

Healthcare: Pharmaceuticals

Kindred Biosciences, Inc. | KIN - \$14.21 - NYSE | *Neutral*

Company Update

Estimates Changed, Target Price Changed

Stock Data

52-Week Low - High	\$8.75 - \$26.99
Shares Out. (mil)	19.71
Mkt. Cap.(mil)	\$280.1
3-Mo. Avg. Vol.	81,073
12-Mo.Price Target	\$11.50
Cash (mil)	\$112.4
Tot. Debt (mil)	\$0.0

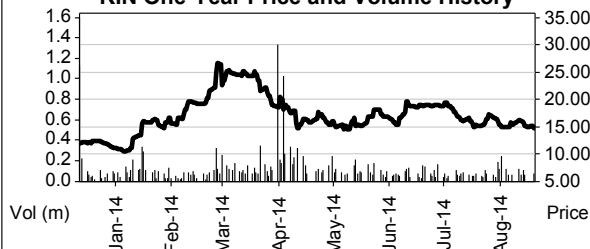
EPS \$

Yr Dec	—2013—	—2014E—	—2015E—	
		Curr	Curr	Prev
1Q	(0.07)A	(0.38)A	-	-
2Q	(0.13)A	(0.42)A	-	-
3Q	(0.26)A	(0.48)E	-	-
4Q	(0.40)A	(0.50)E	-	-
YEAR	(1.13)A	(1.79)E	(1.70)E	(1.80)E
P/E	NM	NM	NM	NM

Revenue (\$ millions)

Yr Dec	—2013—	—2014E—	—2015E—	
		Curr	Curr	Prev
1Q	0.0A	0.0A	-	-
2Q	0.0A	0.0A	-	-
3Q	0.0A	0.0E	-	-
4Q	0.0A	0.0E	-	-
YEAR	0.0A	0.0E	0.0E	0.5E

KIN One-Year Price and Volume History



KIN: CereKin Fails - Maintain Neutral Rating

Kindred Bio announced that the company's pivotal trial for CereKin to treat pain and inflammation associated with osteoarthritis in dogs did not meet its primary endpoint. This is obviously disappointing, but not necessarily indicative of future compounds. Still, we remain on the sidelines due to concerns with the ultimate revenue potential in the animal health market. Maintain Neutral rating with reduced price target of \$11.50/share.

- **CereKin fails.** Kindred Bio announced after the close Wednesday that its pivotal trial for CereKin to treat pain and inflammation associated with osteoarthritis in dogs did not meet its primary endpoint. The company does not appear to be continuing development of the compound in dogs.
- **Reasons.** The company noted a higher-than-expected placebo response rate, statistical variability, and a higher-than-expected drop out rate. None of these reasons are particularly unique in drug development.
- **Our take.** Apparently, dog trials are harder than we anticipated as we expected this trial to work. Still, we do expect KIN to navigate these growing pains and turn up more winners than losers in its pipeline over the long haul. The stock will likely risk adjust all trials more negatively, which is probably an over-reaction.
- **Model changes.** CereKin was a primary revenue driver in our model and removing it greatly increased EPS losses in the near-term. At this point, the company remains well capitalized (~\$100 million), but another capital raise cannot be ruled out. In our EPS model, profitability is pushed from 2018 to 2019, and our 2019 EPS forecast falls to \$0.35 from \$1.15.
- **Maintain Neutral, PT to \$11.50/share.** We remain skeptical of the "biotech" business model for animal health products. However, we believe that the problems will be on revenue forecasts and not approvals. So, we expect pipeline productivity to increase going forward. We also expect the stock to stabilize given its cash balance of near \$6/share. Overall, barring investors looking to play a bounce, we remain on the sidelines for the shares. Our revised PT reflects our downward earnings revisions.

VALUATION

We value KIN shares at \$11.50. Our price target of \$11.50/share is arrived at by applying a 50X multiple to forecasted 2019 EPS of \$0.35, and discounting back four years by 30% per year (we also add \$5.50/share to reflect the cash balance). We support this multiple by evaluating comparable animal health companies (limited sample size). Our choice of 50X reflects an earlier stage of the EPS growth trajectory curve.

Impediments to our price target include clinical development risk, regulatory risk, forecasting risk and sentiment risk.

