believe the company is in a favorable position going into regulatory approval.

Radius moves forward with abaloparatide transdermal patch

The company plans to initiate a phase 1 clinical evaluation of the optimized abaloparatide-TD patch in 2H15, with the goal of achieving comparability to the SQ formulation, a positive. Although the company can only bridge patients onto the TD patch after FDA approval of the SQ injection, the company does not need to wait for approval to begin human PK comparability studies. We expect the development of the TD formulation to move forward in a timely fashion, with rollout shortly after approval of the SQ injection.

Maintain BUY, $70 PT

We maintain our BUY rating and $70 price target for Radius. The company updated its guidance on cash burn and expects the current $105M in cash and cash equivalents will carry the company forward until 4Q16. We adjust our 2015 and 2016 EPS estimates based on today's 4Q14 earnings release.

Figure 1: RDUS catalysts

Timing	Drug	Event	Indication	Effect	Importance	Notes
2Q15	Abaloparatide	Extension study	osteoporosis	↑	High	Additional 6 month data, total 18 months
ASCO	RAD1901	Phase 1 Data in BC patients	breast cancer brain mets	↑	Critical	Potential phase 1 data for RAD1901 during ASCO in breast cancer brain metastases
2H15	Abaloparatide	NDA submission	osteoporosis	↑	High	NDA and an MAA submission by 2H15
2H15	Abaloparatide TD	Trial initiation	Osteoporosis	↑	High	Transdermal patch trial initiation
2H15	RAD1901	Trial initiation	Vasomotor symptoms	↑	Moderate	Phase 2B clinical trial initiation

Source: Company Reports, Canaccord Genuity estimates

Figure 2: RDUS income statement

Revenues	2013A	1Q14A	2Q14A	3Q14A	4Q14A	2014A	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E	2019E	2020E
abaloparatide - US												82,120	239,867	357,419	465,944	583,042
abaloparatide - Ex-US												-	90,548	204,751	251,503	298,717
Total												**82,120**	**330,415**	**562,170**	**717,447**	**881,759**
Income Statement	**2013A**	**1Q14A**	**2Q14A**	**3Q14A**	**4Q14A**	**2014A**	**1Q15E**	**2Q15E**	**3Q15E**	**4Q15E**	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**
Total Revenue	-	-	-	-	-	-	-	-	-	-	-	82,120	264,315	457,747	594,210	738,375
COGS	-	-	-	-	-	-	-	-	-	-	-	16,424	52,863	91,549	118,842	147,675
Gross Profit	-	-	-	-	-	-	-	-	-	-	-	65,696	211,452	366,198	475,368	590,700
Operating Expenses																
Research and development	60,536	9,717	10,618	13,817	11,567	45,719	13,393	16,270	15,173	13,525	58,361	47,591	47,070	57,626	77,561	111,588
General and administrative	6,829	2,139	3,070	2,836	5,629	13,674	3,000	3,200	3,400	3,600	13,200	57,484	85,902	102,993	133,697	166,134
Total Operating Expense	67,365	11,856	13,688	16,653	17,196	59,393	16,393	19,470	18,573	17,125	71,561	105,075	132,972	160,619	211,258	277,722
EBITDA																
Operating income	(67,365)	(11,856)	(13,688)	(16,653)	(17,196)	(59,393)	(16,393)	(19,470)	(18,573)	(17,125)	(71,561)	(39,379)	78,480	205,578	264,110	312,978
Other income (expense), net	9,085	(2,233)	1,727	(802)	(818)	(2,126)	(818)	(2,126)	(818)	(2,126)	(5,888)	(2,126)	(5,888)	(2,126)	(5,888)	(2,126)
Loss on retirement of note payable			(203)		(11)											
Interest (expense) income, net	(2,410)	(399)	(445)	24	52	(768)	52	(768)	52	(768)	(1,432)	(768)	(1,432)	(768)	(1,432)	(768)
Accretion of preferred stock		(4,969)	(4,031)													
Pre-tax income (GAAP)	(60,690)	(19,457)	(16,640)	(17,431)	(17,973)	(71,501)	(17,159)	(22,364)	(19,339)	(20,019)	(78,881)	(42,273)	71,160	202,684	256,790	310,084
Pre-tax income (non-GAAP)																
Taxes (GAAP)	-	-	-	-	-	-	-	-	-	-	-	-	26,329	74,993	95,012	114,731
Tax rate (GAAP)	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
Net Income (GAAP)	(60,690)	(19,457)	(16,640)	(17,431)	(17,973)	(71,501)	(17,159)	(22,364)	(19,339)	(20,019)	(78,881)	(42,273)	44,831	127,691	161,778	195,353
GAAP EPS (diluted)	**($3.97)**	**($50.45)**	**($2.22)**	**($0.59)**	**($0.55)**	**($53.81)**	**($0.55)**	**($0.72)**	**($0.62)**	**($0.64)**	**($2.54)**	**($1.19)**	**$1.20**	**$3.26**	**$3.93**	**$4.52**
Diluted shares outstanding	15,278	386	7,500	29,746	32,678	17,578	31,001	31,032	31,063	31,094	31,539	35,562	37,340	39,207	41,167	43,226