RISKS

In addition to the risks inherent in developing, manufacturing, and distributing animal health drugs, key investment risks for Kindred Bio include:

- **Clinical development risk** – Kindred Bio will need to demonstrate both efficacy and safety for its current product pipeline. Failure of pending clinical data to match expectations could have a material adverse impact on company shares.
- **Regulatory risk** – Kindred Bio advances its pipeline through the FDA (CVM), USDA (biologics), and EMA. Failure of the company to navigate these channels in line with investor expectations could have a material adverse impact on company shares.
- **Forecasting risk** – We forecast substantial revenues for multiple products within Kindred Bio's pipeline. Failure of actual revenues to match our forecasts could have a material adverse impact on company shares.
- **Sentiment risk** – Animal health companies are currently receiving heightened investor interest, and profits remain multiple years away. A change in investor sentiment away from animal health could have a material adverse impact on company shares.

COMPANY DESCRIPTION

Kindred Biosciences, Inc., a clinical-stage biopharmaceutical company, focuses on the development of therapies for pets. The company provides small molecules and biologics that are in various stages of development for a range of indications in dogs, cats, and horses. Its products include CereKin, an oral interleukin-1 beta inhibitor for osteoarthritis pain and inflammation in dogs; AtoKin, a beef-flavored formulation of fexofenadine for atopic dermatitis in dogs; KIND-009, an oral analgesic formulation of flupirtine to manage post-operative pain in dogs and cats; KIND-007, an inhibitor of Bruton's tyrosine kinase; and KIND-006, an agent for gastrointestinal diseases in cats. The company's products also comprise KIND-502, a biologic for allergic and immune-mediated diseases; KIND-506, a biologic for inflammatory and autoimmune diseases; KIND-507, a biologic for immune-mediated diseases; KIND-504, a cancer vaccine; and KIND-501, an antiangiogenic biologic for cancer in dogs. Kindred Biosciences, Inc. was founded in 2012 and is headquartered in Burlingame, California.

Kindred Biosciences, Inc.																	
Earnings model	FY 2012 A	1Q13A	2Q13A	3Q13A	4Q13A	FY 2013 A	1Q14A	2Q14A	3Q14E	4Q14E	FY 2014 E	FY 2015 E	FY 2016 E	FY 2017 E	FY 2018 E	FY 2019 E	FY 2020 E
Revenues:																	
CereKin												-	-	-	-	-	-
AtoKin												-	3,849,995	13,429,295	23,447,784	34,405,808	39,154,586
SentiKin												-	1,787,498	6,235,030	10,886,471	15,974,125	18,178,915
Other indications (Cerekin/AtoKin/Sentiken)														10,000,000	20,000,000	25,000,000	30,000,000
Other small molecule drugs														15,000,000	25,000,000	35,000,000	45,000,000
Biologics														15,000,000	25,000,000	25,000,000	50,000,000
Distributor discount												-	(281,875)	(2,233,216)	(4,716,713)	(6,768,997)	(9,116,675)
Percentage via distributor												25%	25%	25%	25%	25%	25%
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	5,355,618	42,431,109	89,617,542	128,610,936	173,216,826
COGS	-	-	-	-	-	-	-	-	-	-	-	-	4,016,714	23,337,110	46,601,122	61,347,417	80,026,174
Gross Profits	-	-	-	-	-	-	-	-	-	-	-	-	1,338,905	19,093,999	43,016,420	67,263,520	93,190,652
Gross margins												0%	25%	45%	48%	52%	54%
Research and Development	74,772	141,000	300,000	953,756	1,747,674	3,142,430	4,498,000	5,639,000	7,000,000	7,500,000	24,637,000	25,250,000	26,000,000	27,000,000	28,000,000	29,000,000	30,000,000
General and Administrative	44,864	83,000	96,000	259,153	639,339	1,077,492	1,679,000	2,499,000	2,500,000	2,500,000	9,178,000	10,000,000	10,500,000	11,000,000	11,500,000	12,000,000	12,500,000
Selling expenses												-	3,900,000	6,425,000	10,300,000	13,525,000	16,412,500
Loss from operations	(119,636)	(224,000)	(396,000)	(1,212,909)	(2,387,013)	(4,219,922)	(6,177,000)	(8,138,000)	(9,500,000)	(10,000,000)	(33,815,000)	(35,250,000)	(39,061,095)	(25,331,001)	(6,783,580)	12,738,520	34,278,152
Interest/other income	25	-	-	2,614	3,310	5,924	9,000	14,000	50,000	50,750	123,750	52,500	52,500	100,000	150,000	200,000	300,000
Pretax income (loss)	(119,611)	(224,000)	(396,000)	(1,210,295)	(2,383,703)	(4,213,998)	(6,168,000)	(8,124,000)	(9,450,000)	(9,949,250)	(33,691,250)	(35,197,500)	(39,008,595)	(25,231,001)	(6,633,580)	12,938,520	34,578,152
Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,587,704	9,923,930
Rate													0%	0%	0%	20%	29%
Net income (loss)	(119,611)	(224,000)	(396,000)	(1,210,295)	(2,383,703)	(4,213,998)	(6,168,000)	(8,124,000)	(9,450,000)	(9,949,250)	(33,691,250)	(35,197,500)	(39,008,595)	(25,231,001)	(6,633,580)	10,350,816	24,654,223
EPS	(0.04)	(0.07)	(0.13)	(0.26)	(0.40)	(1.13)	(0.38)	(0.42)	(0.48)	(0.50)	(1.79)	(1.70)	(1.80)	(1.00)	(0.25)	0.35	0.80
Shares outstanding	2,718,082	3,000,000	3,000,000	4,713,320	5,899,059	3,731,929	16,222,000	19,426,000	19,676,000	19,926,000	18,812,500	20,676,000	21,676,000	25,176,000	26,176,000	29,676,000	30,676,000

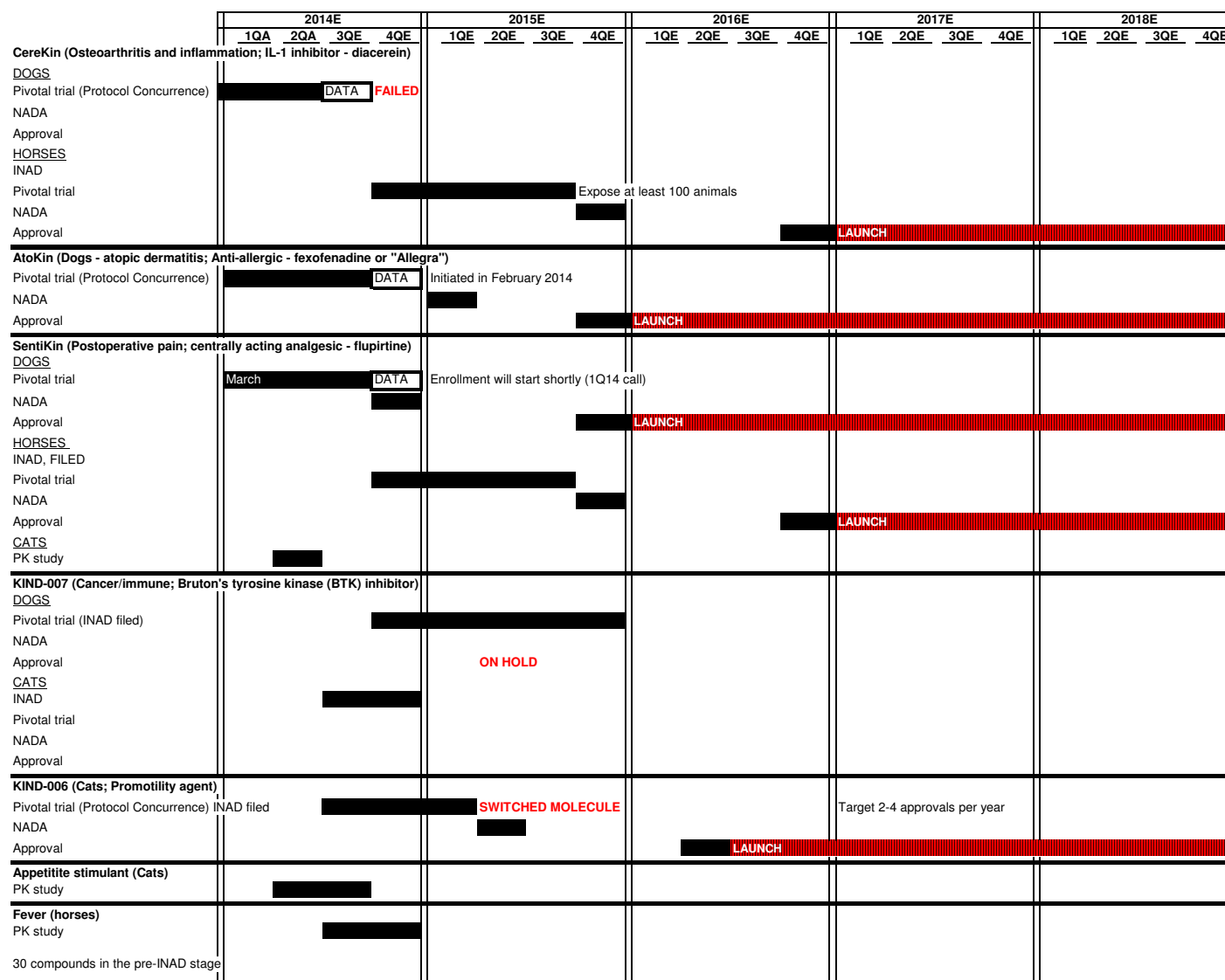
Source: ROTH Capital Partners and Company SEC filings