Source: Company Reports, Canaccord Genuity estimates

Figure 3: RDUS valuation

Product	Peak Sales ($MM)	Year	NPV at launch	Estimated launch	Time to launch	Probability Adjustment	Current Value ($MM)	Scenario probability	Value / Share (NPV)	Value / Share (EV/Sales)
abaloparatide										
US	$822	2022	$1,364	6/1/2016	1.2	85%	$969	100%	$33	$47
Ex-US - co-promote	$346	2021	$429	1/1/2017	1.8	85%	$272	50%	$5	$11
Ex-US - royalty	$346	2021	$201	1/1/2017	1.8	85%	$139	50%	$2	$11
Total abaloparatide							**$1,241**		**$40**	**$69**
RAD-1901										
US	$467	2023	$670			35%	$234		$8	$10
Ex-US	$427	2023	$188			35%	$66		$0	$9
Total RAD-1901							**$300**		**$8**	**$19**
Total Product Value							$1,241		$49	$87
Cash							70		$2	$2
Total Equity Value							**1,311**		**$51**	**$90**
Shares Outstanding (MM)							29			
									Average	$70

Risk-Free Rate	3.0%
Beta	1.8
Risk Premium	5%
Discount Rate	12%
EV/Sales	4.25

Source: Company Reports, Canaccord Genuity estimates

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Target Price / Valuation Methodology:

Radius Health - RDUS

Our $70 price target is based on the average of our probability adjusted NPV and EV/S methodologies.

Risks to achieving Target Price / Valuation:

Radius Health - RDUS

Risks to our outlook and price target include the following: the Phase 3 study for abaloparatide in osteoporosis may be negative, or fail to meet investor expectations, resulting in downside to shares and our price target. Also, Phase 3 data may be positive in terms of efficacy, but show an unexpected safety signal, also resulting in downside to our price target. Antibody formation was been seen in Phase 2 studies, with one patient showing potential evidence of neutralizing antibodies. Even assuming positive Phase 3 data for subcutaneous abaloparatide in osteoporosis, FDA approval may be delayed or may not occur at all, also resulting in downside to shares and our price target. FDA may also grant approval, but require large, lengthy and expensive post-approval studies, which could also result in downside to shares and our price target. Clinical data from other osteoporosis products including anti-sclerostin antibodies from Amgen, Merck, Eli Lilly and Novartis could be viewed as superior to abaloparatide, pressuring shares. Competition from existing and new osteoporosis products could also result in lower revenues that expected, leading to downside to our estimates and the share price. Although unlikely, a paragraph 4 challenge could be filed against Lilly's Forteo, a molecule closely related to abaloparatide, which investors may interpret as increasing risk for abaloparatide, and pressuring Radius shares. Forteo was approved as an NDA, where the ANDA pathway is well established. Even though Forteo is essentially a biologic, since it is a peptide, it is feasible although unlikely that a generic challenger could emerge. FDA has approved a generic version of Lovenox, a biologic approved via the NDA pathway, although the process took many years. If a generic version of Forteo were to reach the market, usage of abaloparatide could decline, resulting in downside to our estimates and price target. Also, if FDA were to approve a generic version of Copaxone, a peptide used to treat multiple sclerosis, investors may see increased risk of a generic challenge and approval for abaloparatide, as both products are classified as NDA filings for biologic peptides. A transdermal microneedle formulation for abaloparatide may not be feasible, which investors may view as negative for life cycle management and commercial competitive positioning for Radius, pressuring shares. Even if a microneedle formulation can be developed to show equal efficacy to the subcutaneous formulation, FDA may require a full clinical study versus a bridging study, which would require additional funding and time to approval.

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Global Stock Ratings (as of 03/10/15)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	572	57.84%	33.57%
Hold	326	32.96%	16.56%
Sell	42	4.25%	2.38%
Speculative Buy	49	4.95%	57.14%
	989*	100.0%	

*Total includes stocks that are Under Review

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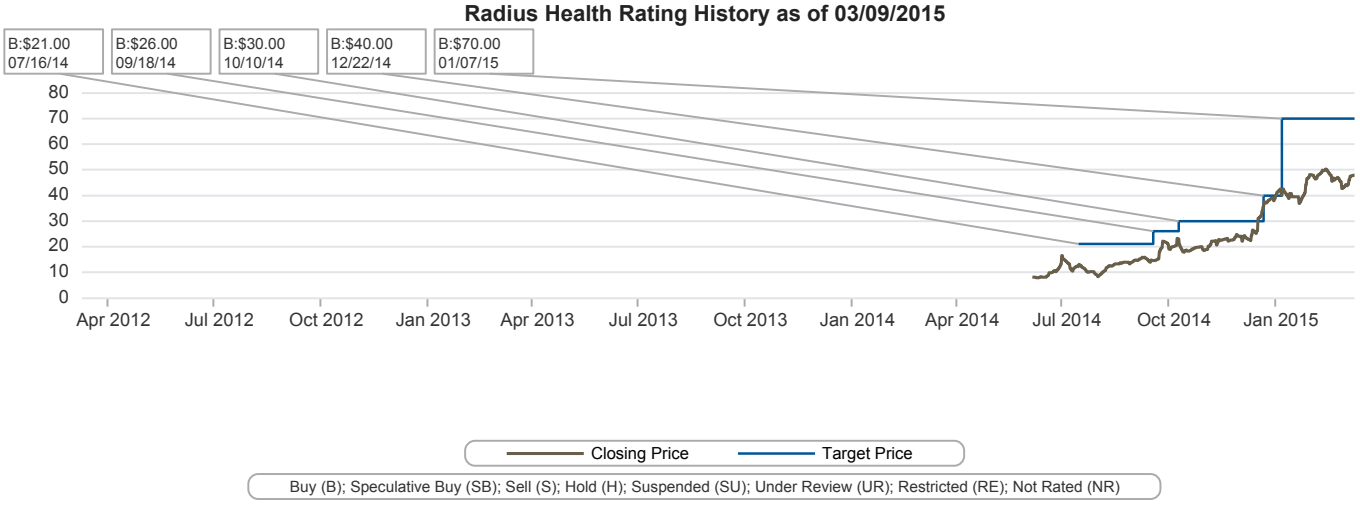

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