Scott R Henry, CFA

shenry@roth.com

(949) 500-0863

Kindred Biosciences, Inc. Small Molecule Pipeline



Source: ROTH Capital Partners Forecasts

Scott R Henry, CFA
shenry@roth.com
 (949) 500-0863

Kindred Biosciences, Inc. Biologic Pipeline

	2015E				2016E				2017E				2018E			
	<u>1QE</u>	<u>2QE</u>	<u>3QE</u>	<u>4QE</u>	<u>1QE</u>	<u>2QE</u>	<u>3QE</u>	<u>4QE</u>	<u>1QE</u>	<u>2QE</u>	<u>3QE</u>	<u>4QE</u>	<u>1QE</u>	<u>2QE</u>	<u>3QE</u>	<u>4QE</u>
KIND-502 (Dogs, allergic diseases; Anti IgE antibody - Xolair)																
Manufacturing validation																
Pivotal study																
NADA																
Approval																
KIND-506 (Dogs, inflammatory diseases; TNFR-Ig fusion protein - Enbrel)																
Manufacturing validation																
Pivotal study																
NADA																
Approval																
KIND-507 (Dogs, autoimmune disease; CLTA4-Ig fusion protein - Orencia)																
Manufacturing validation																
Pivotal study																
NADA																
Approval																
KIND-504 (Dogs; Cancer vaccine)																
Manufacturing validation																
Pivotal study																
NADA																
Approval																
KIND-501 (Dogs, Cancer; Anti-VEGF fusion protein)																
Manufacturing validation																
Pivotal study																
NADA																
Approval																
Erythropoietin (Cats)																
In development																
Estimate - 3-5 years and \$3-\$5 million from INAD to approval																

Source: ROTH Capital Partners Forecasts

Scott R Henry, CFA

shenry@roth.com

(949) 500-0863

Kindred Biosciences, Inc. AtoKin model						
Quarter	Market size	Quarterly growth rate	MARKET SHARE		RISK ADJUSTED A	
			Other	AtoKin	CereKin revenues Quarterly	Annual
1Q14	28,125,000		100%	0%	-	
2Q14	28,687,500	2.0%	100%	0%	-	
3Q14	29,261,250	2.0%	100%	0%	-	
4Q14	29,846,475	2.0%	100%	0%	-	-
1Q15	30,443,405	2.0%	100%	0%	-	
2Q15	31,052,273	2.0%	100%	0%	-	
3Q15	31,673,318	2.0%	100%	0%	-	
4Q15	32,306,784	2.0%	100%	0%	-	-
1Q16	32,952,920	2.0%	99%	1%	230,670	
2Q16	33,611,978	2.0%	97%	3%	705,852	
3Q16	34,284,218	2.0%	95%	5%	1,199,948	
4Q16	34,969,902	2.0%	93%	7%	1,713,525	3,849,995
1Q17	35,669,300	2.0%	90%	10%	2,496,851	
2Q17	36,382,686	2.0%	88%	12%	3,056,146	
3Q17	37,110,340	2.0%	86%	14%	3,636,813	
4Q17	37,852,547	2.0%	84%	16%	4,239,485	13,429,295
1Q18	38,609,598	2.0%	82%	18%	4,864,809	
2Q18	39,381,790	2.0%	80%	20%	5,513,451	
3Q18	40,169,426	2.0%	78%	22%	6,186,092	
4Q18	40,972,814	2.0%	76%	24%	6,883,433	23,447,784
1Q19	41,792,271	2.0%	74%	26%	7,606,193	
2Q19	42,628,116	2.0%	72%	28%	8,355,111	
3Q19	43,480,678	2.0%	70%	30%	9,130,942	
4Q19	44,350,292	2.0%	70%	30%	9,313,561	34,405,808
1Q20	45,237,298	2.0%	70%	30%	9,499,833	
2Q20	46,142,044	2.0%	70%	30%	9,689,829	
3Q20	47,064,884	2.0%	70%	30%	9,883,626	
4Q20	48,006,182	2.0%	70%	30%	10,081,298	39,154,586

Size relative to OA market

50.0%

Kindred Biosciences, Inc. SentiKin model						
					RISK ADJUSTED A	65%
Quarter	Market size	Quarterly growth rate	MARKET SHARE		CereKin revenues	
			Other	AtoKin	Quarterly	Annual
1Q14	28,125,000		100%	0%	-	
2Q14	28,687,500	2.0%	100%	0%	-	
3Q14	29,261,250	2.0%	100%	0%	-	
4Q14	29,846,475	2.0%	100%	0%	-	-
1Q15	30,443,405	2.0%	100%	0%	-	
2Q15	31,052,273	2.0%	100%	0%	-	
3Q15	31,673,318	2.0%	100%	0%	-	
4Q15	32,306,784	2.0%	100%	0%	-	-
1Q16	32,952,920	2.0%	100%	1%	107,097	
2Q16	33,611,978	2.0%	99%	2%	327,717	
3Q16	34,284,218	2.0%	98%	3%	557,119	
4Q16	34,969,902	2.0%	97%	4%	795,565	1,787,498
1Q17	35,669,300	2.0%	95%	5%	1,159,252	
2Q17	36,382,686	2.0%	94%	6%	1,418,925	
3Q17	37,110,340	2.0%	93%	7%	1,688,520	
4Q17	37,852,547	2.0%	92%	8%	1,968,332	6,235,030
1Q18	38,609,598	2.0%	91%	9%	2,258,661	
2Q18	39,381,790	2.0%	90%	10%	2,559,816	
3Q18	40,169,426	2.0%	89%	11%	2,872,114	
4Q18	40,972,814	2.0%	88%	12%	3,195,880	10,886,471
1Q19	41,792,271	2.0%	87%	13%	3,531,447	
2Q19	42,628,116	2.0%	86%	14%	3,879,159	
3Q19	43,480,678	2.0%	85%	15%	4,239,366	
4Q19	44,350,292	2.0%	85%	15%	4,324,153	15,974,125
1Q20	45,237,298	2.0%	85%	15%	4,410,637	
2Q20	46,142,044	2.0%	85%	15%	4,498,849	
3Q20	47,064,884	2.0%	85%	15%	4,588,826	
4Q20	48,006,182	2.0%	85%	15%	4,680,603	18,178,915

Size relative to OA market

50.0%

Regulation Analyst Certification ("Reg AC"): The research analyst primarily responsible for the content of this report certifies the following under Reg AC: I hereby certify that all views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

Disclosures:

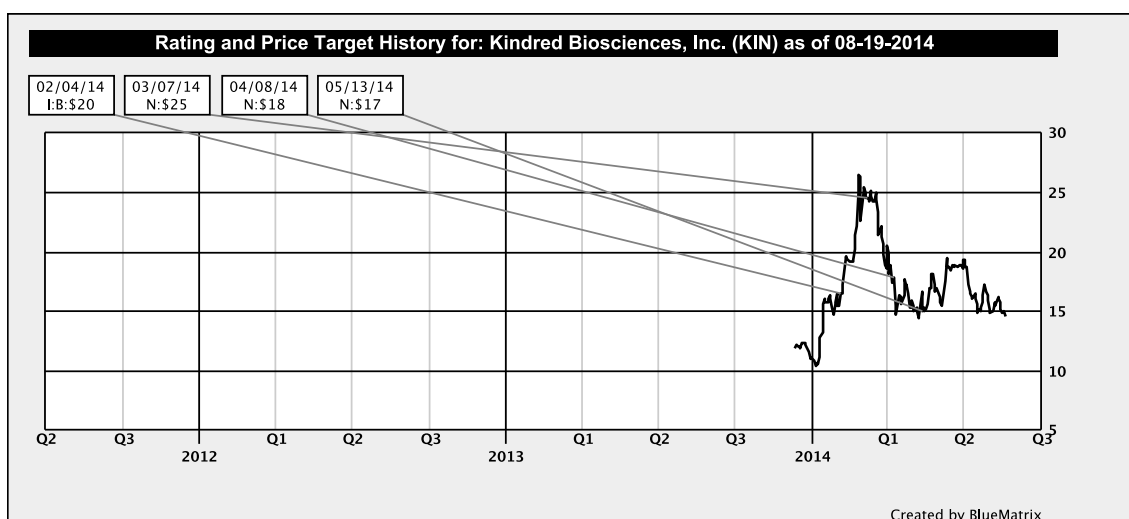
Within the last twelve months, ROTH has received compensation for investment banking services from Kindred Biosciences, Inc..

ROTH makes a market in shares of Kindred Biosciences, Inc. and as such, buys and sells from customers on a principal basis.

Within the last twelve months, ROTH has managed or co-managed a public offering for Kindred Biosciences, Inc..

On September 28, 2010, ROTH changed its rating system in order to replace the Hold rating with Neutral.

On May 26, 2011, ROTH changed its rating system in order to incorporate coverage that is Under Review.



Each box on the Rating and Price Target History chart above represents a date on which an analyst made a change to a rating or price target, except for the first box, which may only represent the first note written during the past three years.

Distribution Ratings/IB Services shows the number of companies in each rating category from which Roth or an affiliate received compensation for investment banking services in the past 12 month.

Distribution of IB Services Firmwide

Rating	Count	Percent	IB Serv./Past 12 Mos. as of 08/20/14	
			Count	Percent
Buy [B]	189	80.43	107	56.61
Neutral [N]	23	9.79	9	39.13
Sell [S]	1	0.43	0	0
Under Review [UR]	21	8.94	12	57.14

Our rating system attempts to incorporate industry, company and/or overall market risk and volatility. Consequently, at any given point in time, our investment rating on a stock and its implied price movement may not correspond to the stated 12-month price target.

Ratings System Definitions - ROTH employs a rating system based on the following:

Buy: A rating, which at the time it is instituted and or reiterated, that indicates an expectation of a total return of at least 10% over the next 12 months.

Neutral: A rating, which at the time it is instituted and or reiterated, that indicates an expectation of a total return between negative 10% and 10% over the next 12 months.

Sell: A rating, which at the time it is instituted and or reiterated, that indicates an expectation that the price will depreciate by more than 10% over the next 12 months.

Under Review [UR]: A rating, which at the time it is instituted and or reiterated, indicates the temporary removal of the prior rating, price target and estimates for the security. Prior rating, price target and estimates should no longer be relied upon for UR-rated securities.

Not Covered [NC]: ROTH does not publish research or have an opinion about this security.

ROTH Capital Partners, LLC expects to receive or intends to seek compensation for investment banking or other business relationships with the covered companies mentioned in this report in the next three months. The material, information and facts discussed in this report other than the information regarding ROTH Capital Partners, LLC and its affiliates, are from sources believed to be reliable, but are in no way guaranteed to be complete or accurate. This report should not be used as a complete analysis of the company, industry or security discussed in the report. Additional information is available upon request. This is not, however, an offer or solicitation of the securities discussed. Any opinions or estimates in this report are subject to change without notice. An investment in the stock may involve risks and uncertainties that could cause actual results to differ materially from the forward-looking statements. Additionally, an investment in the stock may involve a high degree of risk and may not be suitable for all investors. No part of this report may be reproduced in any form without the express written permission of ROTH. Copyright 2014. Member: FINRA/SIPC.